Using Microsoft Office 4.2 for Macintosh

Optimize Your Mac Office by Making All the Programs Work Together!

Increase productivity by sharing information and creating integrated documents and powerful presentations.

Word
Excel
PowerPoint

Over 30 Million Using Books Sold!
Using Microsoft® Office 4.2 for the Macintosh® Special Edition

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The PivotTable Wizard builds an interactive PivotTable that summarizes data from Microsoft Excel source.

Create PivotTable from data in:
- Microsoft Excel List or Data
- External Data Source
- Multiple Consolidation Range
- Another PivotTable

Tip: To learn more about PivotTables.
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Introduction

by T. Kelley Boylan

Microsoft Office for the Macintosh puts remarkable presentation and organization power in a single package. Each of its components is a complete application—not a pared version, as in Microsoft Works or ClarisWorks—and each component is a powerhouse unto itself. Microsoft Word and Excel are the current market leaders in word processing and accounting, respectively. PowerPoint has taken Aldus Persuasion head-to-head. There is a trade-off in having so much power all at once—a full installation of Microsoft Office will take considerable hard drive space, but it’s quite a package.

Office for the Mac brings the Macintosh Office applications in line with those in the Microsoft Windows version. They now match nearly feature for feature. Previous versions of Word, Excel, and PowerPoint were different on the PC and Mac, but with these latest versions, you’ll be able to work in a cross-platform environment much easier. You won’t have to hunt for items on one platform that might not even be available on the other.

Who Should Use This Book?

Using Microsoft Office 4.2 for the Macintosh, Special Edition, describes the basic operation of Microsoft Office for the user who is familiar with the Macintosh operating system, knows how to use a mouse, and can navigate through standard open dialog boxes. It describes not only the functionality of each of the Office applications but details how to go about creating, saving, and linking documents.
How This Book Is Organized

*Using Microsoft Office 4.2 for the Macintosh, Special Edition,* is divided into eight parts.

Part I: An Improved Software Team

Chapter 1, “Members of the Team,” introduces the members of the Microsoft Office team, describing what applications are included and how Microsoft intended them to be used. It discusses the common parts of the user interface and how the applications work with each other as a suite. Some functions are replicated in the suite; for example, should you create a table in Word or Excel? You’ll find out in Chapter 1.

Chapter 2, “Using Common Features to Create Documents,” introduces the list of common features—parts of the Office suite that are common to all applications. It also describes how to install and launch each of the different parts and shows you how they work as a whole. You also find out how to move between applications. A discussion of the new toolbars and their implementation lets you know what parts of the Office suite exist across all applications and which are specific to one application. If you’re not entirely familiar with the Macintosh operating system, there are a few tips on using a windowing environment and navigating through dialog boxes, menus, scroll bars, and so on. A number of features may be new to some users, like drag and drop and the toolbars. There’s more to using an application than just knowing basic operations, so Chapter 2 also includes descriptions of keyboard shortcuts and formatting tricks. Finally, it covers the integrated help system and wizards, and provides a quick demonstration.

Chapter 3, “Managing Files and Work Areas,” is devoted to how Office fits into the Macintosh environment and covers opening, closing, and saving files. It also details file dialog boxes, disks and drives, and contains descriptions of the Mac operating system’s folder hierarchy. Because keeping up with all the files on a hard drive or just within Office can be daunting, there’s a section on finding files via the Search dialog box. Printing, another part of the Macintosh environment, is covered in Chapter 3 as well. One of the hallmarks of the Mac is built-in multitasking, so switching between applications and documents is included here, too. At the end of Chapter 3 is a quick description of each of the document types that you’ll find in Microsoft Office, Word, Excel, and PowerPoint.
How This Book Is Organized

Part II: Using Word
Chapter 4, "Creating and Editing Documents," gets you started using Microsoft Word by discussing the text window, the cursor, and various tools to create documents. You'll learn how to save, close, and open documents, as well as how to open and save groups of documents.

Chapter 5, "Formatting Text and Documents," takes on basic formatting issues and the different ways of viewing a document. Fonts and their styles and sizes are discussed, as are paragraphs and their attributes. In handling the text, you find out how to work with tabs, indentations, and page formats as well.

Chapter 6, "Proofreading and Printing," moves into the final steps of document creation. It discusses the built-in thesaurus, dictionary, and AutoCorrect as part of the proofing process. For output, it discusses both document and envelope printing.

Chapter 7, "Managing Files," takes you through file management procedures—keeping everything you've created in an organized structure. You may want to use the Summary Info function to track documents, and you may need to keep up with statistical information within and throughout documents. Viewing and previewing documents are also discussed, as are sorting and selecting, so you can get to the information you need.

Chapter 8, "Customizing Word," shows you how to make your copy of Word personal. Word allows you to change almost any attribute of the menus, command keys, or the various settings. You can customize printing, revisions, grammar, spelling, save options, and so on.

Chapter 9, "Working with Large Documents," shows you how to outline larger documents. Once you're comfortable with the basics learned in previous chapters, you'll want to move on to advanced formatting and style sheets. Word includes a style gallery and wizards to help you automatically format a document.

Chapter 10, "Working with Tables, Charts, and Graphics," introduces you to tables, charts, and graphics that allow you to dress up your documents and make them more specific. Simply describing data may not be enough, and a graphic or table of that data may be what you need. Working with tables and charts is a little different from working with standard text files, and how to handle tables and text is described in detail. For example, Microsoft Graph can help you create graphs even though it's actually a separate application from Word.
Chapter 11, "Automating with Macros and Mail Merge," takes you further into the esoteric abilities of Word. You can create and save macros as well as use Word's standard macro set. Mail merge has its own rules and regulations, which range from identifying a source to merging data and a final document.

Part III: Using Excel

Chapter 12, "Creating Worksheets," introduces basic worksheet operations, defining the terms to be used and illustrating keyboard and mouse controls. Following that, it covers entering text, data, and dates, as well as formulas. Because it handles each in a slightly different manner, there is separate coverage of text, numbers, and dates. In using Excel, you'll be creating Workbooks and maybe even using other file formats.

Chapter 13, "Editing Worksheets," takes you into the worksheets: editing existing data and manipulating new data—everything from copy/paste to drag-and-drop. It also includes information on inserting and deleting columns, rows and entire spreadsheets, plus descriptions of how to name each of them. Because a Worksheet can grow to large sizes, you may need to do a search and replace to keep up with changing data.

Chapter 14, "Formatting Worksheets," illustrates how to format the worksheets you learned to create in previous chapters, detailing column width and heights, aligning data and text, formatting text, and applying colors and borders. This chapter also covers style sheets that can simplify creating and maintaining your text styles. Excel also handles graphic objects; that process is described in the latter sections of the chapter.

Chapter 15, "Using Formulas and Functions," introduces you to the use of formulas, and tells you how to create them and what they consist of. After you create a macro, you may need to debug it or use some of the internal functions built into Excel. In order to make the formulas more powerful, Excel allows them to be linked to each other and to other Workbooks. And because Workbooks may grow to be large, it allows you to work with ranges of them.

Chapter 16, "Creating and Printing Reports and Charts," tells you how to output your documents, sending either an entire Worksheet or only selected data to a printer (large Worksheets may need to be broken down into vertical and horizontal sections). Information you can put in headers and footers lets you keep track of what pages you have as well as their dates of creation and modification. You can also create different views of a report to make it easier to handle the data. Similarly, you may want to see only a chart rather than the entire data set.
Chapter 17, "Managing and Analyzing Data," shows you how to create and edit lists, sort and filter the data in those lists, and begin making subtotals. Functions for pivot tables are described, too, as are functions to use in forecasting. Here the program begins to get complicated, so Excel provides a Problem Solver to help you, along with several What If scenarios. After you've analyzed the data, it allows you to annotate your worksheets. A similar function is that of note taking, which is covered here.

Chapter 18, "Automating with Excel Macros," confines itself strictly to Macros—how to plan, create, and use them. Macros can even be added to the Microsoft Toolbar.

**Part IV: Using PowerPoint**

Chapter 19, "Getting Acquainted with PowerPoint," introduces you to the various parts of PowerPoint and how they interrelate. PowerPoint has slightly different toolbars, rulers, and guides from the other components in the suite, and they are described in detail. Because PowerPoint is presentation software, chapter sections are devoted to the Templates that allow you to create attractive visual effects faster than you could by yourself.

Chapter 20, "Creating, Saving, and Opening Presentations," demonstrates creating, opening, and saving presentations. You learn how to build a presentation from scratch, use a template as a basis, or combine the two processes via the AutoContent Wizard. Once you have a presentation to work with, you learn how to add and delete slides and how to zoom in and out of them. There are six different views, plus Master views, of a presentation.

Chapter 21, "Entering Slide Content," describes the process of entering data into the slides, whether it be via the AutoLayout functions or by creating your own objects. PowerPoint also includes a spell checker and several internal modules, like Microsoft Graph and Chart, which are separate components of PowerPoint. They are applications that run within the suite. The whole point of a suite is putting the parts together, and this chapter discusses inserting Word and Excel tables and worksheets into a suite, as well as inserting graphs, charts, and objects from non-Office applications.

Chapter 22, "Working with Objects," covers handling objects: from inserting to copying, and flipping to rotating. Objects may be scaled, aligned, or locked to a grid.

Chapter 23, "Drawing Shapes, Curves, and Lines," shows you how your artistic talents can be brought into play via the drawing tools in PowerPoint. You can use the AutoShapes function to bring in predefined shapes or draw your own objects. Tools exist for creating arcs, lines, and freeform shapes.
Chapter 24, "Enhancing a Presentation," illustrates ways to improve your presentation with templates, fonts, colors, and lines. Individual objects or whole presentations may be shaded and colored. Attributes and entire color schemes may be copied from one presentation to another.

Chapter 25, "Creating Charts," brings the details of Microsoft Graph into focus. Microsoft Graph is a separate utility for creating graphs that uses many functions found in Excel. Data can be plotted by row or column, and the resulting graphs (pie, bar, or line) may be colored in any number of schemes. Because data alone rarely tells the whole picture, this chapter describes how to create labels and set the fonts and colors for them. Finally, it describes how a finished graph is inserted into a slide.

Chapter 26, "Creating Output," discusses displaying and printing the results of your operations. PowerPoint has a number of ways to print a presentation—notes, handouts, outlines, or slides. And of course, you want to create and view a whole presentation, whether it's on a slide or on-screen.

**Part V: Working Together with Microsoft Office Applications**

Chapter 27, "Viewing and Organizing Files and Working with System 7.5," takes you outside the Microsoft Office applications and illustrates how the Macintosh organizes files. It describes hard drives, folders, and methods of searching for and moving files. Office applications have a function called Summary Info that you can use to help organize your data.

Chapter 28, "Working with Wizards, Multiple Documents, and Cut, Copy, and Paste," is devoted to Wizards and interapplication communications. It discusses ways to move material between Excel, Word, and PowerPoint, plus how to frame pictures inside the applications.

Chapter 29, "Sharing Data between Applications with Linking and Embedding," is similar to Chapter 28 in that it covers some interapplication issues, but this chapter is devoted to OLE (Object Linking and Embedding). You may need to link information in an Excel spreadsheet to a document in Word, and this chapter tells you how to do so.

Chapter 30, "Sharing Data between Applications with Publish and Subscribe," continues in the direction started by Chapters 28 and 29 but covers Publish and Subscribe and how to use it.

Chapter 31, "Using Mail with Other Microsoft Office Products," describes how to send the data you have compiled out into the world via Microsoft Mail.
Chapter 32, “Using Office Applications with PowerTalk,” adds to Chapter 31 by covering Microsoft Office’s implementation and use of PowerTalk, as found in System 7.5.

Chapter 33, “Sending a Mass Mailing,” details the preceding chapters by going into mass mailings and mail merge. Data from several applications can be used, and both recipients and incoming mail can be sorted and selected. To help keep up with who’s where, the mailer provides a search facility and mailing lists.

Chapter 34, “Using Office Applications to Create a Presentation,” illustrates how to use Microsoft Office to create a complete presentation: from the Word outline through charts and graphs to embedding the whole project in a mail message.

Chapter 35, “Using Office Applications to Create a Newsletter,” is similar to Chapter 34 but illustrates the creation of a newsletter with headers, footers, and graphics. It covers both the drawing tools in Word and PowerPoint as well as charts from Excel.

Part VI: Customizing Microsoft Office
Chapter 36, “Changing Toolbars and Menus,” provides details for making Microsoft Office your own with custom toolbars and menus. It also discusses the Microsoft Office Manager and its uses.

Chapter 37, “Using Visual Basic for Applications,” brings in the latest in Word’s capabilities. It’s a complete programming language built into the Word application.

Chapter 38, “Using AppleScript with Office Applications,” covers AppleScript, a scripting language you can use from within or outside the Microsoft Office applications. With it you can automate repetitive tasks and simplify complex tasks.

Chapter 39, “Exchanging Data with Microsoft Windows Versions of the Office Applications,” closes the main body of the book with information on moving data between the Mac and IBM versions of Office applications. With this release of Office, this task has been simplified considerably.

Part VII: Appendixes
Appendix A gives you an overview of the installation process—what parts you might need or might not want. It is followed by Appendix B, Index of Common Problems, which references the troubleshooting tips found throughout the book. You can use this index to help you if something goes awry. Finally, the standard index puts everything in the book at your fingertips.
Conventions Used in This Book

Messages that appear on-screen are printed in a special font: Document 1. New terms are introduced in italic type. Text that you type appears in boldface.

The programs included with Office provide toolbars for your convenience. By clicking a button in the toolbar, you can execute a command or access a dialog box. Button icons are provided in the margins where appropriate, indicating which button you can click to perform a task.

### Tip
This paragraph format suggests easier or alternative methods of executing a procedure.

### Note
This paragraph format indicates additional information that may help you avoid problems or that should be considered in using the described features.

### Caution
This paragraph format warns the reader of hazardous procedures (for example, activities that delete files).

### Troubleshooting
This paragraph format provides guidance on how to find solutions to common problems.

Using *Microsoft Office 4.2 for the Macintosh*, Special Edition, uses margin cross-references to help you access related information in other parts of the book.

- See “Section Title,” p. xx

Right-facing triangles point you to related information in later chapters. Left-facing triangles point you to information in previous chapters.
Part I

An Improved Software Team

1. Members of the Team
2. Using Common Features to Create Documents
3. Managing Files and Work Areas
The PivotTable Wizard summarizes data from Microsoft Excel source.

Create PivotTable from data in:
- Microsoft Excel List
- External Data Source
- Multiple Consolidation
- Another PivotTable

Tip: To learn more about PivotTables.
Chapter 1

Members of the Team

by Tom Negrino

Combining a number of a vendor's individual software products to sell as one unit is not new. Software bundles have been around for years. However, what is new is the full integration of these software products. Integration no longer means just switching between different applications, or using one application that unsuccessfully attempts to do the work of four applications. True integration allows you the freedom to easily combine documents from different applications, and to draw on the full power of any application to modify that document, regardless of which application you're using.

In what is termed the office suite, leading software vendors provide core office applications such as word processing, spreadsheet, and presentation graphics, along with auxiliary applications. The core products are the award-winning applications in their categories. The auxiliary applications the vendors add often include such items as electronic mail, graphing, personal information management, and organization charting. The entire suite of products is offered for as much as 50 percent less than the sum of the individual product purchase prices.

Microsoft Office leads the way with key applications that work together and offer a common user interface. The applications look alike and work alike—thus reducing the learning curve and improving productivity. Microsoft Office makes it easy for users to share data, documents, and graphics across applications. Using Office applications on the Macintosh also makes it easier to share documents with coworkers that use the corresponding Office programs on their Windows-based IBM PC-compatibles. With Office for Macintosh 4.2, the latest version of the product, Microsoft has brought parity to the Windows and Mac versions of Office. Mac and Windows versions of the programs look and work almost identically, so similar are they in fact that Microsoft offers the same set of user manuals for both platforms.
In this chapter, you learn

- What's included in Microsoft Office
- The design goals of Microsoft Office
- How to determine which application to use

What's Included in Microsoft Office

The standard edition of Microsoft Office includes the following applications:

- Microsoft Word, Version 6.0
- Microsoft Excel, Version 5.0
- Microsoft PowerPoint, Version 4.0

On the Windows platform, there is a professional edition of Office that includes a relational database, Microsoft Access. At press time, Microsoft has not announced a Mac version of Access, and there is no comparable database product in the Mac version of Office.

Design Goals of Microsoft Office

The goal of Microsoft Office is to provide users with the following:

- A common user interface (standardized operation of menus, toolbars, and dialog boxes)
- Quick access to one office suite application from another
- Data shared across applications
- Resources shared across applications
- In the future, a common task automation language

Microsoft strives to meet these goals. Many of the core applications underwent (and continue to undergo) revisions to meet these goals. To some long-time users of a core product, the resulting menu or toolbar changes may be annoying. In the long run, however, a common user interface across applications increases efficient and effective use of all applications.
Providing a Common User Interface

A clear benefit of a common user interface across applications is that by learning one application in the suite, you know the operational basics of the other applications. Figure 1.1 illustrates the similarity between the Excel and Word menu bars and toolbars. Notice that Word has a Table menu option, but Excel has a Data menu option. Although the goal is to provide one common user interface, some degree of uniqueness remains in each application. However, common key features such as the Open and Find commands can be found in exactly the same place in each application.

Microsoft Office applications provide consistency in more than just similar toolbars and menus. Dialog boxes, customizable features, and operational features are similar, too. On-line help is available in several forms in all applications:

- Help Application
- Cue Cards
- Wizards
- Tip of the Day

Quick Access to Other Applications

Microsoft Office provides a control panel called Microsoft Office Manager (MOM). Office Manager appears as a menu icon on the right side of the menu bar, next to the Help menu icon (see fig. 1.2).
You can use Office Manager to do the following:

- Switch between Microsoft Office applications
- Launch Microsoft Office applications
- Add other applications and documents to the Office Manager toolbar
- Access Office features such as Setup and Cue Cards

Office Manager is just one way that Microsoft Office provides quick access to applications. In each Microsoft Office application, the application toolbar provides direct access to pertinent features of other applications. For example, in Word you can insert an Excel Worksheet into a document by simply clicking a toolbar button. Doing so launches Excel and provides the full features of Excel for that embedded worksheet (see fig. 1.3). Notice that without having to leave Word, the menu and toolbars change to Excel when you edit the worksheet.

**Sharing Data Across Applications**

Microsoft Office products provide several methods for sharing data between applications:

<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copying</td>
<td>Copies the data from the source application to the target application using the Clipboard.</td>
</tr>
</tbody>
</table>
The Microsoft Office applications share data effortlessly. When you copy a table from Excel to Word, for example, you get a Word table that retains all the font and formats from Excel. You do not need to reformat your table, as you might with some other products.

Linking and embedding features take advantage of the new Microsoft OLE 2.0 specifications. OLE stands for Object Linking and Embedding. Linked documents automatically update when a source document changes. Embedded documents provide access to the source application while storing the data in the target application. Each feature has its pros and cons and serves a specific purpose.

Microsoft Office extends data sharing beyond application integration, by providing workgroup integration with Microsoft Mail. Users can mail documents, spreadsheets, and data files from within the source application. Routing slips can be attached to files that are sent to the Mail server, then broadcast to the group all at once—or routed to each person, in sequence, one at a time.

<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linking</td>
<td>Links a copy of the data to the original document (saves data with the original document).</td>
</tr>
<tr>
<td>Embedding</td>
<td>Embeds data from the source document into the target document (saves data with the target document).</td>
</tr>
</tbody>
</table>

![Fig. 1.3](image_url)

Connectivity between applications allows you to insert an Excel worksheet into a Word document, and edit the worksheet using Excel menu and toolbars without leaving Word.

- See “Copying Spreadsheet Information” p. 593
- See “Inserting Clip-Art Pictures,” p. 460
Sharing Resources Across Applications

A key element in Microsoft Office is the recognition that certain resources are needed by each application. Clip art is needed to perform word processing tasks, spreadsheet tasks, database tasks, and presentation graphic tasks, for example. Rather than duplicating program overhead, Microsoft Office provides an auxiliary application, Microsoft ClipArt Gallery, for use with all applications. The same is true of the need for a query engine (to ask questions of your data), a graphing tool (see fig. 1.4), and an organization chart drawing tool. And Microsoft Office deals with them all in the same manner by providing a single auxiliary application.

Fig. 1.4
Microsoft Graph, one of the auxiliary applications that ship with Microsoft Office, is used by all applications to draw graphs.

Providing a Common Language

Providing a common language across applications is the most challenging goal of Microsoft Office. In the past, each product has had a different programming and/or macro language. Excel Version 5.0 is the first Microsoft Office suite product to provide what will be the common language of the Office products: Visual Basic, Applications Edition (VBA). VBA uses OLE 2.0 and can send keystrokes to other applications (making it possible for VBA to run a cross-application process).

Until VBA is added to the other suite products, users will have to learn both WordBasic (Word’s macro language) and VBA to automate common office
Determining Which Application to Use

The following table lists some common office tasks and the suggested application tools to accomplish the tasks.

<table>
<thead>
<tr>
<th>Task</th>
<th>Application</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mailing lists</td>
<td>Word</td>
<td>Merge data into Word to print personalized cover letters, brochures, and labels</td>
</tr>
<tr>
<td>Table of financial data to be used in a presentation</td>
<td>Excel</td>
<td>Create a table in Excel</td>
</tr>
<tr>
<td>Send a document to a group of people for feedback, and receive a response</td>
<td>Word, Excel, Mail</td>
<td>Create the document, spreadsheet, or presentation in the desired application(s); Send the file(s) using Mail's routing feature</td>
</tr>
<tr>
<td>Provide audit trail between supporting spreadsheet data and annual report document</td>
<td>Excel</td>
<td>Create the supporting schedules needed in Excel.</td>
</tr>
<tr>
<td></td>
<td>Word</td>
<td>Create the annual report document in Word. Use OLE to link the data from Excel to the Word document. Whenever the spreadsheet data changes, the annual report document is updated automatically</td>
</tr>
<tr>
<td>Create, print and distribute department newsletter</td>
<td>Word</td>
<td>Create newsletter in Word</td>
</tr>
<tr>
<td></td>
<td>Mail</td>
<td>Distribute newsletter electronically using Mail's Send feature</td>
</tr>
</tbody>
</table>

See “Using Macros,” p. 212
See “Using the Macro Recorder to Automate a Task,” p. 398
See “Understanding Visual Basic for Applications,” p. 743
With three or four new software applications so tightly integrated, deciding on which product to use for which task could be difficult. Experience with each application is the best guide on how to combine the powers of each application to meet your needs. The rest of this book is dedicated to helping you in this endeavor. The next few chapters review the common features found in all suite applications and point out any digressions. Parts II through IV guide you through the features and capabilities of each product. Part V provides business scenarios to illustrate how Microsoft Office products work together. Part VI teaches you how to customize Microsoft Office with your own toolbars, menus, and automation (macros and VBA).

Sit back and enjoy the new way of working that Microsoft Office provides.

**From Here...**

Now that you are familiar with the new way of working that Microsoft Office offers, you are ready to begin learning the common features of Microsoft Office. The following chapters explain some of these common features:

- Chapter 2, "Using Common Features to Create Documents," teaches you how to start Microsoft Office, use menus, toolbars, dialog boxes and Help, and how to navigate the windows.

- Chapter 3, "Managing Files and Work Areas," teaches you how to work with files and print documents, and guides you through the work areas of each application.
Chapter 2

Using Common Features to Create Documents

by Tom Negrino

One of the benefits of Macintosh applications is that after you know one application, each new application you learn is easier than the previous program. This is especially true with Microsoft Office 4.2 applications. Microsoft has redesigned each of the programs for consistency with the other applications in the suite. Microsoft reorganized menus, toolbars, and dialog boxes so that the products are now even more similar. For experienced users, this can be a little disconcerting. If you're a former Word 5.1 user and are looking for Document format, it's no longer on the Format menu; it is now called Document Layout, and you'll find it on the File menu. These changes can be annoying at first, but the benefit of finding the same commands in the same place across numerous applications is worth the initial bother.

In this chapter, you learn to

- Start and exit programs and files
- Move between programs
- Move around the screen
- Use menus and dialog boxes
- Type, edit, copy, and move text
- Use Help
Launching Programs

Just as with other Macintosh procedures, you can launch an application in several different ways. You can use the keyboard or the mouse or both together. Microsoft Office 4.2 even adds a new way to launch programs through the Office Manager menu.

Launching a Program from the Finder

The standard way to begin any application is to double-click the folder icon where the application is located, thereby opening the folder, and then to double-click the program icon for the application you want to start. Depending on how you installed the Office applications, each program—Word, Excel, and PowerPoint—is probably in its own folder. If you installed all the applications in one folder, double-click the folder icon (you probably named it Microsoft Office) and then double-click the desired program icon.

Each Office program’s files can be easily identified in the Finder, because they have distinctive icons. Table 2.1 shows the programs and their icons.

<table>
<thead>
<tr>
<th>Program</th>
<th>Application Icon</th>
<th>Document Icon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word</td>
<td><img src="image" alt="Icon" /></td>
<td><img src="image" alt="Icon" /></td>
</tr>
<tr>
<td>Excel</td>
<td><img src="image" alt="Icon" /></td>
<td><img src="image" alt="Icon" /></td>
</tr>
<tr>
<td>PowerPoint</td>
<td><img src="image" alt="Icon" /></td>
<td><img src="image" alt="Icon" /></td>
</tr>
</tbody>
</table>

Looking at Microsoft Office

Microsoft Office 4.2 has added a new control panel, the Microsoft Office Manager, that makes it much easier to start programs and move between them when they’re open (see fig. 2.1). The Office Manager is a menu that appears at the right edge of the menu bar, and includes all the Office applications. You also can customize Microsoft Office Manager to include additional applications and documents on its menu.
Installing Microsoft Office
If you haven't installed Microsoft Office, insert the Setup disk from one of the applications and double-click the Setup application icon. Click the Continue button and follow the instructions on-screen. Be prepared for a lot of disk swapping; the complete Office installation runs more than 30 high-density floppy disks. For more information on setting up Microsoft Office and the applications, see Appendix A, "Installing Microsoft Office."

If you’ve already installed Office, double-click one of the Office applications’ icons to start it, or choose an application from the Microsoft Office Manager menu.

Moving between Programs
You can move between programs in three different ways. You can choose an application from the Microsoft Office Manager menu to start or switch to a program. You also can switch back to the Finder and double-click another program icon. Or, you can use System 7.5’s application menu (at the far right of the menu bar) to switch between open programs.

Quitting Programs
After you’ve worked in an application and no longer need to use its features, you’ll probably want to quit the application, especially if you have limited memory. All Macintosh programs quit the same way. You can do one of the following:

- Open the File menu and choose Quit.
- Press ⌘+Q.

If you haven’t saved changes to your documents, you’ll see a dialog box asking if you want to save changes to each of your open documents. You’ll probably want to save your documents. If prompted, fill in the Save As dialog box.
**Note**

Don't confuse closing a document with quitting an application. If you close a document window by clicking its close box or choosing Close from the File menu, the application program that created that document is still open and taking up system memory. To free up RAM so that you can open up other programs, you must quit the application that you're in.

---

**Viewing Parts of the Window**

One of the best parts of using the Macintosh is the similarity between different applications. When you learn one program, the next and subsequent programs are easier to learn. This is especially true because parts of the window are similar.

**Common Window Elements**

Figure 2.2 shows the basic elements on a screen that are common to each application. Each application usually displays the application window itself and usually at least one document window. Table 2.2 lists the common elements on the application window and the document window.

---

**Fig. 2.2**

The screen provides many choices you can manipulate using the mouse.
### Table 2.2 Common Window Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menu bar</td>
<td>Line at top of the screen, beginning with the Apple symbol.</td>
<td>Click to pull down menu.</td>
</tr>
<tr>
<td>Title bar</td>
<td>At top of document window. Dark if active. Light if another window is active.</td>
<td>Shows name of the document.</td>
</tr>
<tr>
<td>Scroll bar</td>
<td>Gray area between scroll arrows on right and bottom of document window.</td>
<td>Click above or below scroll box on vertical scroll bar or to the left or right of scroll box on horizontal scroll bar to move view of document a full screen up, down, left, or right.</td>
</tr>
<tr>
<td>Thumb</td>
<td>Gray square box inside scroll bars.</td>
<td>Drag thumb to position view of document.</td>
</tr>
<tr>
<td>Scroll arrows</td>
<td>Arrows on either side of scroll bar.</td>
<td>Click arrow to move view one line in the direction of the arrow. Hold down mouse cursor on arrow to scroll quickly.</td>
</tr>
<tr>
<td>Document window</td>
<td>Area inside the window.</td>
<td>Location where document resides and where editing takes place.</td>
</tr>
</tbody>
</table>

Table 2.3 lists items that generally occur just on application windows, but are common to most applications. Microsoft Word, Excel, PowerPoint, and Mail call the pictorial strip of buttons below the menu bar, but above the document window, toolbars.

### Table 2.3 Features Common to Office Application Windows

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toolbar(s)</td>
<td>Picture buttons below menu bar or other places on-screen.</td>
<td>Click button for the most used commands. Sometimes the button only gives you one feature for a command. See the menu for more options on a feature.</td>
</tr>
</tbody>
</table>
Table 2.3  Continued

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status bar</td>
<td>Bottom line of application window.</td>
<td>Can tell information about insertion point location on document and status of some toggle keys on the keyboard such as the numlock key. In some programs, describes menu or toolbar choices in more detail. In some programs, can double-click status bar to accomplish tasks.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Document window</td>
<td>Area between toolbars and status bar.</td>
<td>Shows open document, scroll bars, and possible title of document in title bar.</td>
</tr>
</tbody>
</table>

**Microsoft Applications Toolbars**

One of the improvements Microsoft made with the upgrades from Word 5.1 to Word 6, Excel 4 to Excel 5, and PowerPoint 3 to PowerPoint 4 was the reorganization and improvement of the toolbars so the tools are more consistent across the Microsoft Office applications. Although many buttons are unique to each application, many buttons are also common to all or some of the applications. Microsoft also changed the name of the ribbon in Word 5.1 to the Formatting toolbar. You can now choose from more than one toolbar in all the applications. You also can customize the toolbars (add or remove buttons).

To turn a toolbar on or off, follow these steps:

1. Hold down the control key and click an active toolbar.
2. A pop-up menu shows a list of possible toolbars. Microsoft displays the active toolbars with a check mark to the left of the name.
3. Select the toolbar you want to turn on or off. If the toolbar is floating, you can click the toolbar's Close box.

**Note**

If the program doesn't show any toolbar, choose View Toolbars, and choose the toolbar(s) you want to display.

> See “Customizing Application Toolbars,” p. 735
Some buttons change on toolbars when you change the view. For example, Word adds an outline toolbar when you change to outline view.

**Standard Toolbars**

Figure 2.3 shows the standard toolbar for each Microsoft Office application. Notice how many of the buttons are the same. Table 2.4 lists the common buttons for Word, Excel, and PowerPoint toolbars and their purpose.

---

**Microsoft Word Standard Toolbar**

- New
- Print
- Save
- Preview
- Cut
- Paste
- Undo
- Auto-Format
- Insert
- Table
- Show/Hide
- Non-printing
- Help
- Open
- Print Spelling
- Format Painter
- Copy
- Redo
- Text
- Drawing

**Microsoft Excel Standard Toolbar**

- New
- Save
- Print
- Preview
- Cut
- Paste
- Undo
- AutoSum
- Sort Ascending
- Sort Descending
- Chart Wizard
- Wizard
- Zoom Control
- Help
- Open
- Spelling
- Format Painter
- Copy
- Repeat
- Text Box
- Drawing

**Microsoft PowerPoint Standard Toolbar**

- New
- Save
- Copy
- Format Painter
- Insert Excel Worksheet
- Pick a Look Wizard
- Zoom Control
- Help
- Open
- Print
- Paste
- Undo
- Insert Chart
- Report
- Clip Art
- Chart
- Insert MSWord Table
- Art

---

Fig. 2.3

The standard toolbars for Word, Excel, and PowerPoint show many similarities.
<table>
<thead>
<tr>
<th>Button</th>
<th>W</th>
<th>E</th>
<th>P</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Create a new, blank document.</td>
</tr>
<tr>
<td>Open</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Open an existing document.</td>
</tr>
<tr>
<td>Save</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Save the active document on screen.</td>
</tr>
<tr>
<td>Print</td>
<td></td>
<td>X</td>
<td>X</td>
<td>Print the document.</td>
</tr>
<tr>
<td>Print Preview</td>
<td>X</td>
<td></td>
<td>X</td>
<td>Preview a document as it will look when printed.</td>
</tr>
<tr>
<td>Cut</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Remove the selection from the document and place a copy on the Clipboard.</td>
</tr>
<tr>
<td>Copy</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Copy the selection from the document and place a copy on the Clipboard.</td>
</tr>
<tr>
<td>Paste</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Copy the contents of the Clipboard into the document at the location of the insertion point.</td>
</tr>
<tr>
<td>Format Painter</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Copy the formatting from the selected items to the next selection.</td>
</tr>
<tr>
<td>Undo</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Reverse your last action.</td>
</tr>
<tr>
<td>Insert Chart</td>
<td>X</td>
<td></td>
<td>X</td>
<td>Insert a chart into the document.</td>
</tr>
<tr>
<td>Zoom Control</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Change the size of your display (does not affect printing).</td>
</tr>
<tr>
<td>Help</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Click Toolbar button, or menu choice for help on that choice. Double-click to search for help on a topic you type.</td>
</tr>
</tbody>
</table>

*W, E, P columns are for the Word, Excel, and PowerPoint standard toolbars.*
**Formatting Toolbars**

Many of the buttons are also similar on the formatting toolbars. Figure 2.4 shows the Formatting toolbars for Word, Excel, and PowerPoint. Table 2.5 shows the common buttons and their uses in Word, Excel, and PowerPoint.

---

**Microsoft Word Formatting Toolbar**

![Microsoft Word Formatting Toolbar]

**Microsoft Excel Formatting Toolbar**

![Microsoft Excel Formatting Toolbar]

**Microsoft PowerPoint Formatting Toolbar**

![Microsoft PowerPoint Formatting Toolbar]
Table 2.5 Common Buttons on the Formatting Toolbars

<table>
<thead>
<tr>
<th>Button</th>
<th>W</th>
<th>E</th>
<th>P</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Font</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Click pull-down arrow to the right of font name to display a list of typefaces. Click the desired font.</td>
</tr>
<tr>
<td>Font Size</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Click pull-down arrow to display and choose desired size for text.</td>
</tr>
<tr>
<td>Bold</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Bold the selected text.</td>
</tr>
<tr>
<td>Italic</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Italicize the selected text.</td>
</tr>
<tr>
<td>Underline</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Underline the selected text.</td>
</tr>
<tr>
<td>Align Left</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Align the items so the left side of each is lined up.</td>
</tr>
<tr>
<td>Center</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Align the items so each is centered.</td>
</tr>
<tr>
<td>Align Right</td>
<td>X</td>
<td>X</td>
<td></td>
<td>Align the items so the right side of each is lined up.</td>
</tr>
<tr>
<td>Bullet</td>
<td>X</td>
<td></td>
<td>X</td>
<td>Place a bullet before each line of selected text.</td>
</tr>
</tbody>
</table>

W, E, P columns are for the Word, Excel, and PowerPoint formatting toolbars.

**Drawing Toolbars**

The Drawing toolbars for Word, Excel, and PowerPoint also have common buttons, as shown in figure 2.5. Table 2.6 shows the common buttons and their purpose.

**Fig. 2.5**
The drawing toolbars for Word, Excel, and PowerPoint are also similar.
Viewing Parts of the Window

Microsoft Excel Drawing Toolbar

- Filled Ellipse
- Select Drawing Objects
- Fill
- Freehand
- Filled Rectangle
- Reshape
- Group Objects
- Drop Shadow
- Pattern

Microsoft PowerPoint Drawing Toolbar

- Text
- Rectangle
- Free Rotate
- Apply Fill Defaults
- Auto Shapes
- Drop Shadow
- Select Drawing Objects
- Line
- Arc
- Freeform

Table 2.6 Common Buttons on the Drawing Toolbars

<table>
<thead>
<tr>
<th>Button</th>
<th>W</th>
<th>E</th>
<th>P</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Click and drag to start and draw the line. Release the mouse button to end the line. Use the shift key to draw lines at 30, 45, and 60 degree angles.</td>
</tr>
<tr>
<td>Rectangle</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Click and drag from one corner to the opposite corner. Release the mouse button to complete the rectangle. Use the shift key to draw a square.</td>
</tr>
<tr>
<td>Ellipse</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Click and drag from one corner to the opposite corner. Release the mouse button to complete the ellipse. Use the shift key to draw a circle.</td>
</tr>
<tr>
<td>Arc</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Click and drag to start and draw the arc. Release the mouse button to end the arc.</td>
</tr>
</tbody>
</table>

(continues)
Using Menus

Along with the advent of common toolbars, Microsoft has also reworked the menus on the applications within Microsoft Office to create similar placement for commands.

**General Description of Menus**

At the top of the screen is the menu bar. In all Microsoft Office applications, the menu bar begins with the File, Edit, and View menus and ends with the Window and Help menus. When the mouse pointer is on a menu, the pointer changes to a black arrow. To pull down a menu, click and hold the mouse button on the menu. When you open a menu, a list of commands
appears. Drag down the menu to the command you want, and when that
class command is selected, release the mouse button. As you select menu choices,
the status bar on the bottom of the screen shows a description of the menu or
command.

If you accidentally go into the wrong menu, you can do any of the following:

- Release the mouse button over the name of the menu. Nothing will
  happen, because you didn’t have a menu command selected when you
  released the mouse button.

- Move the cursor into the document window and release the mouse
  button. Again, nothing will happen.

Menus throughout Mac applications have common symbols that indicate
what will happen when you select the command and that give you shortcuts
to do the commands. The symbols include ellipses, keyboard shortcuts,
arrows, check marks, and option bullets. Horizontal lines divide each menu
into sections. The sections generally group similar commands together (such
as Save, Save As, and Save All) or group commands that are mutually exclu­
sive (see the following option bullets). This list describes common menu
symbols:

- Three dots, or an ellipsis, after a command indicates that a dialog box
  appears after you select the command. For example, the command Print
  in the File menu occurs in all four applications and an ellipsis indicates
  that the Print dialog box follows the selection of this command. For
  more information on dialog boxes, see “Using Dialog Boxes” later in
  this chapter.

- To the right of some commands are keyboard shortcuts. Instead of us­
  ing the menu, you can press the shortcut key or key combination to
  choose the command. Most shortcuts begin with holding the command
  key (⌘) down in combination with a letter. For example, to undo your
  latest action, press ⌘+Z in all applications. Shortcut keys also include
  function keys (for example, F7 for Spelling), and editing keys (for ex­
  ample, delete to erase the selection).

- Some Microsoft Office applications have arrows on the right side of
  some menus indicating that another pop-up menu will appear. This is
  sometimes called a hierarchical menu. After you choose the command
  with an arrow, you choose another command on the resulting menu.
  Figure 2.6 shows that in Excel if you choose Format Column, you get
  another menu that begins with Width.
Another character on some menus is a check mark to the left of the menu choice. A check mark indicates that the choice is selected and that the choice can be on or off. For example, the Window menu of all Microsoft Office applications shows a list of open documents on the bottom of each menu. The active open document is indicated by a check mark.

Another on or off indicator in Word and PowerPoint is an option bullet to the left of a menu item. The bullet indicates that only one item in a menu section (the area between two horizontal lines) can be selected at a time. If you choose any other command in the same section, the bullet moves to the selected item. For example, the View menu of Word in figure 2.7 indicates you can only choose Normal, Outline, Page Layout, or Master Document at one time and Normal is currently selected.
Menu Similarities in Microsoft Office Suite
Along with the common symbols on menus, Microsoft has also repositioned menu commands to appear on the same menus within each application as much as possible. Table 2.7 lists the menus and their general functions.

<table>
<thead>
<tr>
<th>Menu</th>
<th>W</th>
<th>E</th>
<th>P</th>
<th>M</th>
<th>Similar Command Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>File</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Open, create new, save, close, print files, and exit program.</td>
</tr>
<tr>
<td>Edit</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Copy, move, paste from other applications, delete selections; undo last command, search and replace text.</td>
</tr>
<tr>
<td>View</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Change the way the document and screen items such as toolbars display on-screen.</td>
</tr>
<tr>
<td>Insert</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>Insert objects into the document.</td>
</tr>
<tr>
<td>Format</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>Change font, line spacing, or row height, add lines, have program pick out a “look” for your document with pre-determined formatting.</td>
</tr>
<tr>
<td>Tools</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>Check spelling, create macros, customize the way the keyboard, menus, and toolbars look.</td>
</tr>
<tr>
<td>Window</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Arrange document windows on the screen; switch between documents.</td>
</tr>
<tr>
<td>Help</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Show step-by-step procedures, definitions, and examples. Do on-screen tutorials, list Microsoft technical support phone numbers and procedures.</td>
</tr>
</tbody>
</table>

W, E, P columns are for the Word, Excel, and PowerPoint menu bars. M is for Mail menu bar.

Shortcut Menus
Microsoft has also added shortcut menus to Word, Excel, and PowerPoint. To access a shortcut menu, select the item you want to change, hold down the control key, and click the mouse button in the selected area. The menu that appears gives you options for only the selection. You don’t have to wade through the menu bar to figure out what menu items go with what you are doing.
Shortcut menus are available for more than just toolbars. There are also shortcut menus for selected text, drawing and graphics objects, rows, columns, and others depending on your application.

**Using Dialog Boxes**

When you choose a command with an ellipsis, a dialog box appears. The dialog box can be very simple with only one button (such as OK), or the dialog box can have many choices. Just as the menus have common symbols, so do dialog boxes. Figures 2.8 and 2.9 show examples of two dialog boxes.

Fig. 2.8
Word's Index and Tables dialog box.

Fig. 2.9
Excel's Format Cells dialog box.

Dialog boxes let you see all the current settings for a command as well as change them. On the newer applications, Microsoft added tabs (the Font tab appears in the Format Cells dialog box as shown in fig. 2.9). Click a tab to go to that area of the dialog box. Sometimes you may need to see your underlying document to make a choice on the dialog box. Drag the title bar of the
dialog box to move the dialog box out of the way. Within a dialog box you click an object to select or change the value. For example, on the Font Style list box, click Italic to select italic. Within a dialog box you generally click an object, type a value, or select from a list. For more detail, refer to figure 2.9.

Besides using the mouse to make selections within a dialog box, you can also use the keyboard. Press tab to move to each section of a dialog box or press shift+tab to move backward through the dialog box. When you get to a list, click the up or down arrow, or use the up or down arrow keys on the keyboard, to make a selection. In most dialog boxes, you can hold down the command key, which will cause the labels for items in the dialog box to gain an underlined character. Pressing \textasciitilde+[the underlined character] selects that item.

To get out of a dialog box without selecting any of the settings, choose the Cancel command button or press esc. To use the settings, click the OK command button or press the enter or return keys. In some cases, you must choose the Close command button to finish your selections. Notice that some command buttons have ellipses (refer to Mark Entry and AutoMark in fig. 2.8). This indicates that another dialog box will appear when you choose this button.

**Typing and Editing**

Typing and editing within different Macintosh applications is similar. When you're working within an application, there are three different kinds of modes: text, cell, and object. Each of the Microsoft Office applications can include any of these modes. Editing items are different depending on the mode.

**Text, I-Beam Mouse Pointer, and Insertion Point**

The normal Word screen is an example of text mode. When you come to the margin, text will automatically wrap to the next line. As you type, a blinking vertical line called the cursor or insertion point moves. When you move the mouse across an area in text mode, the mouse pointer becomes an I-beam as shown in figure 2.10. Click the I-beam mouse pointer to position the insertion point. As you type, the insertion point pushes existing text after the insertion point. If you want to replace text, drag the I-beam mouse pointer to select the text to replace. When you begin typing, the new text replaces any selected text.
Fig. 2.10
Typing in a Word document is much the same as typing in a Text box in any application.

Moving the mouse pointer across a document within word shows the I-beam mouse pointer. Click the I-beam mouse pointer to position the insertion point and type or drag the I-beam mouse pointer across text to select it and type to replace the selected text.

This method of editing works the same in a text box within a dialog box, such as the Save Current Document As text box in the Save As dialog box shown in figure 2.11. In a dialog box, the I-beam replaces the arrow when the mouse pointer enters a text box. Drag the mouse pointer across text to select the text and type the new entry. In this example, text was selected and the words LAMG Welcome were entered.

Fig. 2.11
Typing within a text box of a dialog box is similar to typing in a document window.

Within Excel, the mouse pointer normally appears as a thick white plus sign as you move the mouse pointer across the screen. When your cursor enters the formula bar at the top of the screen, however, the mouse pointer changes to an I-beam and you can drag across to select text or click to position the insertion point. You can also edit in a cell if you move the plus sign to the cell and double-click. The mouse pointer changes to an I-beam while you are in the cell and the blinking insertion point appears. This is called edit mode in Excel.
Within PowerPoint, when you move the mouse pointer across most text items, the mouse pointer is an I-beam. While you are in outline view, you can click and drag on any text as if you are in a Word document. However, editing a slide is slightly different. You can’t drag to select text within a text object (title, bullet item, or added text) until you click the object to select it. When you click, you position the insertion point within the text and select the text object at the same time. When the text object is selected, a hatched outline appears around the object (see fig. 2.12). After this outline and insertion point appear, you can drag to select text and edit as mentioned previously. If you include text boxes in other applications, you also need to first select the text object (the text box) and then edit the text as you do for PowerPoint.

Cells, Text Boxes, and Fields
Excel worksheets and Word tables are organized in rows and columns (see figs. 2.13 and 2.14). The intersection of a row and column is called a cell. When you press tab, you move to the next cell. If you press shift+tab, you move to the previous cell. When you move to a cell with tab or shift+tab in Word, the text within the cell is highlighted. When you type, new text replaces the existing text within a cell. In Excel, when you press tab or shift+tab, the text is not highlighted in a cell. Type the new entry for the cell and press return or tab to replace the entry.
Forms and dialog boxes work similar to tables. On a dialog box, if you press tab or shift+tab until you come to a text box, the current item in the text box is highlighted. As soon as you type the first character, the old entry is erased. Word data-entry forms, Excel data forms, and the upper part of a Mail message contain fields for entering or editing information. When you press tab or
shift+tab to move to a field, the entry within a field is highlighted. When you type, the old entry is replaced with the new entry. If you want to edit an entry instead, click the I-beam mouse pointer to position the insertion point.

**Objects**

In some cases, you'll have objects attached to your document. Objects can include charts, pictures, clip art, WordArt, and other documents. If you click an object, an outline appears around the object with small square binding boxes at each corner and halfway between each corner on each line surrounding the object. You can perform any of the following actions:

- To delete the object, press delete.
- To move the object, move into the object (or on the border surrounding the object) until the mouse pointer changes to a white arrow, and drag the mouse to the new position on the document.
- To change the size, stretch, or flatten the object, move the mouse pointer on top of one of the binding boxes until the pointer changes to a small, black, double arrow (see fig. 2.15). Drag the double arrow to make the object smaller or larger.

> See “Working with Charts,” p. 201
> See “Working with Graphics,” p. 205
> See “Selecting and Grouping Objects,” p. 471
> See “Linking an Excel Worksheet to a Word Document,” p. 611

**Fig. 2.15**

This organization chart was created with Insert, Object, Organizational Chart 1.0. Notice the binding boxes and the note on the status bar.
To edit the object, you can usually double-click the object. You may enter the program that created the object, or the menu and toolbar of your current program change to the menu and toolbar of the source object. Figure 2.16 shows an example of an Excel worksheet within a Word document. If you go into the source program, finish editing by choosing File Exit and Return to Document. If you remain in the target document and the menu and toolbar change, click outside the object and in the target document to finish editing.

Fig. 2.16
In Word, when you insert an Excel worksheet, the menu and toolbar change to Excel's menu and toolbar, and you can edit directly in the Word document.

Note
MS Organizational Chart 1.0 is provided as an applet (small program) with PowerPoint. Even if you don't use PowerPoint, you can use Organizational Chart to create organization charts within your Word and Excel documents.

Most products work by clicking the object once to bring up the binding box. In PowerPoint, if you click a text object once, you get a cross-hatched outline around the text that enables you to select text within the box. Move to the cross-hatched outline and click a second time to bring up the binding box.
Selecting Text

As mentioned in the preceding section, to select an object, click it. However, you have much more flexibility when you want to select text. To edit, change the appearance, copy, or move text, you first need to select the text, and then do the procedure to make the change. There are some similarities between the applications. For example, you can always drag across the area with the I-beam mouse pointer. You can also hold down the shift key and use your movement keys to expand the selection or click the mouse at the end of the selection. There are also some differences between the applications, as shown in table 2.8. For example, to select a row in Word and Excel, position the mouse pointer before the row and click. However, in Word the mouse pointer changes to a right-pointing arrow; in Excel the pointer is a white cross.

Table 2.8 Selecting with the Mouse

<table>
<thead>
<tr>
<th>Application</th>
<th>To Select</th>
<th>Use Mouse Pointer</th>
<th>And...</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Text</td>
<td>I-beam</td>
<td>Drag</td>
</tr>
<tr>
<td>All</td>
<td>Word</td>
<td>I-beam</td>
<td>Double-click word</td>
</tr>
<tr>
<td>Word</td>
<td>Line(s)</td>
<td>White arrow</td>
<td>Click or drag before text (in left margin)</td>
</tr>
<tr>
<td>Excel</td>
<td>Row(s)</td>
<td>White cross</td>
<td>Click or drag number(s) in worksheet frame</td>
</tr>
<tr>
<td>Word</td>
<td>Table column(s)</td>
<td>Black down arrow</td>
<td>Click or drag above first row of table</td>
</tr>
<tr>
<td>Excel</td>
<td>Column(s)</td>
<td>White cross</td>
<td>Click or drag column letter(s) in worksheet frame</td>
</tr>
<tr>
<td>Word</td>
<td>Entire</td>
<td>White arrow</td>
<td>Hold down control and click left margin</td>
</tr>
<tr>
<td>Excel</td>
<td>Entire</td>
<td>White cross</td>
<td>Click Select All button above row numbers and to left of column letters</td>
</tr>
</tbody>
</table>

See “Selecting Text,” p. 92
See “Selecting Cells and Ranges,” p. 237
See “Selecting Cells, Rows, and Columns,” p. 528

See “Moving around in a Worksheet,” p. 230
See “Moving through a Presentation,” p. 439
Moving around the Document

To move throughout the document, you can use both the mouse and the keyboard. Moving around a document is similar in each application. To position the insertion point or cell pointer, click a visible area on-screen.

Scroll Bars
Scroll bars enable you to scroll the view of the document. Be careful when using the scroll bar, however; the cursor remains in the location before the scroll took place and may not be visible on-screen. You may start typing in the wrong place. To avoid typing in the wrong place, make sure the cursor is visible by clicking where you want to begin typing.

The scroll bars are divided into three parts: the scroll arrows, scroll box, and scroll bar. Use each part as follows:

- **Down or Up Scroll Arrow.** Click to move one line at a time. This is true except in PowerPoint. Although this works in outline view, clicking the scroll arrows in Slide view moves you one slide at a time.

- **Scroll Box.** Drag the scroll box in the scroll bar. When you drag the box all the way to the bottom, you are at the bottom of the document, no matter how many pages there are.

- **Scroll Bar.** Click between the scroll box and a scroll arrow to move one screen at a time.

- **Horizontal Scroll Bar.** Drag to move left and right on wide documents.

- **Double Arrows.** In Word page layout view and PowerPoint Slide view, you have two double arrows at the bottom of the vertical scroll bar. Click the double arrows to move down or up a page at a time.

Movement Keys
The movement keys on the keyboard are similar, depending on which mode you are working in. Movement keys do the following:

- Left- and right-arrow keys move one character to the left or right in text mode or one column to the left or right in cell mode.

- Up- and down-arrow keys move one line or row up or down.

- Page-up and page-down keys move one screen up or down.
• ⌘+home moves to the top of the document.

• ⌘+end moves to the bottom of the document. In Excel, this moves to the last cell containing data.

• Home moves to the beginning of the line in Word. In Excel, home takes you to the first column in cell mode or the beginning of entry in edit (text) mode.

• End moves to the end of the line in Word or end of entry in Excel edit mode. End works differently in Excel. You press end followed by an arrow to move to the end of a continuous range of cells.

• ⌘→ and ⌘← in text mode move you one word at a time.

• ⌘+up and ⌘+down in text mode move you one paragraph at a time.

• F5 is the Go To key. Press F5 in Word and then type the page number to go to. Press F5 in Excel and type the cell reference.

Copying and Moving

The procedure for copying and moving is generally the same for all Microsoft Office applications. The procedure works for copying information from one area of a document to a different place on the document, as well as copying information from one document to a different document. This same procedure even works for copying information from a document in one application (such as Excel) to a document in another application (such as Word). The item that you are copying can be text, numbers, a chart, a picture, or any other object.

Using the Clipboard

The procedure for copying and moving is the same because of the Clipboard. This feature holds a copy of the item when you cut or copy. When you use cut, the item is removed from the source application and goes into the Clipboard. When you use copy, the item remains in the source application and also goes into the Clipboard. When you use paste, a copy of the item you cut or copied goes from the Clipboard into the active application. Because all Macintosh applications share the Clipboard, you can easily copy information between applications.

See “Editing Text,” p. 94
See “Copying Worksheet Data,” p. 252
See “Moving Worksheet Data,” p. 257
See “Moving and Copying Objects,” p. 476
See “Copying Text between Word Documents,” p. 589
Chapter 2—Using Common Features to Create Documents

Using Cut, Copy, and Paste
The procedure for copying or moving is as follows:

1. Select the item you want to copy or move. If the item is text, this usually involves dragging the I-beam mouse pointer or some other shortcut. If the item is a picture, chart, or object created in another application, this usually involves clicking the object to show the binding box.

2. Do one of the following:
   - To move the selected item, choose Edit Cut, or press ⌘+X.
   - To copy the selected item, choose Edit Copy, or press ⌘+C.

3. Use the scroll bars and movement keys to position the cursor in the document.

4. Choose Edit Paste, or press ⌘+V.

All Macintosh applications have the Edit menu from which you can choose Cut, Copy, or Paste. In some minor cases, you may not even be able to use the menu (for instance, when editing within a field such as To or cc in Mail). In these cases, you can use the keyboard shortcuts.

<table>
<thead>
<tr>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>I clicked the Paste button, but it didn't paste what I wanted.</td>
</tr>
</tbody>
</table>

If you didn't use Cut or Copy at the right time and then click the Paste button, you get a copy of whatever is in the Clipboard. Click the Undo button immediately or choose the Undo command in the Edit menu to remove any unwanted copy.

Moving with Drag-and-Drop
Microsoft Word, Excel, and PowerPoint have another capability that makes moving even easier. This feature is called drag-and-drop. You first select the text or cells to move and then drag the selection to the new location. In some cases, this new location can be on a different document or even in a different application.
The drag-and-drop mouse pointer changes an insertion point and then changes to a left-facing arrow when you position the mouse pointer in the selected text (the normal mouse pointer points to the right). In Word and PowerPoint, you position the mouse pointer anywhere within the selected area. In Excel, you point to the outline surrounding the selected cells. When you drag the mouse in Word and PowerPoint, two additional shapes are added to the left-arrow mouse pointer. A small rectangle appears under the mouse pointer and a dashed vertical line (ghost cursor) appears where the new text will be inserted when you release the mouse button. In Excel, a gray outline appears where the new text will appear when you release the mouse button.

The drag-and-drop feature is limited in PowerPoint. You can move text only from one area of the current text object to another area of the same text object on the slide. In Excel, you can drag and drop items from one area of a spreadsheet to another area of the same spreadsheet. You can even drag the selection into a document in an open Word or PowerPoint window. However, you can’t drag the selection between two open documents in the same Excel program window. With Word, you can drag the selection to another place on the same document, to another open document window within the Word program window, and to an Excel worksheet or PowerPoint slide. Table 2.9 summarizes these relationships in terms of whether drag and drop works between two different applications or two different document windows within the same application.

<table>
<thead>
<tr>
<th>From</th>
<th>To Word</th>
<th>Excel</th>
<th>PowerPoint</th>
<th>Mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word 6</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Excel 5</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>PowerPoint 4</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Mail 3.1</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

If you want to copy rather than move the selected item, hold down option and then begin to drag. The mouse pointer becomes a small plus. Release the mouse button to perform the copy.
Troubleshooting

I tried to copy, but the drag-and-drop didn't leave the original.

The operation of the option key is essential. Hold down option before you start the drag, and release option after you release the mouse button. If you need to restore the source application, return to the source application and click the Undo button or choose Edit Undo.

Formatting Documents

Formatting text involves changing the font (typeface), font size, font characteristics (such as bold, italic, and underline), and alignment of text. The general procedure to format text is the same in the different applications. First you select the text to format, and then you do the formatting. If nothing is selected, formatting applies only to new text entered at the insertion point. As with other procedures, you can use buttons on toolbars, menu items, shortcut menus, and keyboard shortcuts.

Using Toolbars and Keyboard Shortcuts to Format

Formatting is usually quicker when you use buttons on the toolbar or keyboard shortcuts instead of the menu.

The procedure for formatting is as follows:

1. Select text to format.
2. Choose one of the buttons or press the keyboard combination listed in table 2.10.

<table>
<thead>
<tr>
<th>Table 2.10</th>
<th>Formatting Buttons and Keyboard Shortcuts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command</td>
<td>Button</td>
</tr>
<tr>
<td>Bold</td>
<td>![Bold Button]</td>
</tr>
<tr>
<td>Italic</td>
<td>![Italic Button]</td>
</tr>
<tr>
<td>Underline</td>
<td>![Underline Button]</td>
</tr>
<tr>
<td>Align Left</td>
<td>![Align Left Button]</td>
</tr>
</tbody>
</table>

See "Formatting Text," p. 108
See "Enhancing Text," p. 505
<table>
<thead>
<tr>
<th>Command</th>
<th>Button</th>
<th>Note</th>
<th>Keyboard</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center</td>
<td><img src="image" alt="Button" /></td>
<td>W, E, P</td>
<td>⌘+E</td>
<td>W, P</td>
</tr>
<tr>
<td>Align Right</td>
<td><img src="image" alt="Button" /></td>
<td>W, E</td>
<td>⌘+R</td>
<td>W, P</td>
</tr>
<tr>
<td>Justify</td>
<td><img src="image" alt="Button" /></td>
<td>W</td>
<td>⌘+J</td>
<td>W, P</td>
</tr>
<tr>
<td>Font</td>
<td><img src="image" alt="Button" /></td>
<td>W, E, P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Font Size</td>
<td><img src="image" alt="Button" /></td>
<td>W, E, P</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the Note column, W, E, and P represent Word, Excel, and PowerPoint.

To use the Format Painter button, select the text with the formatting you want to copy. The mouse pointer changes to include a paintbrush icon. Select the text to receive the format. When you release the mouse, the target range receives the formatting of the source range.

### Using Undo

If you want to undo the formatting or the last procedure, you can immediately choose the Edit Undo menu or press ⌘+Z.

Word has a multiple level undo that lets you undo more than the last procedure. To use Word’s undo feature, click the Undo button to undo the last procedure. Click the pull-down arrow portion of the button to show a list of procedures and select the procedure you want to undo.

Word also has a Redo button that lets you repeat the last action you did. For example, you can apply the same formatting you did on the last selection. The Redo button also reverses an undo. If you want to undo your undo, use Redo. The Redo button also has a pull-down arrow that shows a list of procedures you can redo.

### Using Menus to Format

The formatting toolbars give you the most-used choices for formatting. If you want more complete choices, use the menu bar. Word, Excel, and PowerPoint have Format menus. Word and PowerPoint display different formatting categories on the Format menu itself. Excel displays the formatting categories on tabs on the Format Cells dialog box, as shown in figure 2.17. Table 2.11 summarizes some of the formatting possible on the Format menu of Word, and
PowerPoint and the Format Cells dialog box of Excel. As with the toolbar and shortcut keys, you first need to select the text to format. When you finish with a dialog box, click OK.

**Fig. 2.17**
This Excel dialog box enables you to change many characteristics of the font.

![Format Cells dialog box](Image)

---

### Table 2.11 Formatting Commands

<table>
<thead>
<tr>
<th>Command</th>
<th>Word</th>
<th>PowerPoint</th>
<th>Excel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Font, Font size, Font color, Underline</td>
<td>Format then menu item Font</td>
<td>Format then menu item Font</td>
<td>Format Cells then tab Font</td>
</tr>
<tr>
<td>Border (lines)</td>
<td>Borders and Shading</td>
<td>Colors and Lines</td>
<td>Border</td>
</tr>
<tr>
<td>Shading (patterns)</td>
<td>Borders and Shading</td>
<td>Colors and Lines</td>
<td>Patterns</td>
</tr>
<tr>
<td>Alignment</td>
<td>Paragraph</td>
<td>Alignment</td>
<td>Alignment</td>
</tr>
<tr>
<td>Line spacing</td>
<td>Paragraph</td>
<td>Line Spacing</td>
<td>Use Format, Rows, Height</td>
</tr>
</tbody>
</table>

---

**Troubleshooting**

I accidentally chose the wrong format.

Immediately choose Undo. If you’ve waited too long, you can sometimes click the same button to undo the format or another button to change the format. For example, click the Bold button to bold or unbold. You can also click Align Left to change from any other alignment.

---

- See “Using AutoFormat,” p. 186
- See “Changing Column Width and Row Height,” p. 276
- See “Modifying a Table,” p. 198
Changing Column Width
Changing the column width of tables in Word, or spreadsheets in Excel, is essentially the same. You move above the document to the column marker until the mouse pointer changes to a double black arrow, and drag the mouse to the desired width. In Word, the area you change is called the *ruler* and the insertion point must be inside the table. In Excel, the area you change is called the *worksheet frame* and the mouse pointer is between the column letters.

Letting the Application Do the Formatting for You
Although formatting is fun, you can spend a lot of time and still not get a professional look for your effort. The Microsoft Office suite of applications is starting to give you choices of a series of formats that will automatically format the document for you. These will automatically add fonts, shading, colors, and borders. If you want to maintain a consistent image with your documents, using the predefined formats is worthwhile.

To apply automatic formatting to your document, do the following:

- For a Word document, choose Format AutoFormat. In the AutoFormat dialog box, click OK. After Word formats the document, you can accept or reject the changes or choose the Style Gallery command button and choose from displayed examples (see fig. 2.18).

![Fig. 2.18](image-url)

Choose the Style Gallery to change the automatic formatting that Word created for you.

- For Excel, position the cell pointer within the area to format and choose Format AutoFormat. Choose from a list of examples in the Table Format list box (see fig. 2.19).
Chapter 2—Using Common Features to Create Documents

Fig. 2.19
Choose from a list of table formats provided by Excel on the AutoFormat dialog box.

For PowerPoint, choose the Format Presentation Template command and select from the File Name list of file templates in one of the template folders (see fig. 2.20).

Fig. 2.20
On PowerPoint’s Presentation Template, choose the file template that has the formatting features you want to apply to your presentation.

You can also use professionally designed formats through Wizards. See the next section, “Using Help.”

Using Help

Microsoft has significantly added tools to help you become more productive quicker. In addition to the standard on-screen help, table 2.12 shows which features are available in each of the products.

<table>
<thead>
<tr>
<th>Table 2.12 Help Features in Microsoft Office Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feature</td>
</tr>
<tr>
<td>On-line Help</td>
</tr>
<tr>
<td>Help Pointer</td>
</tr>
</tbody>
</table>

▶ See “Learning More with On-Line Help,” p. 745
<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tips of the Day</td>
<td>Provides a helpful hint when you first start the program.</td>
<td>W, P</td>
</tr>
<tr>
<td>Quick Preview</td>
<td>Shows you an overview of the basics of the program, what’s new, and possible tips for users of competing software products.</td>
<td>W, E, P</td>
</tr>
<tr>
<td>Examples and Demos</td>
<td>Illustrates features of the product as you watch a computer-based demonstration.</td>
<td>W, E</td>
</tr>
<tr>
<td>Cue Cards</td>
<td>Shows you the steps to perform via an open window that you use along with your document.</td>
<td>P</td>
</tr>
<tr>
<td>How To Window</td>
<td>Shows you the steps to performing an open window that you use along with your document.</td>
<td>W, E</td>
</tr>
<tr>
<td>Wizards</td>
<td>Takes you step-by-step through a process of dialog boxes. You are prompted for choices throughout the process that are required to build your document.</td>
<td>W, E, P</td>
</tr>
</tbody>
</table>

W = Word, E = Excel, P = PowerPoint.

**On-Line Help**

You can find help on a topic in a number of ways. Table 2.13 describes some of the ways to enter a help topic.

**Table 2.13 Finding Help on a Topic**

<table>
<thead>
<tr>
<th>To find help on options in a dialog box</th>
<th>Press F1 while you are in the dialog box or click the Help command button if available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>To find help on a button on a toolbar</td>
<td>Click the Help button on the Standard toolbar and then click the button.</td>
</tr>
<tr>
<td>To find help on a menu item</td>
<td>Open the menu, move to item on menu and press F1, or click Help button and then menu item.</td>
</tr>
<tr>
<td>To search for help on a topic</td>
<td>Choose Help, Search for Help, or from within a Help window, click the Search button. See steps that follow to use the Search window.</td>
</tr>
<tr>
<td>To display a list of help</td>
<td>Choose Help Contents to see a topics list of topics organized by procedures or Index to see an alphabetical list.</td>
</tr>
</tbody>
</table>
If you are searching for a topic, a Search window appears similar to the one shown in figure 2.21. Begin typing the topic name in the first text box. As you type, the list of topics scrolls down to the characters you type. When you see your topic, click the topic and choose the Show Topics button. The second list box shows the related topics. Select one of the topics and choose the Go To button.

Fig. 2.21
The Word Help Search window. Clicking the Go To button will display the detailed help on the selected topic.

After you choose Help in one of the methods mentioned above, you enter a Help window with its own menu, buttons, and scroll bar (see fig. 2.22). To see more of the Help window, use the scroll bar or maximize the Help window. Table 2.14 describes the features in the Help window.

Fig. 2.22
This Help window shows a jump topic and the Help navigation buttons.
### Table 2.14 Items on Help Windows

<table>
<thead>
<tr>
<th>Help Item</th>
<th>Description</th>
<th>Applications (All Unless Indicated)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Menus</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>File</td>
<td>Opens a different help file, prints the help topic, exits help.</td>
<td></td>
</tr>
<tr>
<td>Edit</td>
<td>Copies information from a help topic or adds your own notes.</td>
<td></td>
</tr>
<tr>
<td>Bookmark</td>
<td>Creates placemarkers for the most used pages of help.</td>
<td></td>
</tr>
<tr>
<td>Help</td>
<td>Tells you how to operate help. Enables you to place help on top of your window so it doesn’t disappear when you return to the application. Tells you the version of help and how much memory is free.</td>
<td></td>
</tr>
<tr>
<td><strong>Buttons</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contents</td>
<td>Goes to the help table of contents of topics organized by procedure.</td>
<td></td>
</tr>
<tr>
<td>Search</td>
<td>Enables you to search for a help topic by typing the name of the topic.</td>
<td></td>
</tr>
<tr>
<td>Back</td>
<td>Moves back to the previous page you viewed in help.</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>Shows a list of all the help topics you’ve viewed in this help session. Double-click a topic name to return to that topic.</td>
<td></td>
</tr>
<tr>
<td>Index</td>
<td>Shows the alphabetical listing of help topics.</td>
<td>W, E, P</td>
</tr>
<tr>
<td>&gt;&gt;</td>
<td>Shows the next topic in the series.</td>
<td>P</td>
</tr>
<tr>
<td>&lt;&lt;</td>
<td>Shows the previous topic in the series.</td>
<td>P</td>
</tr>
</tbody>
</table>

(continues)
Table 2.14 Continued

<table>
<thead>
<tr>
<th>Help Item</th>
<th>Description</th>
<th>Applications (All Unless Indicated)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Screen Elements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solid green underline</td>
<td>Jump topic—choose to move to a different page in help.</td>
<td></td>
</tr>
<tr>
<td>Dotted green underline</td>
<td>Glossary topic—choose to see pop-up definition of highlighted term. Click</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the Help window to turn off the definition.</td>
<td></td>
</tr>
<tr>
<td>Examples and practice</td>
<td>Goes to a demonstration of the help topic.</td>
<td>W, E</td>
</tr>
<tr>
<td>buttons</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$= Word, E = Excel, P = PowerPoint.$

**Tip of the Day**

Word and PowerPoint display a dialog box with a helpful tip when you start the program (see fig. 2.23). To remove the tips, deselect the Show Tips At Startup check box. To see additional tips, choose the More Tips button and choose one of the topics in the Help window. You can also display the Tip of the Day dialog box by choosing Help, Tip of the Day.

**Fig. 2.23**
The Tip of the Day appears when you start the program or when you choose the Help menu item.

**Quick Preview**

When you first use Word, Excel, or PowerPoint, a Quick Preview screen appears similar to the one in figure 2.24. The Quick Preview displays a series of automated screens showing features of the application. This preview screen will appear a few times after you start your application. If you want to see the preview screen, you can also choose the Help Quick Preview command. Topic buttons on the screen enable you to choose getting started, new features of
the current release, and tips for other users. Choose one of the topics or click the Return button to return to the application. If you choose a topic, the application loads the demonstration and then prompts you after each screen. Choose the Next button. If you want to return to the opening screen, choose the Cancel or Close button.

**Examples and Demos**

Examples and Demos expand on the automated screens of the Quick Preview. They are available in Word and Excel. Examples and Demos are also automated screens, but they show you more features of the product, as shown in figure 2.25. You can enter an Example and Demo by choosing the Help Examples and Demos command, or by selecting the Examples and Demos button that displays on some help topics. You then see a series of pictures illustrating the topic. Click a balloon topic to move to that area in the demo. Click the Close button to turn off the demo.

**Fig. 2.24**
Quick Preview enables you to get a jump start on the program and see what’s new.

**Fig. 2.25**
Example and demo screens show details of difficult procedures.
"How To" Windows and Cue Cards

As you go through Help in Word and Excel, sometimes you get a separate Help window with a How To title bar. Click the On Top button to keep this window displayed as you work in your document. A How To window describes a series of steps for a process. You can work in your document at the same time you scroll through the How To window. To close the How To window, click the Close button.

PowerPoint has Cue Cards instead of a How To window (see fig. 2.26). Cue Cards and the How To window are similar in that they display step-by-step instructions. (On Cue cards, click the Next button to go to the next step.) Cue Cards also have more background information, such as defining what is a database. Cue Cards differ from How To windows because they automatically appear on top of your application. To see the application window, you need to minimize the Cue Card window (and the icon remains on top of the application) or close the Cue Card window by double-clicking the Control menu box.

Fig. 2.26
Cue Cards give you an overview and step-by-step instructions on tasks.

Wizards

One of the greatest help features in the Microsoft Office applications is not really a help feature at all. Wizards don't appear on the Help menu but appear throughout the applications. Wizards are special dialog boxes that ask you questions about the document you want to create and then use your
answers to layout and format the document. Excel started with the Chart wizard in Version 4, and now all the applications have wizards to help you build documents.

When you enter a wizard as shown in figure 2.27, the wizard asks you to enter text in text boxes or choose from a list of options. When you finish filling in one step of the wizard, you choose the Next button to go to the next step. You can skip to the last step if you know the default settings for your wizard by choosing the Finish button. If you want to cancel the wizard, click the Cancel button or press esc. On some dialog boxes, you also have the capability to return to a previous step by choosing the Back button.

You activate a wizard by different means in the programs. Table 2.15 lists some of the wizards.

<table>
<thead>
<tr>
<th>Program and Wizard</th>
<th>How to Start</th>
<th>What It Does</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Agenda Wizard</td>
<td>File, New Agenda Wizard</td>
<td>Creates a meeting agenda</td>
</tr>
<tr>
<td>Word Award Wizard</td>
<td>File, New Award Wizard</td>
<td>Creates an award certificate</td>
</tr>
<tr>
<td>Word Calendar Wizard</td>
<td>File, New Calendar Wizard</td>
<td>Creates a monthly calendar</td>
</tr>
<tr>
<td>Word Fax Wizard</td>
<td>File, New Fax Wizard</td>
<td>Creates a fax cover sheet</td>
</tr>
<tr>
<td>Word Letter Wizard</td>
<td>File, New Letter Wizard</td>
<td>Creates a business or personal letter</td>
</tr>
</tbody>
</table>

(continues)
Table 2.15 Continued

<table>
<thead>
<tr>
<th>Program and Wizard</th>
<th>How to Start</th>
<th>What It Does</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Memo Wizard</td>
<td>File, New Memo Wizard</td>
<td>Creates a memo</td>
</tr>
<tr>
<td>Word Newsletter</td>
<td>File, New Newsletter Wizard</td>
<td>Creates a newsletter with Wizard formatting and table of contents</td>
</tr>
<tr>
<td>Word Resume Wizard</td>
<td>File, New Resume Wizard</td>
<td>Creates a resume</td>
</tr>
<tr>
<td>Word Table Wizard</td>
<td>File, New Table Wizard or</td>
<td>Creates or inserts a formatted table</td>
</tr>
<tr>
<td></td>
<td>Table, Insert Table, Wizard</td>
<td></td>
</tr>
<tr>
<td>Excel Chart Wizard</td>
<td>Click Chart Wizard button</td>
<td>Creates a chart and drag mouse area where chart will appear</td>
</tr>
<tr>
<td>Excel Pivot Table</td>
<td>Data, Pivot Table</td>
<td>Analyzes and summarizes a Wizard list of data</td>
</tr>
<tr>
<td>Excel Text Import Wizard</td>
<td>File, Open and choose Text Type</td>
<td>Separates data into columns</td>
</tr>
<tr>
<td>Excel Text Wizard</td>
<td>Data, Text to Columns</td>
<td>Separates (parses) data from a long line of text into columns</td>
</tr>
<tr>
<td>PowerPoint AutoContent</td>
<td>Click AutoContent Wizard button</td>
<td>Enables you to choose from a series of presentation types and helps you create the title and supporting slides</td>
</tr>
<tr>
<td>Wizard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PowerPoint Pick a Look</td>
<td>Click Pick a Look Wizard button</td>
<td>Helps you format your slides</td>
</tr>
<tr>
<td>Wizard</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Here...

To continue your introduction to working with the applications, you may want to review the following chapters:

- Chapter 3, "Managing Files and Work Areas," shows you how to save, open, print, and close files, work with drives and folders, and switch among your applications.
Chapter 4, "Creating and Editing Documents," gives you the basics for creating a Word document.

Chapter 12, "Creating Worksheets," gives you the fundamentals of creating an Excel worksheet.

Chapter 20, "Creating, Saving, and Opening Presentations," gives you the basics on how to create a slide presentation.
Chapter 3
Managing Files and Work Areas

by Tom Negrino

As you learned in Chapter 2, "Using Common Features to Create Documents," many features are common to the Microsoft Office suite of applications. In addition to starting the programs, using Help, and typing and editing text, these mutual features enable you to manage your files similarly across applications. The procedures for opening, closing, saving, and printing documents are much the same. You also use similar steps to find a document, attach a summary, and move between applications.

In this chapter, you learn to

- Open, save, and close documents
- Work with disk drives and folders
- Attach summary information to a file
- Find a file by name, contents, or summary info
- Switch to different documents and applications
- Compare work areas of the applications

Working with Files

For most applications, when you are working on-screen, the work you do is only in the computer's memory. If the power fails or some other accident happens, you could lose all or part of your work. The process of saving a file
copies the information from memory to a file on disk (floppy disk or hard disk). You can manually save the file or set up the program to save the file automatically.

When you close a file, you are removing the information only from the computer's memory or from your screen. During the close process, the program prompts you to save the file if you have made any changes since the last save, or if you have not yet saved the file. Opening a file involves copying the information from a disk into memory. When you create a new file, a new document window opens.

**Saving, Opening, and Closing Files**

The procedures for saving, opening, and closing files are similar. You choose the necessary commands by using a button on the toolbar, a menu item, or a shortcut key. In most cases, a dialog box opens, requesting information about the file name, location (drive and folder), and type of file you are using. Sometimes, this dialog box does not open. When you save a file after naming it, the program assumes that you want to use the default choices in the File dialog box for the name, location, and file type. You can rename the file with the Save As command.

Table 3.1 shows the different methods of saving, opening, and closing files.

<table>
<thead>
<tr>
<th>Action</th>
<th>Button</th>
<th>Menu Command</th>
<th>Shortcut Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>Save</td>
<td><img src="image" alt="Save icon" /></td>
<td>File Save</td>
<td>⌘+S</td>
</tr>
<tr>
<td>Save As</td>
<td></td>
<td>File Save As</td>
<td></td>
</tr>
<tr>
<td>Open</td>
<td><img src="image" alt="Open icon" /></td>
<td>File Open</td>
<td>⌘+O</td>
</tr>
<tr>
<td>New</td>
<td><img src="image" alt="New icon" /></td>
<td>File New</td>
<td>⌘+N</td>
</tr>
<tr>
<td>Close</td>
<td>click document's close button in upper left corner</td>
<td>File Close</td>
<td>⌘+W</td>
</tr>
</tbody>
</table>
You also can easily find one of the last files you worked with. At the bottom of the File menu is a list of your most recent files (see fig. 3.1). Choose the file name to open the desired file.

![File Menu](image)

If you have not saved changes to your new file and you close the file by using any method, including quitting the application, you are asked whether you want to save your changes. If you choose Yes, the Save As dialog box appears.

When you click the New button, or press Ctrl+N, a new blank document window opens. If you use the New command from the File menu, you may be prompted for a template or wizard. *Templates* are files that may have stored formatting, macros, styles, text, and different menus and toolbars. After you open a template, you still need to give the document a name to save it. *Wizards* are a series of dialog boxes that lead you through the steps of creating a document or performing a function.

### Using File Dialog Boxes

When you save a file for the first time, change the file name, or open a file, the program you are using displays a dialog box similar to the one shown in figure 3.2, asking you the name of the file and its location. File names can be up to 31 characters in length. The location of the file is defined as the drive and folder where it is stored.

---

**Fig. 3.1**
The last four files you worked with appear at the bottom of the File menu.

- See “Using Template Wizards,” p. 190
- See “Understanding Masters and Templates,” p. 421
- See “Creating a Presentation Using a Wizard,” p. 432
When you open a Save As file dialog box, the File Name text box usually is highlighted. You can change the folder in which the file is saved by clicking the pop-up menu at the top of the file list; or change the disk by clicking the Desktop button, and then double-clicking the resulting list of disks. You also can click the New Folder button to create a new folder. You'll be asked to name the new folder, then the file will be saved into the new folder.

In addition to the Save and Open commands that bring up a dialog box, table 3.2 shows more commands that bring up a file dialog box.

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insert File</td>
<td>Places an existing document inside the current document.</td>
<td>W</td>
</tr>
<tr>
<td>Insert Picture</td>
<td>Inserts a graphic file into the document</td>
<td>W, E, P</td>
</tr>
<tr>
<td>Insert Database</td>
<td>Inserts a table into the document.</td>
<td>W</td>
</tr>
<tr>
<td>Insert Object</td>
<td>Inserts a file into your document so you can later edit the object with the application that created the source file.</td>
<td>W, E</td>
</tr>
<tr>
<td>Command</td>
<td>Description</td>
<td>Application</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Insert Clip Art</td>
<td>Inserts a picture from the clip-art library.</td>
<td>P</td>
</tr>
<tr>
<td>Insert Microsoft Word Table</td>
<td>Inserts a Word table object that can be formatted like Word tables.</td>
<td>P</td>
</tr>
<tr>
<td>Insert Microsoft Graph</td>
<td>Inserts a graph (chart) into the document.</td>
<td>P</td>
</tr>
</tbody>
</table>

\[ W = \text{Word}, \ E = \text{Excel}, \ P = \text{PowerPoint} \]

**Troubleshooting**

*When I look for a file, the file name does not appear in the file list box.*

The file name may not appear in a file list box for several reasons. First, you may have to use the scroll bars to display more files in the list. Second, the file may not be the correct type of file. In the List Files of Type list box, select All Files, and see whether your file is listed. Third, you may have to look in a different drive or folder. Finally, if all else fails, use the Find File feature, discussed in “Finding Files” later in this chapter.

**Working with Disks and Drives**

Whenever you save a file, the file goes to a disk somewhere. In the simplest case, you may have a hard disk inside your computer and one floppy disk drive. However, your Macintosh computer may have additional floppy and hard drives, removable disk cartridges and optical drives, and a CD-ROM. Your computer also could be connected to a network, giving you access to computer drives that are not directly attached to your Macintosh. No matter the configuration, in the File Open dialog box, you can tell if you’re looking at a hard disk, a floppy disk, or a networked drive by checking the type of icon next to the name of the disk. To change the drive, click the Desktop button in the File Open dialog box, and then double-click the name of the new drive (see fig. 3.3).
Fig. 3.3
Choosing a new drive after clicking the Desktop button.

![Image](image_url)

Working with Folders
Macintosh drives are organized with folders. An analogy is a file cabinet. The drive is divided into folders that can contain subfolders, which can in turn have their own subfolders. To change to different folders, you use the Folders pop-up menu in the file dialog box (see fig. 3.4). The name of the current folder appears next to the icon of the open folder in the pop-up menu, or next to an icon of a hard drive. To the right of the folder and file list is the name of the current drive.

Fig. 3.4
The Open file dialog box.

![Image](image_url)

To open one of the folders, double-click the folder name. The file list will change to show you what is in that folder, and the folder name will appear in the pop-up folder menu.

To move back up the chain of folders, click and hold the pop-up folder menu; then drag the menu to the desired folder.
Working with File Types

In dialog boxes relating to files, you see a pop-up menu that is labeled List Files of Type, or something similar. This box is usually in the bottom-left corner of the dialog box. The default choice for this list box is the file type for the program in which you are working. If you are saving a Word document, for example, this box displays Word Document.

You also can use the Save File as Type pop-up menu to save files in a different file format (see fig. 3.5). You usually change the file type when you want to convert a file from one kind of worksheet (Excel to Lotus 1-2-3, for example), or one word processing document (such as Word to WordPerfect for DOS or Windows) to another. You should understand, however, that Office applications assume that you are just changing the file type for the current save operation. After you change the file type and save a file, the Save File as Type setting reverts to Normal. Subsequent saves of that file will again bring up the Save As dialog, set to Normal, unless you click the Default for File check box. Clicking Default for File keeps the file in the changed file type.

If you frequently share files with coworkers who have PC-compatible computers, it’s also common to change the file type so that you can save a file in an older version of Word or Excel for DOS or Windows. In some cases, however, you may want to open a different kind of file. You can, for example, open an Excel worksheet file in a Word document. Table 3.3 shows some possibilities for opening different kinds of files.

Fig. 3.5
To save a file in a different format than the Word Document type, use the Save File as Type pop-up menu.
Table 3.3  File Types You Can Open in a Different Application

<table>
<thead>
<tr>
<th>Application Opening File</th>
<th>File Type Opened in Application</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word</td>
<td>Excel worksheet</td>
<td>Word table (can be a merge data document)</td>
</tr>
<tr>
<td>PowerPoint</td>
<td>Word outline</td>
<td>Heading 1 = slide title, Heading 2, 3 = points and subpoints</td>
</tr>
<tr>
<td>PowerPoint</td>
<td>Excel worksheet</td>
<td>Each row becomes the title of the slide</td>
</tr>
</tbody>
</table>

Using Save Options

Although most applications require that you save files, Word and Excel enable you to create backup files and set up automatic saving. Because these features are backups, you should still use the Save button, the menu command, or the shortcut key to save your files regularly—especially after you spend a significant amount of effort making your document look the way you want, or before you perform a major procedure on your file (such as spell checking, sorting, replacing, automatic formatting, or importing). You may want to use the Save As feature to save different revisions of the same file until your project is complete.

A backup file has the form *Backup of [Filename]*. You create a backup file after you have saved the file at least once. When you save a file all subsequent times, the backup procedure renames the old file on disk with the same file name, but with the *Backup of* prefix, and saves the document on-screen with the name of the document. Word may shorten the filename to keep it within the 31 character filename limit. To start the backup procedure, choose the Save As command from the File menu, click the Options button, and then click Always Create Backup. If you need to use your backup file, open the *Backup of [Filename]* document.

In Word and Excel, you can set up the automatic save feature so that the program regularly saves your work at time intervals that you specify. In Word, automatic save places a temporary copy of your document in a hidden folder in the top level of your hard disk, called Temporary Items. If your machine crashes, look in the Temporary Items folder (which becomes visible if you set the Open dialog box to All Files), or check the Trash for a folder called Rescued Items. In Excel, the program prompts you for a file name if you have not already saved the file.
Using Summary Info
As mentioned earlier, when you name a file, you are limited to 31 characters. While this is usually enough to describe a file, Word, Excel, and PowerPoint feature a Summary Info dialog box that enables you to use an even longer title and to add a subject, the author's name, keywords, and comments to your file.

To save summary information with a file, follow these steps:

1. From your document, choose the File Summary Info command. The Summary Info dialog box appears, as shown in figure 3.6.

![Summary Info](image)

2. Type your description, longer than 31 characters if necessary, in the Title text box (you can include spaces).

3. If desired, type a subject, author name, keywords, or comments. To move between fields, press tab or click the field.

Word automatically fills in the author name, based on the User Info. To change the author, type a new name in the text box. To change the User Info, choose the Tools Options command, select the User Info tab, and change the name in the Name box.

4. In Word, if you want to see the number of words or other document statistics, click the Statistics button.

5. When you finish, click OK.

Finding Files
Have you ever tried to find a file when you forgot where you put it or what you called it? Life can be difficult when you cannot find a file and have to recreate it. Word, Excel, and PowerPoint now have a Find File feature that enables you to search for a file based on the file name, summary information, file contents, or file dates. You can look for a file in either of two ways: Using the Search dialog box or using the Advanced Search dialog box. After you search for files, they appear in the Find File dialog box.
Using the Search Dialog Box
To find files through the Search dialog box, follow these steps:

1. Open the File menu and choose Find File. The Search dialog box appears (see fig. 3.7).

Fig. 3.7
The Search dialog box.

2. Enter the file criteria in the File Name text box. If you enter a partial filename, the search will include all filenames that have those characters.

3. If necessary, choose the file type from the File Type pop-up menu.

4. Choose the drive from the Location pop-up menu in the Location text box.

5. To start the search, click OK.

The results of your search appear in the Find File dialog box (see the section "Using the Find File Dialog Box" later in this chapter).

Using the Advanced Search Dialog Box
The Advanced Search dialog box enables you to go beyond searching for file names. You also can search for text within the file, look for the file by date, or look for the file based on other information in the Summary Info dialog box. Although the Advanced Search takes more time to complete than the basic Search, it performs a more extensive search and is more likely to find
your exact file. The Advanced Search dialog box has three tabs, which are described in the following sections.

To find a file by using the Advanced Search dialog box, follow these steps:

1. Open the File menu and choose Find File. The Search dialog box appears. (If the Find File dialog box appears instead, click the Search command button to go to step 2.)

2. In the Search dialog box, choose the Advanced Search command button. The Advanced Search dialog box appears, with three tabs. To move to a tab, click it.

3. Select options in any or all of the tabs to define your search criteria.

4. When you finish selecting options in the tabs, click OK. The Find File dialog box appears (see “Using the Find File Dialog Box” later in this chapter).

Using the Advanced Search Location Tab
In the Advanced Search dialog box, select the Location tab to display the location options. The dialog box changes as shown in figure 3.8. The purpose of this tab is to build a list of drives and folders in the Search In list box.

To change the search criteria, follow these steps:

1. If you want to clear the existing folder search criteria, choose the Remove All command button.

2. If you want to remove one folder from the search criteria, select the folder in the Search In list box and then choose the Remove command button.
3. To add a folder to the search list, choose the Add command button. An Open File dialog box appears. Navigate to the folder you want to add, then click the Select button at the bottom of the Open dialog. The folder appears in the Search In list box.

4. To include additional folders, repeat step 3.

5. To search within the subfolders of the selected folders in the Search In list box, select the Include Subfolders option.

6. To choose specific application files, select a file type in the File Type pop-up menu.

7. To add more search criteria, select another tab, or click OK to return to the Search dialog box.

Using the Advanced Search Summary Tab

Use the Summary tab to change the search criteria to include information from the Summary Info dialog box, or text within the file.

In the Search dialog box, select the Summary tab. The dialog box changes as shown in figure 3.9.

![Advanced Search dialog box with Summary tab](image)

**Fig. 3.9**

The Summary tab of the Advanced Search dialog box.

Do any of the following things to further specify the parameters of your Advanced Search:

- Type the title of the document (from the Summary Info dialog box) in the Title text box.

- Type the author's name in the Author text box.

- Type a keyword in the Keywords text box.
- Type a word or phrase in the Subject text box.
- In the Containing Text area, type a word or phrase that is in the file you want to find.
- If you want the capitalization to match the search criteria, select Match Case.

When you finish with the Summary tab, click OK to return to the Search dialog box, or select another tab.

**Using the Advanced Search Timestamp Tab**

In the Advanced Search dialog box, select the Timestamp tab to display the portion of the search criteria that lets you search for files by when they were saved or created. The dialog box changes, as shown in figure 3.10.

The Timestamp tab contains two sections. Use the Last Saved section to search for the file based on when the file was last saved (with the File Save or Save As command). Use the Created section to search for the file based on when the file was created (with the File Save command). In either section, type the starting and ending dates for which you want to search. The file date must fall between those two dates. In the By text box in either section, type the name of the user. This name is the user's name, as defined in User Info, and does not have to be the author's name, as shown in the Summary tab (although these names usually match).

When you finish with the Timestamp tab, click OK to return to the Search dialog box, or select another tab.

*Fig. 3.10*
The Timestamp tab of the Advanced Search dialog box allows you to look for files based on when they were saved or created, or by whom they were created.
Saving and Using Saved Search Criteria

After you identify the file name, location, summary information, text, or dates, you can save these settings. To do so, follow these steps:

1. If you are in the Advanced Search dialog box, click OK to return to the Search dialog box.

2. Choose the Save Search As button.

3. Type the name of the search.

When you want to use a previously named search, select the search from the Saved Searches pop-up menu. To delete the search, choose the Delete Search command button. Figure 3.11 shows a list of saved searches.

Fig. 3.11
Saved Searches can save you time.

Using the Find File Dialog Box

After you click OK in the Search dialog box, the program builds a list and displays the files within drives and folders that match the criteria that you specified on the left side of the Find File dialog box (see fig. 3.12). As in the Finder, you can click the small triangles next to the folder names to expand or collapse the list of files with that folder. The right side of the dialog box can show files in any of three views.

You can select the following views in the View pop-up menu:

- **Preview.** Shows an image of the file (see fig. 3.12).

- **File Info.** Shows the file name, title, size, author, and date and time saved.

- **Summary.** Shows the title, author, keywords, comments, date, time, and statistics.
You can open the file by choosing the Open command button. If you choose the Commands pop-up menu, you can perform any of the following operations:

- Open a read-only copy of the file. When you try to save the file, you are asked for another name.
- Print the file.
- Display the summary.
- Delete the file.
- Copy the file.
- Sort the list by name, date, title, author, or size.

As in the Finder, you can select multiple files by holding down the Shift or 
keys and clicking additional files. When you select multiple files, you also can open, print, delete, or copy them.

**Printing Documents**

As mentioned in the preceding section, you can print one or more files by selecting the Commands Print option in the Find File dialog box. To print or preview the current document, you can use menu commands, toolbar buttons, or shortcut keys.
Printing All or Part of the Document

To print the document, choose the File Print command or press $\text{Alt}+\text{P}$.

When you use the Print button or shortcut key, the entire document prints. If you use the menu command, a dialog box similar to figure 3.13 appears, displaying more choices.

Fig. 3.13
The Print dialog box in Word. The other application’s Print boxes are similar.

Options in the different applications’ Print dialog boxes enable you to print the entire document, the current page, specific pages, or selected text. You also can specify the number of copies to print.

Changing Printing Options

If you want to make additional printing choices, use the Page Setup dialog box, shown in figure 3.14, by choosing Page Setup from the File menu. The options in this dialog box enable you to set margins, print headers and footers, specify the print orientation, and change the printer settings.

Fig. 3.14
The Word Page Setup dialog box.
To access Page Setup to change margins, paper size, and other features, use the following commands:

<table>
<thead>
<tr>
<th>Application</th>
<th>Menu Command</th>
<th>Button in Print Dialog Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word</td>
<td>File Page Setup</td>
<td>None</td>
</tr>
<tr>
<td>Excel</td>
<td>File Page Setup</td>
<td>Page Setup</td>
</tr>
<tr>
<td>PowerPoint</td>
<td>File Slide Setup</td>
<td>None</td>
</tr>
</tbody>
</table>

To change the printer, open the Apple menu, choose the Chooser, and select the printer you want to use.

**Using Print Preview**

Although your screen usually shows what you will see on the printed page, Word and Excel have a Print Preview option that enables you to see the entire page (or more than one page), including headers and footers, page numbers, and margins. Print Preview is useful because Word and Excel sometimes display things differently on-screen than they will appear when printed. Print preview shows you exactly how your document will look on paper. You enter the preview by choosing the Print Preview command from the File menu. Table 3.4 shows the features available while you are in preview mode.

<table>
<thead>
<tr>
<th>Table 3.4 Features Available in Print Preview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feature</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>Change margins</td>
</tr>
<tr>
<td>Magnify</td>
</tr>
<tr>
<td>Zoom to different sizes</td>
</tr>
<tr>
<td>Multiple pages</td>
</tr>
<tr>
<td>Shrink to fit</td>
</tr>
<tr>
<td>Print</td>
</tr>
<tr>
<td>Edit</td>
</tr>
</tbody>
</table>
Figure 3.15 shows Print Preview for Word, and figure 3.16 shows Print Preview for Excel.

**Fig. 3.15**
The Word Print Preview screen box can show multiple pages of your document at once.

**Fig. 3.16**
The Excel Print Preview screenbox lets you change column margins so more of a document can fit on a page.

Drag the double-headed black arrow to change the margins.
If you want to use Print Preview, you can use the following options:

- To change margins, click the Margins button, move the mouse pointer to the top or side until the pointer changes to a double-headed black arrow, and drag the margin.
- To magnify, click the Magnify button, and click the document where you want magnification.
- To turn magnification off, click the document again.
- To edit the document in Word, click the Magnify button to turn magnification off, and editing on.

**Switching between Documents**

When you open more than one file at a time, you have a window for each file. You can switch between open documents in the following ways:

- Choose the desired, open document from the bottom of the Window menu.
- Press `Alt+F6` to cycle through the open documents.
- If parts of documents are visible on-screen, click them to bring them to the front.

If you want to copy information between documents, you may want to display two or more windows, as follows:

- In Word, choose the Window Arrange All command to display the documents as shown in figure 3.17.
- In Excel, choose the Window Arrange command. A dialog box appears, asking how you want to arrange the windows. The Tiled option displays the windows in small rectangles (see fig. 3.18). Horizontal displays the windows in rows across the screen (like Word). Vertical displays the windows in columns across the screen. Cascade stacks the windows, with the title bar of each window showing, like tabs.
Fig. 3.17
Word’s Arrange All command stacks the windows horizontally.

Fig. 3.18
Excel’s Arrange All command lets you tile documents equally on-screen.
In PowerPoint, choose the Window Arrange All command to show the documents in tiled form. You also can choose the Window Cascade command to stack the windows in a manner similar to Cascade in Excel.

When several documents are visible, the title bar with thin horizontal lines in it indicates which window is active. To make another window active, click that window. To show one of the windows full-screen, click the Maximize button or double-click the title bar. In Word, you can use the drag-and-drop feature to move text between document windows.

Switching between Applications

In addition to switching between documents within an application, you can switch between applications. You can switch between open applications in the following ways:

- Open the Microsoft Office Manager menu, then choose an Office application. The application will open, if it isn’t already active.
- Open the application menu, and choose any other open application.
- If part of the application window is visible, click it.

When several applications are visible, a dark title bar indicates which window is active. To make another window active, click that window. You can use the drag-and-drop feature to move information from Excel and PowerPoint to a Word document. You also can use drag-and-drop to go from Word and Excel to PowerPoint and from Word to Excel.

Looking at the Work Areas of the Different Applications

The Microsoft Office applications, like all Macintosh applications, have many similarities—for example, all applications have at least one document window, a menu bar, toolbars, and status bars. Because the Microsoft Office applications are different from one another, however, each application has a different focus and a different kind of work area.
Word Document
The work area of Word is the document (see fig. 3.19). The document window is like a blank sheet of paper on which you can type. When your typing reaches the margin, the text automatically wraps to the next line. The focus of Word is text. Although you can place numbers and data in Word documents, the strength of Word is its capability to format text documents, such as letters, memos, and reports. The length of your document is virtually unlimited.

Excel Worksheet
The work area of Excel is a grid of columns and rows (see fig. 3.20). The Excel document is called a worksheet and is similar to a table in Word or Access. The focus of Excel is a cell, which is the intersection of a row and column. All data must go into cells. Although you can place text boxes across a range of cells; long sections of text are better left to Word; Excel’s strength is its capability to summarize and analyze numbers. Excel also has significant charting capabilities that enable you to create many types of pie, bar, column, and line charts.
An Excel worksheet has 256 columns (indicated by letters A to IV) and 16,384 numbered rows. Each cell is indicated by the column letter and the row number. E6, for example, is the cell in the fifth column and sixth row. An Excel worksheet can have several sheets.

**PowerPoint Slide**

The focus of PowerPoint is the slide (see fig. 3.21). PowerPoint is used primarily to make presentations. You can create slides for uses such as overhead transparencies, 35mm slides, or on-screen presentations.

Each slide has attached objects, which may include a title, bulleted items, other text, and graphics. To edit an object, you first have to select the object.

You can view PowerPoint slides in different ways. Outline view shows the titles of all slides in list format with their attached bulleted items. Slide view (the normal view) shows one slide at a time. Slide Sorter view shows more than one slide at a time. Notes Pages view enables you to type notes for each slide.
Fig. 3.21
The PowerPoint's main working area is the slide.

From Here...
To continue your introduction to the Microsoft Office applications, you may want to review the following chapters:

- Chapter 4, "Creating and Editing Documents," covers the basics of creating a Word document.
- Chapter 12, "Creating Worksheets," explains the fundamentals of creating an Excel worksheet.
- Chapter 20, "Creating, Saving, and Opening Presentations," gives you the basics of creating a slide presentation.
Part II

Using Word

4 Creating and Editing Documents
5 Formatting Text and Documents
6 Proofreading and Printing
7 Managing Files
8 Customizing Word
9 Working with Large Documents
10 Working with Tables, Charts, and Graphics
11 Automating with Macros and Mail Merge
The PivotTable Wizard builds a report that summarizes data from Microsoft Excel.

Steps:
1. Create PivotTable from data in:
   - Microsoft Excel List or Workbook
   - External Data Source
   - Multiple Consolidation
   - Another PivotTable

Tip: To learn more about PivotTable Wizard, refer to the Help menu.
Of all the applications included with Microsoft Office, Word 6 may be the one you use most. You probably need a word processor to produce letters, envelopes, and so on in your everyday work. Using Word, you also can create memos, fax cover sheets, reports, newsletters, mailing labels, brochures, and many other business documents.

In this chapter, you learn to

- Identify the parts of the screen and the toolbar buttons
- Enter text
- Select text
- Edit text
- Reverse the last editing action
- Start a new document
- Save a document
- Close and open documents

Word offers many commands and features that help you complete your work quickly and easily. Word provides easy graphics handling, outlining, calculations of data in tables, the capability to create a mailing list, list sorting, and efficient file management. In addition, you can perform many desktop publishing tasks, such as formatting fonts, creating display type, aligning text, adding graphic borders, and adding shading.
Microsoft Office offers another advantage of using Word as your day-to-day word processor. Whether you use Word with Office or as a stand-alone Macintosh application, you have flexibility and control of data shared with Excel, PowerPoint, Mail, and any other Macintosh application you may use.

**Understanding Word Basics**

Word is an excellent program offering many features that help you perform your word processing tasks efficiently. If you are familiar with Macintosh applications, you already know quite a bit about operating Word. You know, for example, how to use such features as the Apple menu, the Window menu, and the Help Balloon. Additionally, you understand the use of the mouse, scroll bars, dialog boxes, and other features of a Macintosh application. For more information about Word for Macintosh, refer to Que’s book, *Using Word Version 6 for Macintosh*, Special Edition.

This section shows you how to use some features and screen elements that are featured in the Word program, including the toolbar, scroll bars, and status bar.

**Using the Word Screen**

When you start the program, Word displays specific screen elements as defaults, including the title bar, menu bar, two toolbars, a ruler, and scroll bars. You can, of course, hide these elements or show different components at any time by choosing a command from the View menu. Suppose that you want to hide the ruler. Open the View menu and choose Ruler to hide it; open the View menu and choose Ruler again to display the ruler.

Figure 4.1 illustrates the default Word screen and indicates the components of the screen.

The following list describes the screen elements. The toolbars are covered in more detail in the next chapter.

- **Title bar.** The title bar contains the name of the document, the Close box, and the Zoom box.

- **Menu bar.** The menu bar contains specialized menus containing related commands. Choose commands from the Format menu, for example, to change fonts, set tabs, add a border, and so on. Additionally, the Microsoft Office Manager icon located between the time display and
the Help menu at the right end of the Menu bar gives you access to Office Help, other Microsoft Office programs, Microsoft's Find File utility, and more.

**Fig. 4.1**
Using Word's screen elements can help you complete tasks quickly and efficiently.

- **Standard toolbar.** This toolbar contains buttons you click to perform common tasks, such as starting a new document, saving a document, checking spelling, and undoing an action. The buttons in the Standard toolbar provide shortcuts for menu commands.

- **Formatting toolbar.** The buttons in the Formatting toolbar provide shortcuts for choosing fonts, font sizes, styles, alignments, and so on. Use this toolbar to format text as you work.

- **Ruler.** The ruler provides a quick and easy method of setting tabs and indents in your text. For more information about the ruler, see Chapter 5, "Formatting Text and Documents."

- **Text area.** The text area consists of a blank "page" in which you enter text or place pictures, graphics, and so on.
Scroll bars. Use the scroll bars to move quickly to another area of the document.

Status bar. The status bar lists information and displays messages as you work in Word. When you position the mouse pointer on a toolbar button, for example, a description of that button's function appears in the status bar.

Entering Text

When you start the Word program, Word supplies you with a new, blank document (named Document1 in the title bar). You can begin to type at the blinking insertion point. When you enter text, that text appears at the insertion point.

This section describes the basic techniques of entering text, moving around in a document, and selecting text for editing.

Typing Text

When entering text, you type as you would in any word processor. Word automatically wraps the text at the end of a line, so you do not have to press return to begin a new line. Press return only when you want to start a new paragraph or create a blank line. Word defines a paragraph as a letter, word, or sentence ending with a paragraph mark.

A paragraph mark is a nonprinting character inserted whenever you press return. You can view paragraph marks by clicking the Show/Hide button in the Standard toolbar. To hide the paragraph marks, click the Show/Hide button again. Figure 4.2 illustrates paragraph marks and the Show/Hide button in the Standard toolbar. In addition, the right margin in the figure is set at 4 1/2 inches so you can see the automatic word wrap.

Following are some useful shortcuts and features you can use when entering text in Word:

- If you make a mistake while typing, press the delete key to erase a character to the left of the insertion point.
- To repeat the text you just typed, open the Edit menu and choose Repeat Typing; or press +Y.
- To erase the text you just typed, open the Edit menu and choose Undo Typing; or press +Z. You also can click the Undo button in the Standard toolbar.
To start a new line without inserting a paragraph mark, press shift+return. Word inserts a line-break character.

Double-click the OVR indicator in the status bar to use overtype mode, in which the text you enter replaces existing text. Double-click the indicator again to turn off overtype mode.

Fig. 4.2
Paragraph marks are nonprinting characters; they do not print, whether they are displayed or not.

Positioning the Insertion Point
To move the insertion point, move the I-beam mouse pointer to the new location and click the mouse button. You can position the insertion point anywhere in the text area except below the end marker, which is the short horizontal line displayed in the text area. You can move the end marker by inserting paragraph returns (pressing return) before the marker.

If you want to move the insertion point to a location that doesn't appear in the current window, you can use the horizontal or vertical scroll bar to move to the new location. When the new location is displayed in the window, place the I-beam pointer where you want to position the insertion point and click the mouse button.

Additionally, you can press some of the keys on the keyboard to move the insertion point to a new location. Sometimes, using the keyboard to move...
around in a document is faster and easier than using the mouse. Table 4.1 lists common keys you can use to move around in your documents:

<table>
<thead>
<tr>
<th>Table 4.1 Common Keys to Move Insertion Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key</td>
</tr>
<tr>
<td>Arrow keys</td>
</tr>
<tr>
<td>$\rightarrow\leftarrow$</td>
</tr>
</tbody>
</table>

**Selecting Text**

After entering text, you may want to delete or move a word, sentence, or paragraph. In addition, you may want to format the text by changing the font or font size, indenting text, and so on. Before you can perform one of these actions on the text in your document, you must select the text. **Selecting**, or highlighting, the text shows Word where to perform the action.

You can select text by using the mouse, the keyboard, or a combination of methods, depending on how much text you want to select. The following list describes the methods of text selection:

- To select one word, position the I-beam pointer anywhere in a word and double-click. The word and the space following the word are selected.

- To select a sentence, hold down the $\text{Ctrl}$ key while clicking anywhere in the sentence. Word selects all words in the sentence to the ending punctuation mark, plus the blank space following the punctuation mark.

- To select a paragraph, triple-click the paragraph.

- To select specific text, click and drag the I-beam pointer over one character, one word, or the entire screen.

- To select one line of text, place the mouse pointer in the selection bar and click. The *selection bar* is an invisible vertical band to the left of the text area. When you point the mouse in the selection bar, the I-beam pointer changes to an arrow (see fig. 4.3).

- To select the entire document, hold down the $\text{Ctrl}$ key while clicking the selection bar. Alternatively, press $\text{Ctrl}+\text{A}$ to select the entire document.
To select a vertical block of text—the first letters of words in a list, for example—hold down the option key and then click and drag the mouse pointer across the text. Figure 4.4 shows a vertical block of selected text.

**Fig. 4.3**
Use the selection bar to select one line quickly; select more than one line by dragging the mouse pointer in the selection bar.

**Fig. 4.4**
Select one, two, or more characters vertically by holding down the option key while dragging the mouse pointer.
To select text with the keyboard arrow keys, position the insertion point where you want to start selecting, press and hold down the shift key, and then press the appropriate arrow key to move up, down, left, or right.

To deselect text, click the mouse anywhere in the document or text area, or press any of the arrow keys.

### Troubleshooting

<table>
<thead>
<tr>
<th>I began typing the text, but nothing changed on-screen.</th>
</tr>
</thead>
<tbody>
<tr>
<td>You must click the mouse to position the insertion point before you begin typing the text. A blinking vertical line indicates the insertion point.</td>
</tr>
<tr>
<td>I tried to select text with the mouse, but I had trouble controlling the selection.</td>
</tr>
<tr>
<td>It takes practice to control the mouse when you select text. Try one of the alternative methods of selecting text that were described in this section. For example, try positioning the insertion point at the beginning of the selection, holding down the shift key, and then clicking the mouse at the end of the selection.</td>
</tr>
</tbody>
</table>

### Editing Text

With Word, changes and corrections are easy to make. You can select any text in your document and delete it, copy it, or move it. You also can make other changes easily. How many times have you typed text, only to discover that the Caps Lock feature was on? Don't type the text again; use Word's Change Case command. This section shows you how to edit your document quickly and easily.

#### Undoing a Mistake

Many mistakes can be reversed by using the Undo command. Suppose that you type a sentence and decide you don't like the way it reads. You can delete it by opening the Edit menu and choosing Undo, or by pressing either of the shortcut keys: `⌘+Z` or `option+delete`. If you make a correction and change your mind, you can use the Undo command to reverse the action.

Word also provides a Redo command (found within the Edit menu) that you can use to reverse the last Undo. The keyboard shortcut for the Redo command is `⌘+Y`. Both the Undo and Redo commands describe the action you just performed: For example, Undo Typing, Redo Clear, and so on.
TheUndo and Redo commands allow you to sequentially undo actions one at a time until you reach the desired previous action. For example, if you Bold a word, Unbold it, change the font size from 12 pt. to 18 pt. and then Italicize the word, repeated selections of Undo would move you through the edits backwards. You would go from Italicized 18 pt. text after the first selection of Undo to Plain Text 18 pt. the first time you selected Undo. The second time you select Undo, you would go from 18 pt. back to 12 pt., and so on through your document. Word also supplies Undo and Redo buttons in the Standard toolbar that enable you to undo or redo all of your recent actions by moving through a pop-up menu. Figure 4.5 shows the Undo pop-up menu displaying five of the most recent actions.

Deleting and Moving Text
To delete any amount of text, select the text and then press the delete key. When you press delete, the text is erased; the only way to recall the text is to choose the Undo command. Alternatively, you can delete text by selecting it and then open the Edit menu and choose Clear. The Edit Clear command deletes the text just as the delete key does.

You also can use the Cut command to remove the text. Choose the Cut command to move the selected text from the document to the Macintosh
Tip
The shortcut key for Cut is \textasciitilde + X; the shortcut key for Paste is \textasciitilde + V. You also can use the Cut and Paste buttons in the Standard toolbar.

Clipboard. The text remains on the Clipboard until you use the Cut command again.

To move text that you cut to another location in the same document or to another document, position the insertion point where you want the text to appear, and then open the Edit menu and choose Paste. The cut text reappears at the insertion point. You can paste this text again and again until you cut or copy new text.

Copying Text
To copy text, select the text and then open the Edit menu and choose the Copy command; or press the shortcut key \textasciitilde + C. Word copies the text to the Clipboard. You then can paste the copied text in a new location or document by positioning the insertion point and then opening the Edit menu and choosing Paste or by pressing \textasciitilde + V.

Copying text—or other elements in your documents, such as pictures and charts—is one way to share data between applications. You can, for example, create text in Word, copy it, and paste it in PowerPoint. You also can copy a worksheet from Excel and paste it to a table in Word.

Drag-and-Drop Editing
An additional method you can use to move or copy text is called drag-and-drop editing. Word supplies this shortcut for moving or copying selected text a short distance—one screen at a time, for example. You also can use drag-and-drop editing to copy or move graphics.

To use drag-and-drop editing to move text or graphics, follow these steps:

1. Select the text or graphics that you want to move.
2. Point to the selected text or graphic, and hold down the mouse button. The drag-and-drop pointer appears (see fig. 4.6).
3. Drag the pointer and the dotted insertion point that appears to the new location, and then release the mouse button.

Note
The drag-and-drop editing option is activated by default. If you do not want to use drag-and-drop editing, you can turn the feature off by opening the Tools menu and choosing the Options command. In the Edit tab, select Drag-and-Drop Text Editing to turn the option off.
Converting Case

Word includes a handy command you can use to convert the case of text that you entered earlier. Suppose that you decide you do not want a heading to appear in all caps. You can use the Change Case command to make the change.

To change the case of text, open the Format menu and choose the Change Case command. The Change Case dialog box appears. Select any of the following options:

- **Sentence Case.** Capitalizes the first letter only in selected sentences.
- **Lowercase.** Changes all selected text to lowercase.
- **Uppercase.** Converts all selected text to all caps.
- **Title Case.** Changes each word of selected text to initial caps.
- **Toggle Case.** Changes uppercase to lowercase and lowercase to uppercase in all selected text.

**Tip**

You also can use the shortcut key to change case. Select the text, and then press `Alt`+`Shift`+`C`. Each time you press the shortcut key, Word toggles the case from lowercase to uppercase to title case.
Troubleshooting

I accidentally deleted or cleared text that I did not mean to delete.

Click the Undo button in the Standard toolbar, and select Clear in the pop-up menu to reverse that action.

I posted selected text in the wrong place.

Press \( \text{Ctrl} + \text{Z} \) to undo the paste. Then position the insertion point in the correct location and open the Edit menu and choose the Paste command again.

I accidentally get the drag-and-drop editing pointer when I do not want it.

Be careful not to click a text block after selecting it. If you do, however, click the mouse one more time to cancel the drag-and-drop pointer, which also cancels the text selection. Then simply select the text again. If you do not use the drag-and-drop pointer, consider turning the option off by opening the Tools menu and choosing the Options command.

Saving, Closing, and Opening a Document

This section shows you how to save and close a document, open an existing document, and start a new one. The following discussion is specific to the Word program; for information about basic file management, refer to Chapter 3, "Managing Files and Work Areas."

Tip

Save your documents early and save often as you work on them. If a power failure occurs while you are working on your document and you have not saved it as a file, you will lose the document.

Saving a Document

As in other Microsoft Office programs, you save a Word document by assigning it a name and a location in a folder on your drive. After naming the file, you can save changes made in that document without renaming the file by pressing a shortcut key or clicking a button in the Standard toolbar.

Naming a Document

The first time you save a document, open the File menu and choose the Save As command. Word displays the Save As dialog box, shown in figure 4.7.

When you save a document, Word places the file in the folder that you specify on your hard drive. Word also suggests a file name for the document; you can either accept the suggested name or rename the document to suit yourself by typing a new name in the File Name text box. To save a
Saving, Closing, and Opening a Document

You can save a file to a hard drive, floppy drive, network drive, and so on; available drives are shown when you click the Desktop Button in the Save As dialog box. Finally, in the Save File as Type box, you can select a format other than Word in case you want to use the file in another application, such as WordPerfect, Ami Pro, or Word for Windows.

To save a document, follow these steps:

1. Open the File menu and choose the Save As command. The Save As dialog box appears.
2. Select the drive, folder, and file type, if you do not want to save with Word's defaults.
3. Enter the name of the file in the File Name text box, or accept Word's suggested file name.
4. Click OK to save the document.

**Saving Changes to a Named Document**

After you have saved your document by assigning it a name and location on the disk, you can continue to work on it. The changes you make are not saved, however, unless you tell Word to save them. You do not have to rename the document file to save changes; you can simply use the Save command.

After modifying or editing an already-named document, choose Save or press \( \text{Ctrl} + \text{S} \). Word saves the changes in a few seconds, and you are ready to proceed.
Saving All
The Save All command saves all open documents. Additionally, using this command saves any open templates, macros, and AutoText entries. When you use the Save All command, Word displays a message box, asking you to confirm that you want to save each open document. If you have not named a document, Word displays the Save As dialog box.

Opening a Document
To open a saved document in Word, choose the Open command or press \Ctrl+O. Word displays the Open dialog box (see fig. 4.8).

Fig. 4.8
Select the file from the list of files, and then click OK to open the document.

In the Open dialog box, select the file name from the list of files, if you saved in Word's default folder. Otherwise, you can change the drive and folder, or even the file type, to access the desired file.

Starting a New Document
You can start a new document at any time by choosing the New command or by pressing \Ctrl+N. The New dialog box appears, as shown in figure 4.9.

Fig. 4.9
In the New dialog box, select the template on which you want to base the new document.
The New dialog box lists several templates. A *template* is a basic document design, including page size and orientation, font sizes, fonts, tab settings, page margins, and columns. For more information about templates, see Chapter 9, “Working with Large Documents.”

The Normal template is Word’s default. The Normal template has the following characteristics:

- Uses an 8 1/2-by-11-inch portrait-oriented page.
- Includes 1-inch top and bottom margins and 1 1/4-inch left and right margins.
- Uses Times 12-point body text.
- Supplies three headings: Helvetica 14-point bold, Helvetica 12-point bold italic, and Times 12-point bold. All three headings are left-aligned and use single line spacing.

To accept the Normal template, click OK. Word displays a new, blank document.

<table>
<thead>
<tr>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>I wanted to save a file in a different file format, but that format is not listed in the file types.</em></td>
</tr>
</tbody>
</table>

You did not install that file converter when you installed Word. See Appendix A, “Installing Microsoft Office,” for more information about installing the file converters.

*I opened a document that was created in another file format, and now I want to save it.*

Click the Save button in the toolbar or choose the File Save command. Word displays the Save Format dialog box, in which you can select the correct file format.

**From Here...**

In this chapter, you learned to create text in a document and then edit that text by copying, moving, deleting, and so on. Additionally, you learned to save the document in Word and then open that document for further editing. For more information about working in the Word application, see the following chapters:
• Chapter 5, "Formatting Text and Documents," covers how to change the views of your document; how to format such items as the font, type size, and style; how to adjust spacing between lines and paragraphs, indent text, and set tabs; and how to change margins and page orientation.

• Chapter 6, "Proofreading and Printing," covers using the Spelling Checker and Grammar Checker to proofread your documents, and provides information about previewing and printing documents.

• Chapter 9, "Working with Large Documents," covers formatting with styles and using template wizards.
Chapter 5

Formatting Text and Documents

by Peter Durso

Many of Word's distinctive features and commands pertain to formatting documents. Formatting a document includes assigning fonts and font sizes, adjusting the spacing between lines and paragraphs, aligning text, dividing text into columns, and setting page margins. Many of these tasks are considered to be part of desktop publishing—designing and formatting a document so that it is attractive and professional looking. Word provides many desktop publishing features and commands you can use to enhance your business documents.

In this chapter, you learn to:

- View the document in the way that best fits the task
- Change font, font size, and format styles
- Adjust line and paragraph spacing
- Set tabs and indents
- Left-align, right-align, center, or justify text
- Create columns and set page margins
- Change page size and orientation
Word not only supplies methods for improving the look of your documents, but also makes formatting quick and easy. You can use menu commands and toolbar buttons to transform an ordinary business document into an eye-catching piece.

This chapter shows you how to format text, paragraphs, and pages, using the easiest and fastest methods.

**Understanding Views**

Word enables you to view your document in a variety of ways. Each view—normal, outline, page layout, and master document—offers advantages for text editing, formatting, organizing, and similar tasks. You may prefer one view, but you also will use the other views while formatting documents. This section covers the two most commonly used views: normal and page layout.

In addition, Word provides various magnification options for viewing a document. You can magnify the view to 200 percent, for example, or reduce it to fit the entire page (or even the entire document) on-screen. Finally, you can remove or display the various screen elements to produce a better view. This section describes the views and their advantages and disadvantages.

**Viewing the Document**

The two most common views are normal and page layout. Normal view is mainly for entering and editing text; page layout view is perfect for formatting the text and page.

Two other views—outline and master document—are more specialized views. Outline view is covered in detail in Chapter 9, “Working with Large Documents.” Master document view is a method of viewing and organizing several files at one time; this view is not discussed in this book. Finally, print preview is discussed in detail in Chapter 6, “Proofreading and Printing.”

**Normal View**

Normal view, which is the default view in Word, shows the basic document and text. Although you can view various fonts and font sizes, tabs, indents, alignments, and so on, you cannot view formatted columns, page margins, or the appearance of the formatted text on the page (see fig. 5.1).
Use normal view for entering and editing text or for formatting text. Figure 5.1 shows the Normal View button. You learn about the other view buttons in the following sections. You can use the view buttons in the horizontal scroll bar to switch between views quickly.

**Page Layout View**

Page layout view shows how the text, columns, margins, graphics, and other elements look on the page. Page layout view provides the WYSIWYG (what-you-see-is-what-you-get) view of your document.

Editing and formatting may be slower in page layout, but you can get a better idea of how your document looks as you format and when you finish formatting. Figure 5.2 shows the same document as in figure 5.1, but in page layout view.

To change views by using the View menu, follow these steps:

1. Open the View menu and choose Normal for text editing and entering.

2. Open the View menu and choose the Page Layout command to format the text and page.
Fig. 5.2
You can view columns and page margins in page layout view.

Page Layout View button

Page margin

Hiding Screen Elements
In addition to changing views, you can display or hide the screen elements so you can see the document design better. Use the View menu to remove the rulers and toolbars. You also can choose the View Full Screen command to view a document with nothing but the Macintosh Standard Toolbar (with the Microsoft Office Manager icon to the right) on-screen with the document.

Figure 5.3 illustrates the full screen view. You can enter and edit text in this view as well as move pictures and objects. To return to normal or page layout view, press the esc key or click the Full Screen button.

Magnifying the View
You can change the magnification of the view to better control how much of your document you see on-screen at any time. Word provides two methods of changing views: the View Zoom command and the Zoom Control button in the Standard toolbar.

Figure 5.4 illustrates the whole page view. The document also is in page layout view.

Tip
To set your own magnification, click the down arrow next to the Zoom Control box, and then select a percentage, or enter any number between 10 and 200.

See “Modifying Viewing Options,” p. 159
To change magnifications by using the Zoom dialog box, follow these steps:

1. Open the View menu and choose the Zoom command. The Zoom dialog box appears.

---

**Fig. 5.3**
Full screen view enables you to see your document with no screen elements or obstructions.

**Fig. 5.4**
You can format the text and document at any view magnification.

**Tip**
The Zoom dialog box enables you to view more than two pages at a time in page layout view.
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Tip
The Zoom dialog box also offers the Many Pages option, in page layout view only, in which you click the monitor button and select the number of pages you want to view at one time (1 to 6).

2. In the Zoom To area, select the magnification you want or enter a percentage in the Percent box.

3. Click OK to close the dialog box.

<table>
<thead>
<tr>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>My document is in landscape view, but I cannot see enough of it to edit the text.</td>
</tr>
<tr>
<td>Landscape view turns your document 90 degrees so that the page is longer from left to right than it is from top to bottom. This could cause text at the extreme right or left margins to disappear from the side of your monitor's viewing area.</td>
</tr>
<tr>
<td>Use the Zoom Control button in the Standard toolbar to change the view to Page Width or Whole Page.</td>
</tr>
<tr>
<td>I formatted two columns, but I see only one column on the page.</td>
</tr>
<tr>
<td>You are in normal view. Choose the View Page Layout command.</td>
</tr>
<tr>
<td>My page is formatted with many fonts, font sizes, and graphics, and screen redraw is slow.</td>
</tr>
<tr>
<td>Choose the View Normal command to view the less-formatted version of the document and speed screen redraw.</td>
</tr>
</tbody>
</table>

Formatting Text

Word provides many options for formatting text; you can select a variety of fonts, sizes, and styles to enhance your documents. In addition, Word provides a Formatting toolbar that makes text formatting easy. Alternatively, you can use the Font dialog box, which is described later in this section.

You can format text by first selecting the text and then making the formatting changes. Alternatively, you can position the insertion point, make the formatting changes, and then enter the text. All text entered from that point on will be formatted according to your specifications until you change the formatting again.

Changing Font

Font is the typeface of the text. A typeface can, for example, be Helvetica. The font you choose helps create an impression or set the mood for the document. Suppose that you want to create an informal flyer for a sale. You can
use a light italic font, such as Brush, Cooper, or Univers italic. A formal, sophisticated font could be Shelley, Old English, or Caslon Openface.

Select the font you want to use from the Formatting toolbar's Font pop-up menu, shown in figure 5.5.

![Font pop-up menu](image)

**Changing Font Size**

Font size is measured in *points*. Points and *picas* are typesetter's measurements used for measuring spacing, line thickness, and so on. There are 12 points to a pica and 6 picas to an inch; therefore, there are 72 points to an inch.

All text you enter in a new, Normal template document is 12-point Times by default. You can, of course, change the type size. Use the pop-up Font Size menu in the Formatting toolbar to select the size you want.

The font sizes available in the Font Size pop-up menu depend on your printer. If you know that your printer can print a size that is not listed in the box—126 point, for example—type the number in the Font Size text box and then press return.

**Choosing Font Styles**

*Type styles*, also called *type attributes* and *character formats*, are characteristics applied to text. The Formatting toolbar supplies buttons for three type
Tip
Another possibility for formatting text is to use Word’s styles and your own to format the same style of text over and over. For more information about styles, see Chapter 9.

Fig. 5.6
Use the Font dialog box to perform many changes at one time to the selected text.

Using the Font Dialog Box
You can use the Format Font command to display the Font dialog box. Use this dialog box to format the text all at once; for example, you can use the dialog box options to change the font, size, and style of the selected text. Figure 5.6 shows the Font tab of the Font dialog box.

Using the Font tab of the Font dialog box, you can select a font and style, and see the results in the Preview box. You also can choose among more styles than in the Formatting toolbar, including single, double, or dotted underlines and colors. After you select the options you want, click OK to close the dialog box.

Copying Formats
Word makes formatting text easy with the Format Painter feature, which enables you to format an entire document quickly and easily.

When you format text—such as a heading, complicated tabs, or indents—and need to format other text in the document the same way, you can save time and energy by copying the formatting of the original text. Suppose that you formatted a heading as 18-point Univers, bold and italic, center-aligned, and with 5 points spacing below the head. Rather than select and format

styles: Bold, Italic, and Underline. To apply any of these attributes, simply click the B, I, or U button. You can apply one, two, or all three attributes at the same time.

Besides these three type styles, Word supplies several effects—including strikethrough, superscript, subscript, and all caps—in the Font dialog box.
each head in your document separately, you can use the Format Painter to copy the format to another head.

First, select the formatted text—the text with the format you want to copy—and then click the Format Painter button in the Standard toolbar. The pointer changes to a plus symbol and I-beam (see fig. 5.7). Select the text to be formatted, and that text automatically changes to the copied text format.

**Troubleshooting**

I have changed the font, font size, font style, and alignment of the selected text, and now I want to change the text back to its original formatting.

Undo the formatting, using the Undo pop-up menu in the Standard toolbar.

I just formatted some text with the Format Font command, and I want to use the same formatting for text on the next page of my document.

Select the text, and then choose Edit Repea t or press $\text{Ctrl}+Y$. Word repeats the last formatting command you used.
**Formatting Paragraphs**

A large part of formatting a page of text occurs when you format the paragraphs of body text, headings, lists, and so on. When producing an attractive, professional-looking document, you want to present a unified arrangement of the text elements. You can accomplish this by specifying line, word, and paragraph spacing; aligning the text; setting tabs and indents; and specifying how the text flows on the page.

**Tip**
You can enter text, select it, and then format it, or you can specify the formatting before you enter the text.

Word enables you to select a paragraph of text and change its arrangement by choosing commands or clicking buttons in the Formatting toolbar. This section shows you how to format paragraphs of text.

**Adjusting Spacing**

You can use spacing to change the design and readability of your text. For the most part, Word's default spacing works quite well for most of your documents, but sometimes you may want to apply specific spacing. This section shows you how to change line and paragraph spacing, and gives you a few tips on when to adjust spacing.

**Line Spacing**

Line spacing, also called leading (pronounced *LED-ing*), is the space that separates a line of text from the text above and below it. Without line spacing, uppercase letters, ascenders (the top strokes of t, b, d, and so on), and descenders (the bottom strokes of g, j, y, and so on) in one line would touch those in the next line.

Word’s default line spacing is single. Word measures spacing in points or in lines: 10-point text uses approximately 12-point spacing, or one line (single); 12-point text uses 14-point spacing, which is still one line. The “line” spacing depends on the size of the type. The larger the type size, the greater the line spacing: 24-point text, for example, would use about 27-point line spacing. Typesetting guidelines generally call for leading to be about 120 percent of the point size of the text.

Word enables you to change the line spacing in your text. You can set spacing to single, double, or 1 1/2 lines, or you can set a specific measurement in
Formatting Paragraphs

points. Figure 5.8 shows three paragraphs of text with different line spacings. The top paragraph is Word's default: single spacing, or 12-point text on 14-point spacing. The second paragraph is 12 on 16, and the third paragraph is 12 on 20.

To set line spacing, follow these steps:

**1.** Choose the Format Paragraph command. The Paragraph dialog box appears, as shown in figure 5.9.

**2.** Select the Indents and Spacing tab.

---

**Fig. 5.8**
Line spacing affects readability and page design.

**Fig. 5.9**
The Paragraph dialog box, with the Indents and Spacing tab displayed. Use the Spacing area to control line spacing.
3. In the Line Spacing pop-up menu, select the option you want; enter a value in the At box, if necessary. These options are described in table 5.1.

4. Click OK to close the dialog box.

<table>
<thead>
<tr>
<th>Table 5.1 Line Spacing Options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Option</strong></td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Single</td>
</tr>
<tr>
<td>1.5 Lines</td>
</tr>
<tr>
<td>Double</td>
</tr>
<tr>
<td>At Least</td>
</tr>
<tr>
<td>Exactly</td>
</tr>
<tr>
<td>Multiple</td>
</tr>
</tbody>
</table>

**Paragraph Spacing**

You can add extra space between paragraphs to improve readability in your documents and to add valuable white space. White space, or areas of a page that contain no text or graphics, provides rest for the reader’s eyes and prevents the page from being too crowded. Readability often is improved when you add space between paragraphs.

Use extra paragraph spacing instead of a first-line indent when you use left-aligned body text, as shown in figure 5.10. The reader’s eyes can find the beginning of a paragraph easily without the indent. You also can add more spacing after headings or subheadings, between items in a list, within tables, and in outlines.

To add extra paragraph spacing, follow these steps:

1. Choose the Format Paragraph command. The Paragraph dialog box appears (refer to fig. 5.9).
2. Select the Indents and Spacing tab.

3. In the Spacing area, enter a value in the Before box, the After box, or in both boxes. You can enter the measurement in either lines (li) or points (pt).

4. Click OK to close the dialog box.

---

**Setting Tabs**

You can set tabs in a document by using either the Tabs dialog box or the ruler. This section describes using the ruler to set tabs because it is a quick and easy method for the task. The ruler also is handy for other kinds of paragraph formatting, such as indenting text and changing margins.

If you want to use leaders (pronounced *leed-ers*) with your tabs, first choose Format Tabs, and then select tab position, alignment, and leader options in the Tabs dialog box. Sometimes, items in a list, such as a product name typed at the left of the page, and the product's price typed at the right of the page, can appear unconnected without some visual help. The different options presented for leaders will *lead* the eye from left to right across the page. This can make it much easier to scan the list to find a particular product and its associated price, or vice versa.

---

**Fig. 5.10**

Extra spacing makes the beginning of each paragraph easy to find and provides valuable white space.

---

**Tip**

When you position the insertion point in any paragraph of text, tab and indent settings for that paragraph appear in the ruler.
To use the ruler to set tabs in your text, first choose the tab alignment. The horizontal ruler contains a Tab alignment button, shown in figure 5.11. Click the Tab alignment button until the type of tab you want appears. Then click the place in the ruler where you want to set the tab.

You can reposition any tab in the ruler by clicking and dragging it to a new location. To remove a tab, drag it off the ruler.

**Indenting Text**

You can use the ruler or the Paragraph dialog box to set indents for text. Using the ruler, you can indent the left side, the right side, or only the first line of a paragraph. Figure 5.12 shows indents for selected text.

Word also supplies an Increase Indent and a Decrease Indent button in the Formatting toolbar. Each time you click one of these buttons, you increase an indent of the selected text to the next tab stop or decrease the indent to the preceding tab stop. (You can set the tab stops or use the default half-inch tabs.)
In addition, you can create a hanging indent, shown in figure 5.13. To create a hanging indent, position the insertion point in the paragraph, and drag the left indent marker to the position where you want lines 2, 3, and so on of the paragraph to begin. Then drag the first-line indent marker to the position where you want the overhanging line to start.

Fig. 5.12
Word supplies a dotted guideline to help you align indents and tabs when using the ruler.

Fig. 5.13
Create a hanging indent by first dragging the left indent marker and then dragging the first-line marker into position.
Tip
You can select existing text and then align it, or you can select an alignment and then enter the text.

**Adjusting Alignment**

Alignment is a way of organizing your text. The way you align the text in a document makes the text easy to read, decorative, eye-catching, formal and sophisticated, or casual and flexible. Word enables you to left-align, right-align, center, or justify the text in your documents.

Figure 5.14 illustrates the four alignments and the corresponding toolbar buttons.

**Troubleshooting**

I set the line and paragraph spacing in the Paragraph dialog box, and I don’t like the results. I want to change the line spacing back to the way it was, but I don’t want to change the paragraph spacing.

Choose the Format Paragraph command, and then select the Indents and Spacing tab. In the Line Spacing list, select Single. Then click OK to close the dialog box.

I want to see how the tabs or indents are set in a specific paragraph of text.

Position the insertion point in the paragraph, and view the indent and tab markers in the ruler. (To display the ruler, choose the View Ruler command.)

I justified the text in a paragraph, and now there are large gaps between the words.

Turn on the hyphenation feature by choosing the Tools Hyphenation command and then selecting Automatically Hyphenate Document. Click OK to close the dialog box.

**Fig. 5.14**

Align your text so the reader can easily follow the message and so the page is attractive.
Formatting the Page

Formatting the page includes changing page size, orientation, setting margins, and creating columns. The way you format the page depends on the amount of text, the size and orientation of graphics, the type of document, and so on. Keep in mind that you want to create an attractive, eye-catching page of easy-to-read text.

Suppose that you have several drawings of cars to go into an ad with very little text. You can create the ad in landscape (wide) orientation with 1-inch margins. On the other hand, if your text contains two long lists of items and no graphics, you can use portrait (tall) orientation with two columns and half-inch margins.

Word's page-formatting commands are flexible and easy to use. You can change the page to fit your text so that you present the most professional-looking document possible. This section describes page formatting.

Changing Size and Orientation

The size and orientation of the paper you use depends mostly on your printer. Some printers take 8 1/2 x 11-inch sheets only; others can print sheets ranging from small envelopes to legal-size paper. Most laser and inkjet printers can print in either orientation. Check your printer manual before changing paper size and orientation.

To change page size and orientation, use the Page Setup dialog box. Figure 5.15 shows the Media Size pop-up menu and the Orientation icons in the Page Setup dialog box.

To change paper size and orientation, follow these steps:
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Fig. 5.15
Choose document orientation by selecting the Portrait icon (left) or the Landscape icon (right). To select the proper Media Size, use the Media Size pop-up menu immediately above the Orientation icons.

1. Open the File menu and choose the Page Setup command. The Page Setup dialog box appears.
2. Select a size in the pop-up Media Size list.
3. In the Orientation area, select the Portrait icon or the Landscape icon.
4. Click OK to close the dialog box.

Tip
When you set margins, Word applies those measurements to all pages in the document, unless you divide your document into sections.

Fig. 5.16
You can change the margins to shorten the line length and to add valuable white space.


Setting Margins
You can change the margins of your document from the default settings to any margin you want. Word's Normal template uses 1-inch top and bottom margins and 1 1/2-inch left and right margins. You can set the margins by using the Document Layout dialog box, shown in figure 5.16.

To change the margins of your document, follow these steps:
2. Select the Margins tab.

3. Enter measurements in the Top, Bottom, Left, and Right boxes.

4. Click OK to close the dialog box.

**Creating Columns**

You can divide the page into one, two, three, or more columns to make the text well organized and easy to read. Documents such as books, magazines, catalogs, newsletters, brochures, and even advertisements often are divided into columns. Word makes dividing your documents into columns easy.

**Note**

Normally, divide an 8 1/2 x 11-inch portrait-oriented page into no more than three columns; divide the same-size landscape-oriented page into no more than five columns. When you use too many columns on a page, the lines of text become too short and are hard to read.

You divide a document into columns by using the Columns dialog box (see fig. 5.17). You can select a preset number of columns and designs or enter a number of columns and each column width, if you prefer. When you enter your own column width, you must specify spacing, called gutter space, between the columns.

If you like, you can add a line between the columns by selecting the Line Between option. Word even enables you to start a new column at the insertion point by selecting the Start New Column option. Preview your column choices in the Preview box before accepting or rejecting the changes in the dialog box.

---

**Fig. 5.17**

Use equally wide columns or, in this case, make one column wider than the other for an interesting effect. View the result in the Preview box before clicking OK.
Tip
For best results in creating columns, use your judgment as follows: too little gutter space makes the text in the columns run together; too much space creates wide gaps and makes the text hard to follow.

To format the columns in your document, follow these steps:

1. Open the Format menu and choose the Columns command. The Columns dialog box appears.

2. In the Presets area, select the number and type of columns you want.

3. Use the other options in the dialog box to customize columns.

4. Click OK to accept the changes and close the dialog box.

<table>
<thead>
<tr>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>I created an 8 1/2 x 14-inch document, and now I can't print it.</em></td>
</tr>
<tr>
<td>Check your printer manual. You may have changed the page to a size larger than your printer can print.</td>
</tr>
<tr>
<td><em>I made my margins narrower than 1/4 inch, and now some of the edges of the text will not print.</em></td>
</tr>
<tr>
<td>Most printers have a required margin—usually 1/4 or 3/8 inch—because they cannot print to the edge of the page. Check your printer manual. Make it a habit to allow at least 3/8 inch of margin space in all your documents.</td>
</tr>
</tbody>
</table>

From Here...

In this chapter, you learned to format text, paragraphs, and pages by using Word’s commands and toolbars. You now can change the font, font size, and font style; align text; adjust spacing, indents, and tabs; and set page size, page orientation, and margins. For more information about creating documents in Word, see the following chapters:

- Chapter 6, “Proofreading and Printing,” covers checking the spelling and grammar in a document, using the thesaurus, previewing and editing a document in Print Preview, and printing a document.

- Chapter 7, “Managing Files,” covers using Word’s Find File feature to display summary information; view file information; and preview, sort, select, and delete files.
Chapter 6

Proofreading and Printing

by Peter Durso

After you finish entering and editing text, you will want to proofread and then print your documents. Word supplies three tools that make proofreading easy. You can use Word's Spell Check, Thesaurus, and Grammar Check to proofread your documents and supply suggestions for improvement.

No matter how long or short a document is, using the Spell Check is well worth the time it takes. Word quickly reviews the text and alerts you if it finds a misspelled word. Additionally, you can use Word's Thesaurus to find alternative words, so that your text is not monotonous and repetitive. Finally, Word supplies a Grammar Check that critiques your writing and offers suggestions for improvement.

After your document is complete, you can print it. Word has a special Print Preview mode in which you can view the document and make last minute changes in the design before printing. Finally, you can print your document using default settings, or by setting options in Word.

In this chapter, you learn to

- Use the Spell Check
- Use the Thesaurus
- Use the Grammar Check
- Preview a document before you print it
- Print a document
Spell Checking

Word’s Spell Check reads text and notifies you when it finds a word that is not in its working dictionary. The Spelling dialog box shows you the word in question, suggests a replacement word, and displays a list of other words that are similar in spelling as additional alternatives.

To solve a spelling problem, you can use a variety of options. You can change the word, ignore the word, add the word to the dictionary, and so on. This section describes each of these options.

Additionally, Word includes a feature called AutoCorrect. Using AutoCorrect, you can instruct Word to correct spelling mistakes as you make them. If, for example, you often type teh rather than the, AutoCorrect can fix the error immediately after you make it, as you continue to type. This section also discusses how to use the AutoCorrect feature.

Using the Spell Check

The Spell Check looks for words that are not in Word’s dictionary. In addition, it alerts you to punctuation and capitalization problems. You can choose to change the spelling or ignore the problem; you even can add the word to the dictionary for later use.

To use Word’s Spell Check, open the Tools menu and choose Spelling, or press ⌘+option+L. The Spelling dialog box appears (see fig. 6.1).

Fig. 6.1
Select a word in the Suggestions box or enter the correct word in the Change To text box to correct the mistake in the text.

▶ See “Changing Spelling Options,” p. 169

The following table describes each option in the Spelling dialog box.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not in Dictionary</td>
<td>Displays the word in question.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Change To</td>
<td>Suggests an alternative spelling; you can enter your own new spelling in this text box.</td>
</tr>
<tr>
<td>Delete</td>
<td>If the Change To text box is empty, the Change button becomes Delete, which deletes the word.</td>
</tr>
<tr>
<td>Delete All</td>
<td>If the Change To text box is empty, the Change All button becomes Delete All, which deletes all occurrences of the word in the document.</td>
</tr>
<tr>
<td>Suggestions</td>
<td>Select a word in the Suggestions list box to replace the misspelled word.</td>
</tr>
<tr>
<td>Ignore</td>
<td>Skips this word.</td>
</tr>
<tr>
<td>Start</td>
<td>The Ignore button changes to Start when you click outside the Spelling dialog box to edit your document. The dialog box remains on-screen; choose the Start button to resume the spelling check.</td>
</tr>
<tr>
<td>Ignore All</td>
<td>Skips all occurrences of this word in the document.</td>
</tr>
<tr>
<td>Change</td>
<td>Substitutes the selected or entered word for a misspelled word.</td>
</tr>
<tr>
<td>Change All</td>
<td>Substitutes the selected or entered word for all occurrences of this word in the document.</td>
</tr>
<tr>
<td>Add</td>
<td>Updates the dictionary to include a word that you often type. The added word must appear in the Not in Dictionary text box.</td>
</tr>
<tr>
<td>Suggest</td>
<td>If the Always Suggest option in the Options dialog box is deactivated, choose Suggest to list suggestions for correcting the misspelled word.</td>
</tr>
<tr>
<td>Add Words To</td>
<td>If you installed more than one dictionary, select the dictionary to which you want to add from the pop-up list.</td>
</tr>
<tr>
<td>AutoCorrect</td>
<td>Adds frequently misspelled words to the AutoCorrect list. See the following section, &quot;Using AutoCorrect,&quot; for more information.</td>
</tr>
<tr>
<td>Options</td>
<td>Enables you to choose default settings or customize the Spell check. For more information on spelling options, see Chapter 8, &quot;Customizing Word.&quot;</td>
</tr>
<tr>
<td>Undo Last</td>
<td>Choose Undo Last to change your mind about the last spelling change.</td>
</tr>
<tr>
<td>Close/Cancel</td>
<td>Cancel ends the spelling check and cancels any changes; Close ends the spelling check and saves any changes. The Cancel button changes to Close after you make a change in the document.</td>
</tr>
<tr>
<td>Help</td>
<td>Choose this button for detailed help on the Spelling dialog box options.</td>
</tr>
</tbody>
</table>
Using AutoCorrect
The AutoCorrect feature automatically corrects spelling mistakes and formatting errors, or replaces characters you enter with specific words or phrases. Using this feature saves you time. Suppose that you consistently type another instead of another or When instead of When. You can enter these common mistakes into AutoCorrect, and the next time you make the mistake, Word corrects it automatically.

To set options and make entries for AutoCorrect, choose the Tools AutoCorrect command. Figure 6.2 shows the AutoCorrect dialog box with a new entry.

![AutoCorrect dialog box](image)

The AutoCorrect dialog box lists five options—including converting quote marks and correcting capitalization problems—that you can choose to turn on or off. The Replace and With text boxes enable you to enter your own items, and the list at the bottom of the AutoCorrect dialog box displays Word's default list plus any items you add. You can add or delete items at any time. For related information, see Chapter 8, “Customizing Word.”

To use the AutoCorrect feature, follow these steps:

1. Open the Tools menu and choose AutoCorrect. The AutoCorrect dialog box appears.

2. Select the options you want to use.

3. If you enter items in the Replace and With text boxes, choose Add to add them to the list. To remove an entry from the list, highlight the item in the list box, and then choose Delete.

4. Click OK to close the dialog box.
Troubleshooting

I have a lot of words that contain numbers, such as measurements, in my document, and I want Word to ignore those words.

Open the Tools menu and choose the Options command and then select the Spell­ing tab. In the Ignore area, select Words with Numbers. Click OK to close the dialog box.

I want to edit some of the words in a custom dictionary.

Open the Tools menu and choose the Options command; then select the Spelling tab. In the dictionaries area, select the dictionary you want to modify, and then choose the Edit button.

I want to add an AutoCorrect entry without opening the Spell check.

Open the Tools menu and choose the AutoCorrect command. In the Replace text box, type the misspelled word. In the With text box, type the correct spelling of the word. Click OK to close the dialog box.

Using the Thesaurus

The Thesaurus supplies a variety of synonyms you can use to replace the word you are looking up. To use the Thesaurus, position the insertion point in the word you want to look up, and choose the Tools Thesaurus command (or press \+option+R). Word automatically highlights the word, and the Thesaurus dialog box appears.

Suppose that you want to find a synonym for the word under. Using the words in the Meanings list box, you can look up either below or obedient to (see fig. 6.3). Selecting a word in the Meanings list on the left displays several synonyms in the Replace with Synonym list on the right. The synonyms shown in the Replace with Synonym list reflect the various shades of meaning that each word in the Meanings column has in the same context as the word that was looked up. This is where a Thesaurus helps you to fine-tune your message. Additionally, you can look up new words, either related to the original word or not, or go back to a word you looked up earlier. If you want to look up a word that is different from the original word, position the insertion point in the Replace with Synonym text box, type a new word, and then choose Look Up.
Fig. 6.3
Replace the selected word with any of the displayed synonyms, or continue to look up words until you find the correct meaning.

The following table describes the options in the Thesaurus dialog box.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Looked Up/Not Found</td>
<td>A pop-up list of all the words you have looked up since you opened the Thesaurus dialog box; the list disappears when you close the dialog box. The text box name changes to Not Found if the currently selected word is not in the Thesaurus.</td>
</tr>
<tr>
<td>Meanings/Alphabetical List</td>
<td>Definition and part of speech of selected word; selecting a different meaning results in a new list of synonyms. Alphabetical List appears if the word is not in the Thesaurus.</td>
</tr>
<tr>
<td>Replace with Synonym</td>
<td>The word in the text box is the selected word that you can Look Up or Replace when you choose either of those command buttons. The list of words below the text box is a list of synonyms you can select.</td>
</tr>
<tr>
<td>Replace with Antonym</td>
<td>If Antonyms is available in the Meanings list box, you can highlight it and then select an antonym from this list box.</td>
</tr>
<tr>
<td>Replace</td>
<td>Choose this button to substitute the selected word (in the Replace with Synonym text box) for the original word in the text.</td>
</tr>
<tr>
<td>Look Up</td>
<td>Displays meanings and synonyms for the selected word (in the Replace with Synonym text box).</td>
</tr>
<tr>
<td>Cancel</td>
<td>Closes the dialog box.</td>
</tr>
<tr>
<td>Previous</td>
<td>Displays the last word you looked up. Works only in the current Thesaurus dialog box.</td>
</tr>
</tbody>
</table>

To use the Thesaurus, follow these steps:
1. Position the insertion point in the word you want to look up.

2. Open the Tools menu and choose the Thesaurus command. Word automatically highlights the word, and the Thesaurus dialog box appears.

3. In the Meanings list, select the meaning you want.

4. In the Replace with Synonym list, select the word you want to use as a replacement.

5. Choose Replace to close the dialog box and substitute the new word for the old one, or choose Cancel to close the dialog box without replacing the word.

**Troubleshooting**

_I looked up several meanings, and now I want to go back to the original word I looked up in the Thesaurus._

Choose Looked Up or click the down arrow to the right of that option. A pop-up list of the words you looked up during this session appears. Select the original word.

_I want to go back to the last word I looked up._

Choose the Previous command button.

---

**Checking Grammar**

If you have problems with your writing, Word may be able to help you. Word's Grammar Check reviews text in your document and reports possible problems, such as passive verbs, pronoun errors, punctuation errors, jargon, and double negatives. You can review the error and suggestion, and then decide whether to change the text. You even can ask for a further explanation of the grammar rule.

To check the grammar in a document, open the Tools menu and choose the Grammar command. The Grammar dialog box appears (see fig. 6.4).

When the Grammar Check finds an error, it displays the Grammar dialog box that indicates the problem discovered during the check. If it doesn't find any problems, the dialog box does not appear. The Grammar Check also checks spelling, so you may see the Spelling dialog box first if the check finds an unfamiliar word.

**Tip**

Double-click a synonym or meaning to display more synonyms.
Fig. 6.4
You can choose to ignore or change the problem, ignore the rule for this document, or ask for an explanation of the problem.

Tip
You can set grammar rules and styles by using the Customize Grammar Settings dialog box. For more information, see Chapter 8, “Customizing Word.”

> See “Customizing Options,” p. 156

Note
You must read the suggestions carefully. You may find that the suggestion is not valid and that the problem, as the Grammar Check sees it, is not really a problem.

The following table describes the options in the Grammar dialog box.

<table>
<thead>
<tr>
<th>Option</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sentence</td>
<td>The sentence in question appears in this text box, where you can edit the sentence.</td>
</tr>
<tr>
<td>Suggestions</td>
<td>Word defines the problem and may suggest alternative solutions.</td>
</tr>
<tr>
<td>Ignore</td>
<td>Choose this command button if you want to ignore the problem.</td>
</tr>
<tr>
<td>Next Sentence</td>
<td>Moves to the next grammar problem, ignoring the current one.</td>
</tr>
<tr>
<td>Change</td>
<td>Changes the sentence if an alternative suggestion was made in the Suggestions box.</td>
</tr>
<tr>
<td>Ignore Rule</td>
<td>Choose this button if you want to ignore a specific rule for the rest of the document.</td>
</tr>
<tr>
<td>Cancel/Close</td>
<td>Cancel closes the dialog box without making a change; after you make a change, the Cancel button changes to Close. Choose Close to return to your document.</td>
</tr>
<tr>
<td>Explain</td>
<td>Displays a message box that further explains the rule and often offers examples (see fig. 6.5).</td>
</tr>
<tr>
<td>Options</td>
<td>Enables you to customize rules and style for the Grammar Check. For more information, see Chapter 8, “Customizing Word.”</td>
</tr>
<tr>
<td>Undo Last</td>
<td>Choose this button if you change your mind about the last grammar change you made.</td>
</tr>
</tbody>
</table>
### Option Explanation

<table>
<thead>
<tr>
<th>Option</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help</td>
<td>Choose this button for more information about the Grammar dialog box.</td>
</tr>
<tr>
<td>Start</td>
<td>Appears in place of the Ignore command button when you click the document. The Grammar dialog box remains on-screen while you edit your document; choose Start to continue the grammar check.</td>
</tr>
</tbody>
</table>

---

#### Troubleshooting

*I don't want to check the spelling at the same time I check the grammar.*

Open the Tools menu and choose the Options command, and then select the Grammar tab. Click the Check Spelling option to deactivate it. Then click OK.

*I changed my mind about the last change I applied in the Grammar dialog box.*

Choose the Undo Last button in the dialog box.

---

### Previewing a Document

After you enter, edit, format, and proofread your text, you are ready to print your document. Sometimes, when you format a page of text in normal view, problems are revealed when you print the document. The margins may be too wide, a headline may break in an odd place, a paragraph may be indented by mistake, and so on. You can save time, effort, and paper if you view your document in Print Preview before you print it by opening the File menu and choosing Print Preview. Of course, you can certainly go directly to the Print command if you desire. For more information, see "Printing a Document" later in this chapter.

---

### Tip

You can edit and format your document in Print Preview, just as you can in page layout or normal view. Use the menus and commands, or display any of the toolbars to use as shortcuts.
See "Printing Documents," p. 75

Figure 6.6, which shows a document in Print Preview, reveals a problem with graphic lines that are too short to extend from the left edge of the body text to the right edge. You can quickly fix the problem in this view before you print; drag the margin markers in the rulers to set new margins for the lines and the text.

![Figure 6.6](image)

**Using the Rulers**

By default, Word does not display the rulers in Print Preview (File menu). You can, however, choose the View Rulers command to display both the horizontal and vertical rulers. Use the rulers as you would in any other view: set tabs, adjust indents, and change the margins.

To adjust the margins by using the ruler, position the insertion point at the point you want to change. Any margin changes occur from the insertion point on; so if you want to change margins in the entire page, position the insertion point at the top of the page.

Move the mouse pointer over the margin marker on the ruler until you see the double-headed arrow (at the point where the white ruler meets the gray arrow). Click and drag the arrow left or right (in the horizontal ruler) or up or down (in the vertical ruler) to change the margin. A dotted guideline appears across the page as you drag the margin; use the guideline to align elements on the page.
Using the Preview Toolbar

Print Preview includes a special toolbar you can use to edit your document. The Preview toolbar works in much the same way as the other toolbars. You can place the mouse pointer on a toolbar button to view the ToolTip and the description of the button in the status bar.

You can use a toolbar button to print your document, view one page or multiple pages, display or hide the ruler, view the full screen (without screen elements such as the title bar, scroll bars, and so on), exit Print Preview, and get help on a specific topic. Two toolbar buttons are particularly useful: Shrink to Fit and the Magnifier.

The Shrink to Fit button adjusts elements in a document, such as line and paragraph spacing and margins, so you can fit a little bit more on the page. Suppose that your document fills one page, and one or two sentences overflow to a second page. Try clicking the Shrink to Fit button to squeeze all the text onto the first page.

The Magnifier enables you to toggle between the normal mouse pointer and the magnifier pointer. When the magnifier pointer contains a plus sign (+), you can magnify the document up to 100 percent. When the magnifier pointer contains a minus sign (-), as shown in figure 6.7, clicking the page reduces the view to whole page view (32 percent). To change the magnifier pointer back to the normal pointer, click the Magnifier button again.

Tip

Choose Undo immediately to reverse the Shrink to Fit operation. Because the Print Preview toolbar does not include an Undo button, you must open the Edit file and choose Undo.

Fig. 6.7
Reduce a specific area of the document by clicking the pointer on that area.
Using the Print button on the Preview toolbar prints the document using the default options in the Print dialog box. If you want to make changes to any printing options, see the following section, "Printing a Document."

**Troubleshooting**

*I have a 20-page document, but I want to print only the page(s) that I have worked on.*

Enter the From and To page numbers where they are asked for in the Print dialog. If you only want to print one page, simply put the same page number in each box.

*I have trouble setting the margins for the document with the ruler in Print Preview.*

Choose the File Page Setup command, and select the Margins tab.

---

**Printing a Document**

When you print from Word, you generally use the default settings for the last printer that you used. You can, however, change these defaults in the Print dialog box. Most often, however, you will print with the default options in the Print dialog box.

The default options print one copy of all the pages in the document. Figure 6.8 shows the Print dialog box.

---

Table 6.4 describes the options in the Print dialog box.
### Table 6.4 Print Features

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Print pop-up menu</td>
<td>Specify what to print: the document, summary sheet, a list of styles, key assignments, annotations, or auto text assignments associated with the document.</td>
</tr>
<tr>
<td>Copies</td>
<td>Enter the number of copies to be printed.</td>
</tr>
<tr>
<td>Pages</td>
<td>Select All to print all pages in a document, or Enter a page range in the From and To boxes to print a selected range of pages.</td>
</tr>
<tr>
<td>All Pages In Range</td>
<td>Select text in the document you want printed. Before choosing the Print command, select the Print Selection Only box.</td>
</tr>
<tr>
<td>Print</td>
<td>Specify which pages to print: all pages, even pages, or odd pages in the page range.</td>
</tr>
<tr>
<td>Collate Copies</td>
<td>Select this option to print copies in order. Print pages 1 to 5 in the first copy, for example, before printing pages 1 to 5 in the second copy.</td>
</tr>
<tr>
<td>Options</td>
<td>Choose this button to customize printing options. For more information, see Chapter 8, “Customizing Word.”</td>
</tr>
<tr>
<td>Help</td>
<td>Choose this button for more information about printing options.</td>
</tr>
<tr>
<td>Cancel</td>
<td>Choose this button to cancel all changes and close the dialog box without printing the document.</td>
</tr>
<tr>
<td>OK</td>
<td>Choose this button to send the selected pages to the printer.</td>
</tr>
</tbody>
</table>

### Troubleshooting

*I created a form, and I want to print the data in my form without printing the table lines and fill.*

Choose the Word Options button in the Print dialog box. In the Print tab, select Print Data Only for Forms.

*I want to change to a different printer before printing a document.*

In the Chooser, select a different printer before you elect to Print.
Printing Envelopes

You can print envelopes in Word quickly and easily by opening the Tools menu and choosing the Envelopes and Labels command. Word makes it easy to enter the delivery and return addresses, choose an envelope size and method of feed, and then print an envelope. This information will run by default, but can be changed easily.

Figure 6.9 shows the Envelopes and Labels dialog box.

Table 6.5 describes the options in the Envelopes and Labels dialog box.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery Address</td>
<td>Enter the name and address to whom the envelope will be mailed.</td>
</tr>
<tr>
<td>Return Address</td>
<td>Enter your name and address.</td>
</tr>
<tr>
<td>Omit</td>
<td>Choose this option to exclude the return address.</td>
</tr>
<tr>
<td>Preview</td>
<td>Click the envelope in the Preview box to display the Envelope Options dialog box (Envelope Options tab). Select the size, bar code, placement, and font for the addresses in this dialog box.</td>
</tr>
<tr>
<td>Feed</td>
<td>Click the Feed box to display the Envelope Options dialog box and the Printing Options tab. Select the method of feeding envelopes that best fits your printer.</td>
</tr>
<tr>
<td>Options</td>
<td>Displays the Envelope Options dialog box.</td>
</tr>
<tr>
<td>Add to Document</td>
<td>Adds the envelope style and contents to the document so you can save it for later use.</td>
</tr>
</tbody>
</table>
To print an envelope in Word, follow these steps:

1. Insert an envelope into the printer.
2. Open the Tools menu and choose the Envelopes and Labels command. The Envelopes and Labels dialog box appears.
3. Select the Envelopes tab.
4. Enter a Delivery Address and Return Address.
5. Select envelope and feed options, if necessary.
6. Click OK.

**From Here...**

After your document is complete, you can print it. Use Word's Print Preview feature to view the document and make last-minute changes in the design before you print it. Then print your document by using Windows defaults or by setting options in Word.

For more information about working in Word, see the following chapters:

- Chapter 7, “Managing Files,” covers creating summary information for your documents. It also includes information about Find File, ways of viewing file information, how to organize and search for specific files or documents, and how to sort and select files.

- Chapter 8, “Customizing Word,” covers options that you can change or modify to better suit your working style, including options for viewing, printing, saving, spelling, and grammar.
Chapter 7

Managing Files

by Peter Durso

After you work with any program for a significant amount of time, the files you saved start piling up. Locating the file you need in a disk that contains tens, hundreds, even thousands of files becomes harder and harder. All you want to do is to open, edit, and print one letter you wrote last week, but you cannot find it. Word supplies a file manager that you can use to search for and find files.

In addition to the never-ending file search, you need to clean your disk periodically by copying some files to floppies and perhaps deleting others. Instead of using the Macintosh File Find Utility, you can use Word's File Manager called Find File to copy, delete, sort, and print files.

In this chapter, you learn to

- Create records to help identify and sort document files by title, keywords, author, and other criteria
- Set and save search criteria for finding files
- Find any file by using different types of information
- Select one or more files
- Copy files to other drives and folders
- Delete one or more files without leaving Word
Creating Summary Info Records

A Summary Info record helps you keep track of your documents. Suppose that you type 20 letters each day: letters to advertisers, clients, employees, and others. When you need to look up one specific letter or a group of related letters, how can you find it? Summary Info records help you organize, manage, and find the documents you need quickly and easily.

Tip
To determine whether Word automatically prompts you for summary information, use the Tools menu.

Note
You also can organize your files by folder (JANUARY, FEBRUARY, MARCH), and by file name (LETTER TO SMITH, LETTER TO JONES, LETTER TO ROBIN).

Summary information includes the document's title, subject, author, any keywords that would help identify the document, and comments about the document. You can use any or all of these supplied categories.

One of the best uses for Summary Info records is Find File, a file-management program included with Word. This program enables you to search for files by using any of the data you enter as summary information. For more information about this program, see "Using Find File" later in this chapter.

Displaying Summary Info

Word's default is to prompt for summary information each time you save a document by choosing Save As. To display the Summary Info dialog box, open the File menu and choose Save As. Name a document, and click OK to close the dialog box. Word displays the Summary Info dialog box (see fig. 7.1). Alternatively, you can choose the File Summary Info command to display the dialog box any time you are working on a document.

Fig. 7.1
Use the Summary Info dialog box to enter information about your document. You can enter text in any or all of the text boxes.
Creating Summary Info Records

Entering Summary Info

In the Summary Info dialog box, enter any text that will help you recognize the document later. Suppose that you write a letter to a client named David Walkup. You quote six hours of consulting for installation of a peer-to-peer network to four computers. This is the third quote on the same subject, but with different configurations.

Because you already have two other letters dealing with this client and this same consulting job, use Summary Info records to help distinguish this letter from the others. Figure 7.2 shows a suggested Summary Info dialog box for this letter to David Walkup.

Viewing Statistics

Within the Summary Info dialog box is a button labeled Statistics. When you choose this button, Word displays information about your document, including its location, creation and last-saved date, file size, total editing time, and so on. Review this information when you want to know more about a file or document. Figure 7.3 shows the Document Statistics dialog box.

Fig. 7.2
When entering summary information, use keywords, a title, comments, and other items you will easily recognize months from now when doing an Advanced Search under Word Find File.

Fig. 7.3
View Document Statistics when you need to know the last-saved or last-printed date, the number of pages or words, or even the template used for a document.
Chapter 7—Managing Files

Note
You can print the summary information by opening the File menu, choosing the Print command and clicking the Word Options button.

Troubleshooting

I didn't enter a title in the Summary Info dialog box, but Word shows a title.

Word displays the first several words of a document as a title unless you create your own title. To create a title, choose the File Summary Info command. In the Title box, enter the proper title. Then click OK to close the dialog box.

I want to add several keywords, but I'm not sure how many Word accepts.

Word accepts a maximum 255 characters in each of the Summary Info text boxes.

Using Find File

To locate specific files, Find File enables you to search folders on your computer's hard drive, network drives, floppy drives, and so on. You can search for a file with a particular creation date, author, type of summary information, or other search criteria.

In addition, Find File enables you to select, copy, delete, and sort files. You even can view a document before opening it to make sure that the file is the right one. This section shows you how to use Find File. You'll find more information on this subject later in this chapter in “Viewing Files” and “Working in Find File.”

Caution

Any time you choose to delete a file or files, make sure that you are deleting the correct files! Use Find File features to help you distinguish the files you want to delete from the ones you want to keep. Additionally, Word displays a confirmation box when you attempt to delete a file or files. Choose Yes to delete the selected file(s); choose No to cancel the command.

Locating Files

Find File is a mini-program within Word that enables you to find and manage files. When you choose Find File under the File menu and then click the
Search button, Word displays the Search dialog box that enables you to designate search criteria. Search criteria can include the following:

- Location of file, such as the drive, folder, or file type.
- Summary information, such as the title, author, keywords, and subject.
- Timestamp for last date and time saved or created, and by whom.

You must specify search criteria in order to use Find File. After you specify search criteria the first time, Find File uses the same criteria the next time you open Find File. You then can change the criteria, if you want. Figure 7.4 shows the Search dialog box.

![Search dialog box]

**Search Criteria**

Table 7.1 describes the options in the Search dialog box.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saved Searches</td>
<td>After selecting the search criteria, save them for quick reference and later use. You also can delete or modify the saved search criteria.</td>
</tr>
<tr>
<td>Save Search As</td>
<td>Choose this button to enter a name for the defined search criteria. You can create search criteria that display the folder (Word Documents, for example) and save the criteria as a saved search. The next time you want to search the folder, you can select it in a list instead of describing it in the Search dialog box.</td>
</tr>
<tr>
<td>Delete Search</td>
<td>Erases the saved search criteria. Since no criteria are saved in the example, this button is grayed out.</td>
</tr>
</tbody>
</table>

(continues)
Table 7.1 Continued

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>File Name</td>
<td>In the Search For area, type the name of the file.</td>
</tr>
<tr>
<td>File Type</td>
<td>Here you can narrow the search down to specific text file types, such as the different Word file types that might be on a networked volume or text only files.</td>
</tr>
<tr>
<td>Location</td>
<td>Select the drive for the search in this pop-up menu list.</td>
</tr>
<tr>
<td>Rebuild File List</td>
<td>Replaces previously found files with files that meet the new search criteria.</td>
</tr>
<tr>
<td>Clear</td>
<td>Removes the preceding search criteria from the text boxes.</td>
</tr>
<tr>
<td>Advanced Search</td>
<td>Choose this button to set more specific search criteria. For details, see the following section, &quot;Advanced Search Criteria.&quot;</td>
</tr>
</tbody>
</table>

To search for a file using location criteria, follow these steps:

1. Open the File menu and choose the Find File command. The Search dialog box appears if there were no previous search criteria. If the Find File dialog box appears, click the Search button to display the Search dialog box.

2. In the File Name field, enter the file name.

3. In the File Type pop-up menu, select the text file type to search for.

4. In the Location pop-up menu, select the drive name.

5. Choose the Save Search As button. The Save Search As dialog box appears (see fig. 7.5).

6. Click OK to close the Save Search As dialog box and return to the Search dialog box. Figure 7.6 shows sample search criteria in the Search dialog box.

Fig. 7.5
Use this dialog box to save the search criteria for later use. This example search will be saved under the name Job Search.
7. Click OK to close the dialog box. The Find File dialog box appears. For further instructions on using Find File, see "Viewing Files" later in this chapter.

**Advanced Search Criteria**

You can specify additional or different search criteria before closing the Search dialog box by choosing the Advanced Search button. In the Advanced Search dialog box, you can specify location, summary info, or time-stamp criteria for use in your search.

**Caution**

The more search criteria you use, the longer it takes Find File to complete the search. On the other hand, the more search criteria, the more accurate the search.

Figure 7.7 shows the Advanced Search dialog box, which has three tabs. Select the Location tab.

**Fig. 7.6**
Enter the search criteria and click OK to close the dialog box and display Find File.

**Fig. 7.7**
Use the Location tab to select the drive, folder, and even subfolders for the search.
Figure 7.8 shows the Summary tab. Enter any or all of the information used in the Summary Info sheet for the specific document or a group of documents. Enter only the author's name, for example, to search for all documents created by that author, or narrow the search by entering the author's name, the title, and the subject.

![Advanced Search](image)

**Fig. 7.8**
For very specific searches, enter search criteria in the Summary tab as well as the Location and Timestamp tab.

Use this text box to find files that include specific words or characters

Pattern Matching enables you to establish special operators and expressions for the text search

**Note**
You must use the exact wording and spelling you entered in the Summary Info sheet for such categories as Subject, Author, and Title. Otherwise, Find File cannot match the correct Summary Info.

Figure 7.9 shows the Timestamp tab. If you know the approximate date and/or time the file was last saved or created, you can enter the information in this tab as search criteria.

**Fig. 7.9**
Enter a range of dates—such as From 8-9-94 To 9-21-94—and, optionally, the author's name as additional search criteria.
Note

To use a saved search, select it in the Saved Searches pop-up menu list in the Search dialog box. If you want to change any of the search criteria in the saved search, select any of the search options and then choose the Rebuild File List command. Choose the Save Search As command if you want to save the new list.

Troubleshooting

I'm having trouble locating a specific file with the search criteria I chose.

Widen the search. If your search criteria are too narrow, you may not have included enough information for Find File to target the correct file. Try searching two or three subfolders, or include subfolders in the search.

I want to search for specific text within a document, such as computer programming.

Choose the Advanced Search button in the Search dialog box, and select the Summary tab. In the Containing Text box, enter the text for which you are searching. You also can use wild cards in your search, such as a question mark—for this example, you could enter computer?. Using this wild card includes in the search such phrases as computer programming and computer software, but not personal computer.

Viewing Files

After you enter the search criteria in the Search dialog box and click OK to begin the search, the Find File dialog box appears, displaying a list of files described by the search criteria. Figure 7.10 shows the Find File dialog box in preview view.

Tip

A wild card in a computer search means that anything in the position occupied by the wild card is valid if the rest of the requirements of the search are met.

Fig. 7.10

The Find File default view is preview. A list of files appears on the left, and a preview of the selected file appears on the right.
Find File provides three modes in which you can view files and file information: preview, file info, and summary. Each view provides specific information about the selected files, and you can change views at any time to get more information about the files. Additionally, each view uses the same buttons at the bottom of the dialog box. This section describes the buttons, the three views, and how to make the best use of each view.

**Using the Find File Commands**

The buttons at the bottom of the Find File dialog box are the same for all three views. You can choose a command button and perform a command at any time while in Find File. The following list describes each command button and pop-up menu:

- **View.** Displays preview, summary, or file info view, each of which uses file information in a different way.

- **Search.** Displays the Search dialog box, in which you can specify new search criteria to display different folders and files.

- **Commands.** Displays a pop-up menu containing six commands and dialogs that you can invoke in any selected file. The commands and dialogs are as follows:

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Read Only</td>
<td>Opens a file so you can read it but not edit or modify it in any way.</td>
</tr>
<tr>
<td>Print</td>
<td>Opens the Print dialog box so you can print the selected file or files. When you click OK to print the file, Word returns to the document Window, closing Find File.</td>
</tr>
<tr>
<td>Summary</td>
<td>Displays the Summary Info dialog box, in which you can add or change summary data. When you click OK to close the Summary Info dialog box, Word returns to the Find File dialog box.</td>
</tr>
<tr>
<td>Delete</td>
<td>Deletes the selected file or files. This command displays a confirmation box. Choose Yes to delete the selected file or files; choose No to cancel the request.</td>
</tr>
<tr>
<td>Copy</td>
<td>Displays the Copy dialog box, in which you can enter a location to copy the file to; alternatively, you can create a new folder to copy to. When you click OK to close the Copy dialog box, Word returns to the Find File dialog box.</td>
</tr>
<tr>
<td>Sorting</td>
<td>Displays the Options dialog box, in which you can select various methods of sorting the files in the file list. When you click OK to close the Options dialog box, Word returns to the Find File dialog box.</td>
</tr>
</tbody>
</table>
• **Open.** Opens the selected file.

• **Close.** Closes the Find File dialog box.

• **Help.** Displays help information about using Find File.

**Using Preview View**

Preview view enables you to select a file in the Listed Files list box and view it in the Preview Of box. The Listed Files list box includes only the drive and directory or folders specified in the search criteria. You can scroll through the list of files and select any file to preview.

The Preview Of list box displays the formatted document selected in the list of files. You can scroll through the previewed document, but you cannot edit or alter the previewed document.

If the selected file is not a Word document, Find File displays the Convert File dialog box (see fig. 7.11). Word can convert files from other programs—including Excel, WordPerfect, earlier versions of Word for Macintosh, Word for DOS, and Word for Windows—by using one of the displayed file filters.

![Convert File dialog box](Image)

**Using File Info View**

File Info View lists information about the specified files in the search criteria, including the file name, size, and last-saved date. Figure 7.12 shows the file info view of the JOB SEARCH RESUMES******* Folder.

The following list describes the information displayed in File Info View:

- **File Name.** Lists the drive, folder name, and file names that fit the search criteria.

- **Size.** Lists the file size in thousands of bytes (kilobytes), such as 7K or 6K.

- **Author.** Lists the author according to the Summary Info sheet. If no summary sheet was completed for the file, Word displays the name in the User Info text box. For more information, see Chapter 8, "Customizing Word."

**Tip**

Use File Info View when you want to sort files by file name, kind, title, size, and so on. For more information, see "Sorting Files" later in this chapter.
Chapter 7—Managing Files

Fig. 7.12
Use File Info View to identify files by location, title, size, and other criteria.

Fig. 7.13
You can review Summary Info to see whether the file is the one you want before you open it.

Tip
To add or edit summary information, select the file in summary view and then choose Commands Summary. Enter any summary information you want to save to your document.

Using Summary View
If you completed Summary Info sheets for your documents, you can use that information to search for files. When you display a file in summary view, Find File shows summary information as well as date saved, number of revisions, document size, and so on. Figure 7.13 shows a document in summary view.

The Listed Files list box in summary view is the same as in preview view. The drive, folder, and files fit the search criteria. When you select a file, information about that file appears in the Summary Of area. The name of the file follows Summary Of. The following list describes the information shown in the Summary Of area:

- Summary Info. The first section lists the title, subject, keywords, the template's exact location, and comments in the Summary Info sheet.
Only information in the Summary Info sheet appears in this section; if you did not fill out the sheet, only a title appears in this area.

- **Created By:** The second section lists the author and creation date, the person who last revised the document and the revision date.

- **Editing and Size.** The third section lists the document size in bytes, words, pages, and characters.

<table>
<thead>
<tr>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Why am I seeing what looks like a spinning beach ball on my screen?</strong></td>
</tr>
<tr>
<td>This icon appears while Word is updating information in the Find File dialog box. When the icon disappears, the information is up to date, and you can continue your work.</td>
</tr>
<tr>
<td>I want to copy or delete several files at one time.</td>
</tr>
<tr>
<td>Select the files you want to copy or delete by holding down either the Shift or the key as you click the various files. Choose the Commands button, and then choose either the Copy or the Delete command to perform the action on all selected files at one time.</td>
</tr>
<tr>
<td>I want to print several files at one time without opening and printing each file.</td>
</tr>
<tr>
<td>Select the files by holding down either the Shift or the key while clicking each file. Then choose Commands Print. Find File prints the documents while you continue your work.</td>
</tr>
</tbody>
</table>

**Working in Find File**

Find File provides quick and easy file management within the Word program. Using the buttons in the Find File dialog box, you can manage and organize files as well as find the file you want to open. When you manage files with Find File, you can delete and copy files without the hassle of switching to the Finder and then opening the File menu and choosing Find.

This section describes some of the intricacies of managing files in Find File.

**Sorting Files**

When you use the Sorting command, you can sort and display files by author, creation or revision date, file name, or file size. In addition, you can display either the file name or the title of the file as the file list.
To use the Sorting command while in the Find File dialog box, follow these steps:

1. In the View pop-up menu list, choose File Info.
2. Choose Commands Sorting. The Options dialog box appears.

Figure 7.14 shows the Options dialog box that appears when you use the Sorting command.

3. In the Sort Files By area, select an option. Alternatively, you can choose to list files by Title; the default is Name.
4. Click OK to close the dialog box and return to the Find File dialog box.

**Selecting Files**

No matter which view you use in the Find File dialog box, you must select files before you can delete, print, or copy them. Use the mouse to select one or several files. You can perform an action on several files by selecting them, choosing the Commands button, and then choosing the command from the pop-up menu.

To select several files in a row, click the first file, press and hold down the Shift key, and then click the last file. To select several files that are not in sequence, click the first file, press and hold down the Ctrl key, and then click the other files individually.

After you select the files, click the Commands button and then choose Copy, Delete, or Print.
From Here...

You can use Word's Find File program to organize and manage your files without the inconvenience of leaving Word to use the Finder's File Find utility. Find File enables you to search for specific files; sort a list of files; and delete, copy, or print one or several files without leaving Find File.

For related information, see the following chapters:

- Chapter 8, "Customizing Word," covers how to modify and alter Word's default settings to better suit your working style, including viewing, editing, printing, and spelling and grammar options.

- Chapter 9, "Working with Large Documents," covers creating and editing an outline for a document, formatting a document with styles, using AutoFormat, and using templates to help speed your work in Word.
Chapter 8

Customizing Word

by Peter Durso

As you work in Word, you will discover many ways to speed up your work. Word not only provides shortcuts for commands and procedures, but it also offers ways to customize the program to your working habits and preferences. You can change many of Word's default settings to make the program more suitable for you.

Ways of customizing Word include changing measurement units, selecting various grammar and style rules for the grammar checker, instructing Word to create backup copies automatically, and prompting for summary information. In addition, you can change the default file locations, such as the location of documents, clip art, and templates.

In this chapter, you learn to

- Change the default location to a directory you create for document files
- Modify User Info to place your company's name and address automatically in the return-address area of envelopes
- Set save options
- Establish spelling- and grammar-checking options
- Select printing options
- Establish editing options
Customizing Options

Word provides various methods for customizing the program to meet your needs. Using the Tools Options command, you can modify Word’s default settings—the predetermined selections Word makes when you install the program. When you install Word, for example, the program automatically displays the status bar and the scroll bars on-screen. You can change this default setting. When you change any option in the Options dialog box, that option then applies to all documents and occurrences until you change the option again.

You can change Word’s default settings in two ways. One way is to choose the Tools Options command, which displays 12 tabs containing options for customizing. Figure 8.1 shows the Options dialog box.

Fig. 8.1
The Options dialog box enables you to modify several options at one time.

Tip
Other dialog boxes that include the Options command button include Print, Spelling, and Grammar.

Alternatively, you can customize specific options in certain dialog boxes. The Save As dialog box, for example, includes the Options command button, shown in figure 8.2. When you choose the Options command button in any dialog box, the Options dialog box appears; all tabs except the applicable one are dimmed and thus unavailable.

To customize various options in Word, follow these steps:

1. Open the Tools menu and choose Options. The Options dialog box appears.
2. Select the tab or tabs representing the options you want to modify.
3. Make your changes.
4. When you finish, click OK to close the dialog box.
To customize specific options from a dialog box, follow these steps:

1. Click the Options command button in the dialog box. The Options dialog box appears, with only one tab available.

2. Make your changes.

3. When you finish, click OK to close the Options dialog box and return to the preceding dialog box.

**Note**

Options that show an X in the check box are activated. If you select an option with an X in the check box, you deactivate that option. Selecting an option with no X in the check box activates that option and places an X in the box.

The following section briefly describes each option in the General tab.

**Changing General Settings**

The General tab in the Options dialog box includes options that affect the common operations of Word. You can select one, several, or all the options in the General Options area. The following list describes these options:

- **Background Repagination.** Background Repagination governs how Word handles page breaks as you enter or edit text. When the option is on, Word automatically adjusts the text on each page as you type. Background Repagination is on all the time in page layout view and print preview; you cannot turn it off in either view. You can turn this option off in normal and outline views, however.
- **Use Short Menu Names.** This option condenses menu names on the Macintosh menu bar by abbreviating them. This saves space on the menu bar and leaves room for utilities that you may have installed on your Macintosh, such as the system clock or a menu that allows you to use a Fax modem.

- **Include Formatted Text in Clipboard.** When you copy text to the Clipboard from your Word document, the text will retain character formatting (Bold, Italic, Small Caps) and paragraph formatting (centered text or borders).

- **Blue Background, White Text.** This option changes the Word screen's background to blue and the text to white.

- **Beep On Error Actions.** By default, Word beeps when you make an error or perform a wrong action, such as clicking outside a dialog box. This option governs whether the program beeps to warn you of an error.

- **3D Dialog and Display Effects.** Changes the display from the default—gray dialog boxes with a three-dimensional appearance—to plain white dialog boxes.

- **Update Automatic Links at Open.** If you have included links in your document by using object linking and embedding (OLE), this option automatically updates data added to other files when you open your document in Word. It's a good idea to keep the Update Automatic Links at Open option activated if you use Microsoft Office to its full capacity.

- **Mail as Attachment.** This option connects a document to a message that is to be sent via a mail program, such as Microsoft Mail. This option works only if a mail program is installed.

- **Recently Used File List.** This option enables Word to display the most recently used files at the end of the File menu. You must enter the number of files (0 to 9) to be displayed in the Entries text box. Figure 8.3 shows the File menu listing the last four files opened.

▶ See “Using Common Steps to Link Documents,” p. 605
Measurement Units. This option governs the default unit of measurement in Word. The unit you specify—inkches, picas, points, or centimeters—is the unit of measurement that appears in dialog boxes and in the rulers.

Modifying Viewing Options
View options represent another tab in the Options dialog box. Using the View tab, you can specify whether to show or hide Window elements, nonprinting characters, and various other components of Word.

The options you can customize vary slightly from view to view. For example, you can hide or show the vertical ruler in page layout view, but since there is no vertical ruler in normal view, that option is available only in page layout view. To set the options for a certain view, change to that view before opening the Options dialog box. Figure 8.4 shows the View tab for page layout view.
The following list describes the options in the View tab for page layout view. The options are divided into three categories: Show, Window, and Nonprinting Characters.

- **Show.** The Show area contains several elements you can choose to hide (no X in the check box) or show (X in the check box). Following is a brief description of each option:

  - **Drawings.** In page layout view, this option displays a box that represents each object created by using the drawing tools in Word. It also speeds scrolling and displaying the document.

  - **Object Anchors.** Object Anchors show or hide the anchors for all objects, including spreadsheets, charts, and graphs. This option is found in page layout view.

  - **Text Boundaries.** Select this option in page layout view to display dotted lines around page margins, text columns, objects, and frames.

  - **Picture Placeholders.** If selected, this option displays empty frames that show picture placement to save memory and speed scrolling throughout the document.

  - **Field Codes.** This option shows or hides the field-code names when a field is inserted into the document.

  - **Bookmarks.** Select this option to view bookmarks in the document; it's especially useful to show bookmarks when you want to edit them.

**Tip**
Use the Picture Placeholder option to quickly print a proof without pictures or to speed up screen redraw.
Field Shading. Select this option to add shading to a field. Shading makes fields easier to find in a large document. When Selected shows you when you have selected text that is part of a field. Always allows all fields in a document to stand out from regular text. Never does nothing to the display of a given piece of text, regardless if it’s a data entry or merge field.

- Window. This area enables you to specify which window elements appear on-screen and which elements are hidden. You can hide or show the following elements: Status Bar, Horizontal Scroll Bar, Vertical Scroll Bar, and Vertical Ruler (in page layout view). You also can modify the Style Area Width here.

- Nonprinting Characters. This option enables you to show or hide any of the following nonprinting characters: Tab Characters, Spaces, Paragraph Marks, Optional Hyphens, Hidden Text, or All.

Changing Editing Options
The Edit tab of the Options dialog box enables you to find out how overtype mode works, and to determine whether typing replaces selection. Figure 8.5 shows the Edit tab in the Options dialog box.

Fig. 8.5
Modify the editing settings by specifying whether to use drag-and-drop editing and whether to remove spaces during a cut-and-paste procedure.

The following list describes the Edit tab's options:

- Typing Replaces Selection. If selected, this option deletes the selected text as you type new text.

See “Formatting with Styles,” p. 182
Drag-and-Drop Text Editing. Drag-and-drop is a method of editing text without cutting, copying, or pasting. When this option is activated, you can select the text and then click and drag the selection to another location in the document.

Automatic Word Selection. This option selects the entire word when you select part of it. If this option is activated, you cannot drag the I-beam pointer across one character in a word and select only that character; the whole word is selected.

Use the INS Key for Paste. This option enables you to paste items from the Clipboard by pressing the INS key, which is part of the extended keyboard.

Overtyping Mode. When selected, this option replaces existing text as you type, one character at a time.

Use Smart Cut and Paste. This option removes unneeded spaces when you delete text and adds spaces when you add text.

Allow Accented Uppercase. This option suggests that Word add an accent mark to uppercase letters formatted as French.

Picture Editor. Use the pop-up menu to specify the program Word displays when you edit a picture. If, for example, you double-click an imported clip-art graphic, Word's default Picture Editor selection is the Word drawing program. If you prefer, select a different program in the pop-up menu, such as PowerPoint Presentation or PowerPoint Slide. For more information about PowerPoint, see Chapter 19, "Getting Acquainted with PowerPoint."

See "Working with Graphics," p. 205
See "Printing a Document," p. 134
See "Printing Documents," p. 75

Customizing Printing

The Print tab offers various options for printing documents, including how the documents print and what elements print. As with any option in this dialog box, your choices apply to all documents and instances. If you select Draft Output as a printing option, for example, all documents printed from this point on will print in draft form.

Figure 8.6 shows the Print tab of the Options dialog box.
The following list describes the options in the Print tab:

- **Printing Options.** This option offers various choices for printing:
  
  *Reverse Print Order.* Reverse Print Order changes the page-printing order—3, 2, 1 instead of 1, 2, 3, for example.

  *Update Fields.* This option revises fields (codes that instruct Word to insert elements into the document automatically) in the document before printing.

  *Update Links.* Update Links brings links (information created in another document and connected with the Word document) up to date before printing.

- **Include with Document.** This option prints additional information with your document: Summary Info, Field Codes in place of field results, Annotations on a separate page, Hidden Text, and Drawing Objects.

- **Options for Current Document Only.** These options apply only to the active document:
  
  *Print Data Only for Forms.* Word prints only the input for a form instead of the input and the actual form lines and text.

  *Fractional Widths.* This option improves the spacing of characters in proportionally spaced fonts such as Helvetica. This option is available only on LaserWriter printers. Fractional widths affect screen display and line and page breaks. To more clearly display or print

  - See “Adding Field Names to Your Letter,” p. 681
  - See “Using Embedding to Link Information,” p. 602
monospace fonts, such as Courier, clear the Fractional Widths check box. If you plan to use fractional widths, select the Fractional Widths check box before hyphenating or setting final page breaks in documents that contain TrueType or proportionally spaced fonts.

*Print Postscript Over Text.* This option prints PostScript graphics on top of text or other graphics in a document. To print text or other graphics on top of PostScript graphics, deselect this check box. This option is available only with LaserWriter printers.

### Tip
You usually use revision marks when more than one person works on a document and you need to see what has been added, deleted, and modified.

### Fig. 8.7
Select different marks for each area so you can tell inserted text from deleted or revised text.

### Changing Revisions Options
The Revisions tab governs the display of revision marks. You can select different options for inserted text, deleted text, and revised lines. *Inserted text* is text that has been added to the original text; *deleted text* has been erased from the original; and *revised lines* describes how Word will mark all lines of text that have been modified in any way.

Each area offers similar options (but with different hot keys) and shows the results in the Preview box. Figure 8.7 shows the Revisions tab of the Option dialog box.

The following list describes the Revisions options:

- *Inserted Text.* This area enables you to specify the mark Word uses to identify added text: no mark, underline, bold, italic, or double underline. Additionally, you can specify a Color to help identify the added text.
- **Deleted Text.** You can mark text that has been deleted from the document with either Strikethrough or Hidden Text format. Additionally, you can choose a color to mark the text.

- **Revised Lines.** You can mark lines of text that have been altered with a vertical border at the left margin, right margin, or (for odd and even pages) outside margin. You also can specify a color for the border.

- **Preview.** A Preview box appears beside each area so you can see the results of your choices before closing the dialog box.

### Modifying User Info
The User Info tab of the Options dialog box lists the name that was entered when Word was installed. The name may be yours, the person who installed the program, and/or your company. The name entered when Word was installed also is the name that appears in the Mailing Address text box. The information in the Mailing Address text box is inserted automatically into the Return Address text box in the Envelopes tab of the Envelopes and Labels dialog box.

Other information in the User Info tab is used elsewhere in Word. Name is used as the author in Summary Info records, and Initials are used to identify the person who entered annotation marks.

You easily can change the Name, Initials, and Mailing Address text boxes in the User Info tab. Figure 8.8 shows the User Info tab.

> See “Printing Envelopes,” p. 136

> See “Attaching Word, Excel, or PowerPoint Files to Your Message,” p. 661

**Fig. 8.8**
Enter a name and address in the Mailing Address text box, and that address appears as the return address any time you use the Envelopes and Labels dialog box in Word.
Changing File Locations

To change the location of document files, clip-art files, templates and so on, use the File Locations tab of the Options dialog box. Suppose that you want to create a Document folder within the Microsoft Word folder so you can save specific documents in one place. Use this tab to direct saved documents to the new folder automatically. Figure 8.9 shows the File Locations tab.

**Fig. 8.9**
Specify the file and location you want to change, and then choose Modify.

To change the location for specific files, follow these steps:

1. In the File Locations tab, select the File Types you want to relocate.
2. Click the Modify button. The Modify Location dialog box appears (see fig. 8.10).

**Fig. 8.10**
Select a new location from the Folders list; you also can add a new folder.

3. Select the new folder from the dialog box, click Use Selected Folder, or click the New button to create a new folder.
4. Click OK to close the Modify Location dialog box and return to the File Locations tab.
Changing Save Options

The options available in the Save tab affect how and when Word saves your document. In addition, you can add a protection device, such as a password, to specific documents.

Figure 8.11 shows the Save tab of the Options dialog box.

The following list describes the options in the Save tab:

- **Save Options.** This area provides options for saving your documents and certain elements of those documents.

- **Always Create Backup Copy.** Select this option to tell Word to create a copy of each document you create.

- **Allow Fast Saves.** Activate this option to save only the changes to your document.

- **Prompt for Summary Info.** Select this option to display the Summary Info dialog box each time you save a new document.

- **Prompt To Save Normal.** When activated, this option warns you when you have changed the Normal template by displaying a message to save changes. You may want to save the changes to the template. However if you want to be reminded in the event that changes have occurred to the Normal Template, select this option.

- **Save Native Picture Formats Only.** This option saves imported graphics in the Windows version only. If you import a graphic from a Macintosh program, for example, you can save disk space by saving the graphic...
only in the native picture format (Windows version) instead of in the Macintosh format.

- **Embed TrueType Fonts.** This option implants TrueType fonts in the document so that the fonts display correctly, even if the document is being used on a computer that does not support TrueType fonts.

- **Save Data Only for Forms.** This option saves the data in a form as a single record for use in a database.

- **Automatic Save Every.** Select this option to tell Word to save your document automatically; set the interval in the Minutes text box.

**Note**

Use the Automatic Save Every option all the time so that if a power failure occurs, Word recovers the document when you restart the program. Word then prompts you to save, delete, or continue to work on the saved version of your document. The amount of time you set for automatic save depends on how critical the document is and on personal preference.

- **File-Sharing Options for Document1.** Select the following protection options for the current document:

  - **Protection Password.** Enter a password (up to 12 characters) to keep other users from opening the document. Word displays an asterisk for each character you enter. You must remember your password; you cannot open a password-protected file without the password.

  - **Write Reservation Password.** This option permits anyone to open the document, but only users who know the password can modify or edit the document. Enter a password, and then click OK. Word prompts you for confirmation; enter the password and click OK again.

  - **Read-Only Recommended.** This option means that when the document is opened, Word suggests that the document be opened as read-only. The reader can open the document either way. If the document is opened as read-only, no changes can be made in the document; the document is available only for reading, not for alteration.
Customizing Options

Changing Spelling Options

Although Word's spelling dictionary is sufficient for most documents, you may have a special need for a medical, legal, or foreign-language dictionary. You can add a third-party dictionary for use with Word by using the Spelling tab in the Options dialog box (see fig. 8.12). Additionally, you can customize other options that handle the spell checker.

The following list describes the options in the Spelling tab:

- **Suggest.** This area handles the suggestions Word offers for misspelled words during a spelling check. You can select either or both options:
  - *Always Suggest.* If this option is selected, Word displays a list of likely candidates to replace the misspelled word.
  - *From Main Dictionary Only.* This option limits Word's suggestions to the main dictionary. If you have another dictionary in which the word may appear, such as a legal dictionary, do not select this option.

- **Ignore.** You can ignore all Words in UPPERCASE and/or Words with Numbers. A third option in this area—Reset Ignore All—returns the Ignore All list to its original state. Thereafter, Word again questions any words for which you used the Ignore All command earlier in the session.

- **Custom Dictionaries.** This option displays all installed dictionaries; you can select up to 10 for use during any session. Within this area are several more options:
New. This option creates a new custom dictionary.

Edit. This option opens the selected dictionary so you can edit it.

Add. This option adds a third-party dictionary from another location.

Remove. This option deletes a dictionary from the list, but not from your disk.

Language. When you are using a custom dictionary, select the language in the pop-up menu to apply special formatting for that language. Make sure that the correct custom dictionary is selected.

**Customizing Grammar Options**

Word enables you to select various grammar rules and styles of writing for checking the grammar in your documents. The default style is business writing. You also can choose a stricter style or an informal writing style, or create your own custom styles. Additionally, you can review the grammar rules used with a specific style and even deactivate some of those rules.

Figure 8.13 shows the Grammar tab of the Options dialog box.

Fig. 8.13
Select the style you want the Grammar Checker to use when checking your documents, or customize the settings by selecting your own rules.

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**Note**

To view all grammar and style rules attached to the highlighted item in the Use Grammar and Style rules list box, click the Customize Settings button. In the Customize Grammar Settings dialog box, click either the Grammar button or the Style button, and scroll through the list of rules. You can click the Explain button for further information about any rule. Click OK to exit the dialog box.
When you specify grammar and style rules, you can select options from the following categories in the Use Grammar and Style Rules pop-up menu:

- **Strictly (All Rules).** This option applies all grammar and style rules, including checking for clichés and checking for quoted text, homonyms, jargon, pretentious words, redundant expressions, and so on.

- **For Business Writing.** This option includes all grammar rules, but leaves out the style rules mentioned for Strictly, plus a few more.

- **For Casual Writing.** This option, which is informal in both grammar and style rules, leaves out three grammar rules: format errors, informal usage, and jargon words. In addition, this option leaves out about half the style rules.

- **Custom 1, Custom 2, or Custom 3.** You can create your own set of rules by selecting one of these options and then choosing the Customize Settings button. The Customize Grammar Settings dialog box appears (see fig. 8.14). All the check boxes are marked when this dialog box opens; you deselect the rules you do not want to use. When you finish, click OK to close the dialog box and return to the Grammar tab.

![Customize Grammar Settings](image)

In addition to choosing grammar and style rules, you can specify whether you want Word to Check Spelling while checking the grammar and whether to Show Readability Statistics. The Readability Statistics dialog box displays the number of words, characters, paragraphs, and sentences in the document and the average number of sentences per paragraph, words per sentence, and characters per word. In addition, the dialog box shows readability indexes.
based on the average number of syllables per word and average number of words per sentence. These readability indexes are Reading Ease and Grade Level values.

Additionally, the Catch area of the Customize Grammar Settings dialog box enables you to specify when Word should catch (alert you to) split infinitives, consecutive nouns, prepositional phrases, and long sentences. You can select options for each of these settings; for example, you can catch split infinitives always, by more than one word, two words, three words, or never. Also, you can limit the number of words a sentence can contain—15, 30, or 40, for example.

**Changing AutoFormat Options**

AutoFormat is a formatting tool within Word that automatically applies built-in styles and a template to your document. You can select various options for AutoFormat to apply. Figure 8.15 shows the AutoFormat tab of the Options dialog box.

![AutoFormat tab of the Options dialog box](image)

The following list describes the options in the AutoFormat tab:

- **Preserve.** This area has only one option: Previously Applied Styles. Select this option to keep any styles you have already assigned within your document.
- **Apply Styles To.** Select the types of text to which you want to assign the styles: Headings, Lists, and Other Paragraphs (such as subheads, tabs, and indented text).

- **Adjust.** Select the elements you want Word to fit to the style: Paragraph Marks, Tabs and Spaces, and Empty Paragraphs. When adjusting these elements, Word may take extra spaces or tabs out, remove extra blank lines, and so on.

- **Replace.** Select the elements you want to substitute: Straight Quotes with Smart Quotes (also called open and closed quotes), Symbol Characters with Symbols (replaces *TM*, for example, with ™), and Bullet Characters with Bullets (replaces the plus sign or asterisk with bullets that your printer can print).

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**From Here...**

You can customize many Word settings to speed up your work and increase efficiency. You can change spelling and grammar options, file locations, editing choices, and more. Setting the options to suit your preferences and work habits makes the program all the more beneficial and useful.

You learn even more about the Word program in the following chapters:

- **Chapter 9, “Working with Large Documents,”** covers outlining documents and editing the outline, formatting text with styles, using AutoFormat to speed up your work, and using templates.

- **Chapter 10, “Working with Tables, Charts, and Graphics,”** covers creating and editing tables, producing and modifying charts, and adding lines, borders, and pictures to your documents.
Chapter 9

Working with Large Documents

by Peter Durso

When you are producing a document that contains many pages—from 10 or 15 to hundreds—you need special organizational and managerial techniques. Word provides several features that help you manage long documents. (You can use these features for short documents as well.)

In this chapter, you learn to

- Create an outline by using Word’s Outline view and Outline toolbar
- Edit an outline by rearranging text and headings
- Use Word’s built-in styles to format the text in a document
- Use AutoFormat and Style Gallery to have Word format a document for you
- Create and edit your own styles
- Use template wizards to format your documents

One organizational feature you can use in a large document is outlining. Word provides special outlining features, including an outline view that helps you organize your text. You can arrange headings and text, move headings to new positions in the outline, and print the outline as you work on it.

Word also provides document-formatting methods that make your work easier. You can use styles—preformatted fonts and paragraph attributes—to format your documents quickly and to guarantee consistency within the document.
Outlining a Document

When creating a large document, use an outline and outline view to get an overview of how the document is put together. You can also easily rearrange headings and text to better suit the flow of information. Finally, use outlining in long documents to quickly move to a specific location and then view the text.

Creating an Outline

You create an outline by entering, formatting, and assigning headings in Word’s Outline view. The view provides helpful features used to organize your document. After creating your outline, you easily can change heading levels, add text, and otherwise edit your document by using the Outline toolbar and other features of Outline view.

To start the outline, choose the View Outline command. In Outline view, use the Outline toolbar to specify various levels of headings and body text. Word indents each heading and its text, and formats the text for you. Outline view also includes the Outline toolbar (see fig. 9.1).

Figure 9.1 shows an initial outline for a document. This sample outline contains three levels of headings. As you enter more headings and body text, you can format the text, arrange the headings, and move text around to better organize the document.

Outline view provides an Outline toolbar (see fig. 9.1) that enables you to assign headings to your text, hide body text or headings, and rearrange your outline. You can outline an existing document or create a new document in outline view.

Following is a brief description of each of the tools in the Outline toolbar:

- **Promote.** Elevates a heading to a higher level.
- **Demote.** Reduces a heading to a lower level.
- **Demote to Body Text.** Reduces the heading to body text.
- **Move Up.** Repositions the selected heading up one line in the outline.
- **Move Down.** Repositions the selected heading down one line in the outline.
- **Expand.** Shows subheadings and body text under selected heading.
- **Collapse.** Hides subheadings and body text under selected heading.
- Show Headings 1 through 8. Expands or collapses the outline to a specific level.
- Show All. Expands or collapses the entire outline.
- Show First Line Only. Shows all body text or only the first line.
- Show Formatting. Shows or hides character formatting.

In summary, to outline a document, assign headings to the text to signify different levels of topic development. You can create up to nine different levels of text, including body text. Word formats and indents each level so you can organize the text quickly. The headings remain formatted in other views as well, although the indents appear.

**Fig. 9.1**
You can plan a document from scratch in outline view, assigning levels of importance to headings as you write.

**Tip**
To change to Outline view, simply click the third page button from the left in the horizontal scroll bar at the bottom of the screen (see fig. 9.2).
Fig. 9.2
Place the mouse pointer on a button in any toolbar to view the ToolTip and a description of the button in the status bar.

Note
You can reformat any text formats easily by using styles. For more information, see the section “Formatting with Styles” later in this chapter.

Entering Text
You can enter text as you normally would by typing paragraphs, heading text, and so on in normal, page layout, or outline view. You can assign Heading styles to existing text by using the Formatting toolbar.

The Formatting toolbar includes a pop-up menu of styles (see fig. 9.3). Heading 1 style is used for the broadest topics; Heading 2 is used for the subdivisions of Heading 1 topics; and so on.

Alternatively, you can designate outline levels as you enter text. Simply select a style from the pop-up menu and type the heading. Then change the style, if necessary, and type the next heading or body text (Normal is the same as the body text style; see the section “Formatting with Styles” later in this chapter).
Selecting Text

Outline view provides a slightly different method of selecting text than do the other views. Each paragraph of text, whether that text is a heading or body text, is preceded by a plus sign (+) or a minus sign (−). If you position the mouse pointer on one of these symbols, the pointer changes to a four-headed arrow. When the pointer changes shape, simply click the plus sign or minus sign to select the associated paragraph and any lower-level headings and body text below it.

Note

The plus and minus signs also indicate whether more text has been entered under that level of the outline. A plus sign next to a Heading 1 entry, for example, means that other headings and/or body text have been entered under that heading. A minus sign always appears next to body text, which is the lowest level.

Suppose that you click the plus sign preceding the Marketing Summary heading (refer to fig. 9.2). By doing so, you select all text from that point to the next Level 1 heading. (In this case, all the text would be selected.) Similarly, if you click the plus sign preceding the Level 2 heading Introduction, you select all text from that point to the next Level 2 heading (Customer List). You also can select text by clicking the selection bar, which is to the left of the text area, or
by dragging the I-beam pointer across specific text. After you select the text, you can then choose the level of the heading you want to assign.

**Promoting and Demoting Heads**

After assigning various heading levels to your text, you might decide to change those levels. You can do so by using the Promote and Demote buttons in the Outline toolbar. Simply select the text and then click the Promote or Demote button.

The Promote button—the first button from the left in the Outline toolbar—looks like an arrow pointing left. Each time you click the button, the selected text moves up one level (until it reaches Level 1). Similarly, the Demote button—an arrow pointing right—bumps the selected text down one heading level at a time (until it reaches Level 9). Remember, when you select a heading, you select all text and subheadings within that heading. When you promote or demote the heading, all subheadings follow suit.

To change a selected head to body text in a single step, click the Demote to Body Text button—a double arrow pointing right.

**Editing an Outline**

You can edit an outline by adding, deleting, or rearranging body text and headings. In outline view, you can add or delete text as you would in any view. But outline view also provides two features that make it easier for you to rearrange your text: viewing and moving outline levels.

You can use the Outline toolbar to view specific levels of the outline. In addition, you can rearrange topics easily without cutting and pasting text.

**Collapsing and Expanding Outlines**

You can view various levels of an outline by using the Show Heading buttons—the buttons numbered 1 through 8 in the Outline toolbar. If you click the Show Heading 1 button, for example, only Heading 1 text appears on-screen. If you click the Show Heading 2 button, you see only Heading 1 and Heading 2 text.

If you show only headings with no body text, you are collapsing the outline. Expanding the outline means just the opposite. If only Heading 2 text is showing, for example, click the Show Heading 3, Show Heading 4, or Show All button to expand the outline.
Figure 9.4 shows a collapsed outline. The plus sign next to each heading indicates that more text levels exist within that heading. If a minus sign appears next to a heading, the heading contains no further text levels.

![Outline View](image)

**Fig. 9.4**
Use the Expand and Collapse buttons to reveal text below the selected head.

---

**Rearranging Heads and Text**
You can rearrange topics in your document by selecting and moving headings in outline view. The easiest method is to collapse the outline to the level to be moved, select the heading you want to move, and drag the heading to its new position. Subheads and body text move with the selected heading.

**Caution**
If you do not collapse the outline before moving the text, you might leave some body text behind. Be sure to select all text to be moved.

---

Figure 9.5 illustrates moving a head, plus its subheads and body text, to a new position. The mouse pointer changes to a double-headed arrow, and a guideline moves with the mouse to help you position the heading.
**Fig. 9.5**
For the most efficient and easiest rearranging of topics, collapse the outline to the heading level to be moved.

---

**Tip**
To print the outline at any level, choose the File Print command or click the Print button.

---

**Troubleshooting**
I collapsed the outline so I could focus on the headings while scrolling through the document, but I want to remind myself about the contents of the body text below each heading.

Click the Show First Line Only button in the Outline toolbar to display the first line of body text below each heading.

*I want to print only the headings and first lines of body text.*

Word prints only what is displayed on-screen. Display the level of headings you want to print, and then click the Show First Line Only button in the Outline toolbar.

---

**Formatting with Styles**
A *style* is a collection of text attributes that you can assign to selected text in a document. Each style includes attributes such as font, type size and style, spacing, leading, alignment, indents, and tabs. Styles enable you to format your documents quickly and consistently. Word provides a large number of ready-to-use styles; you also can create your own styles as you work.
One of Word's styles, for example, is the Heading 1 style used to outline a document. Heading 1 text initially appears in the 14-point Arial font, bold and left-aligned. You can assign this style, or any other style, as often as necessary in your documents.

Word's styles are associated with its templates, which are a preset collection of page, paragraph, and text formatting styles that you can use to develop a particular type of document. Each time you start a new document, the New dialog box lists many different templates. The Normal template (Word's default) offers three heading formats and a body-text format. Other templates, such as the Invoice, Letter, and Memo templates, provide different styles for your use.

Styles are particularly useful when you are working on a large document. Rather than moving from page to page and formatting each head, list, tab setting, and so on, you can format a style one time and then assign the style to all occurrences within the text.

**Note**

Examine some of Word's templates by choosing the File New command. In the New dialog box, select any template and then click OK. Open the Style pop-up menu in the Formatting toolbar to view the available styles for that template. Enter some text on the page, assigning different styles to the text to see how each style is formatted. When you finish, choose the File Close command; when you are prompted to save changes, choose No.

**Using Word's Styles**

To apply a style, first select the text you want to format. Then open the Style pop-up menu in the Formatting toolbar and select the style you want to apply (see fig. 9.6).

You can change the format of text after applying a style. You could, for example, change the Dance Schools heading shown in figure 9.6 to 14-point or center-aligned. Changing a particular heading, however, does not change the style itself or other headings to which you applied that style. For more information about changing the attributes of styles, see "Editing a Style" later in this chapter.
Creating a Style
Creating your own styles in Word is easy. Suppose that you want to create a heading style for use throughout your document. This style is 18-point Times New Roman, bold and center-aligned. You can create this style, add it to the pop-up menu, and use it as you would any other Word style.

To create your own style, follow these steps:

1. Select the text on which you want to base your style, and apply the desired formatting.

2. With the text still selected, position the insertion point in the Style box in the Formatting toolbar.

3. Delete the style name in the text box, and enter your own name for the style (see fig. 9.7).

4. Press return to add the name to the Styles list.

Editing a Style
You can edit any style (changing font, size, alignment, tab stops, and so on), whether it is a preset style provided with Word or a style you created. To edit a style, follow these steps:

1. Open the Format menu and choose the Style command. The Style dialog box appears (see fig. 9.8).
2. In the Styles list box, select the style you want to modify. Samples of the text as it is now formatted appear in the Paragraph Preview and Character Preview boxes.

3. Choose Modify to edit the style. The Modify Style dialog box appears (see fig. 9.9).

4. Click Format to display a pop-up menu of the style attributes you can edit.

5. Select an attribute—Font, Paragraph, Tabs, and so on—in the list, and then make the desired changes in the dialog box that appears. (This dialog box is exactly like the one that appears when you choose the corresponding command from the Format menu.) Click OK to return to the Modify Style dialog box.

Fig. 9.7
When you enter a new name in the Style box, you do not actually delete the original style; you are just adding a new style to the list.

Fig. 9.8
You can view the attributes of a style in the Description area at the bottom of the dialog box.

See “Formatting Text,” p. 108
See “Formatting Paragraphs,” p. 112
Fig. 9.9
Modify a style by selecting an option in the Format popup menu.

6. Repeat step 5 as often as necessary to modify additional style attributes.
7. After making all desired changes, click OK in the Modify Style dialog box. You return to the Style dialog box.
8. Choose Apply to apply the style changes.

Using AutoFormat
AutoFormat is a feature of Word that analyzes your document and automatically applies styles (such as headings, subheads, bulleted lists, and tabs) to your document. Then you can review AutoFormat's choices and accept or reject them. Using AutoFormat can save you time because Word assigns styles for you. The formatting may not be exactly what you want, but you can still change fonts, styles, sizes, and so on after using AutoFormat.

You can use AutoFormat with unformatted text, or you can begin formatting (by creating and applying a few styles) and then let AutoFormat complete the process. AutoFormat finds similar text and assigns the same styles.

If you choose the latter method, you have more control over which styles AutoFormat uses. Experiment with both methods and see which you prefer.

Formatting Text Automatically
To start AutoFormat, choose the Format AutoFormat command. A message box—the first AutoFormat dialog box—appears, announcing that formatting is about to begin (see fig. 9.10). Click OK to begin formatting.
Accepting or Rejecting Changes

After AutoFormat completes the formatting, another dialog box appears (see fig. 9.11). Choose Accept to accept all changes. If you choose Accept too hastily, you can reverse your decision by clicking the Undo button in the Standard toolbar. If you do not like the changes you see behind the AutoFormat dialog box, choose Reject All. Alternatively, choose Review Changes or Style Gallery.

If you choose to Review Changes, Word shows you each change to the formatting by highlighting the change and displaying a dialog box with a description of the change. You can choose to accept or reject individual changes. If you choose the Style Gallery, you can apply different templates and styles to the document to see what they look like.

Reviewing Changes

If you choose to review the changes, Word takes you through the document step-by-step, enabling you to examine each change that AutoFormat made. Figure 9.12 shows the Review AutoFormat Changes dialog box.
The Review AutoFormat Changes dialog box enables you to accept or reject changes. To accept a change, choose one of the Find buttons. Find with a left arrow moves to the previous change; Find with a right arrow moves to the next change. If you do not like the formatting, choose the Reject button. Word changes the selection back to its original formatting.

Choose Close after reviewing the changes, or at any time, and Word displays the initial AutoFormat dialog box again. You can choose to accept or reject all changes.

### Note

You can click the mouse outside the Review AutoFormat Changes dialog box to work in your document. The dialog box remains on-screen. This way, you can scroll through the document to compare changes, format text, and add or edit text.

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### Using Style Gallery

Style Gallery is a special dialog box that contains Word's various templates. Each template contains preset page formatting and preset styles. You can use Style Gallery to apply various templates and styles to your document, and view an example in the dialog box before choosing to accept the style.

You can use the Style Gallery with or without AutoFormat. When you use AutoFormat, Word automatically applies a template and style sheet. If you do not like Word's choice, you can choose the Style Gallery button and choose a different template and style for your document. On the other hand, you may format your document yourself, by applying styles to the text and paragraphs, and then decide to look at the document with various templates applied. Style Gallery gives a formatted document a different look using various styles of fonts, indents, type sizes, and so on.

To open Style Gallery from the AutoFormat dialog box, choose Style Gallery. Figure 9.13 shows the Style Gallery dialog box with the Report3 template displayed.
Before you can apply a template from Style Gallery to a document, the document must contain styles such as Heading, Index, and List. Therefore, you must have formatted the document with Word's styles or your own.

To use the Style Gallery, follow these steps:

1. In the second AutoFormat dialog box, choose Style Gallery. The Style Gallery dialog box appears.

2. Select a template in the Template list. A sample appears in the Preview Of box.

3. If you find a template and style you like, click OK. If you do not find a template you like, click Cancel. Word returns to the AutoFormat dialog box.

4. Choose to Accept or Reject All changes. The dialog box closes, and you return to the document.

Fig. 9.13
Apply any of the templates and styles to your document, or choose to preview examples of the template.
Troubleshooting

I want to use the styles with a particular template, but I can't find the style names.

Choose the View Toolbars command and display the Formatting toolbar; then click OK. The Style box is the first box at the left end of the toolbar. In addition, change the view from normal or outline to page layout (View menu) to display all formatting in the document.

AutoFormat does not seem to change the formatting of my document.

AutoFormat assigns styles only to paragraphs formatted in Normal or Body Text style. If you have selected some text and applied a style, or if you used commands in the Format menu to format some text, AutoFormat will not change any of the styles.

I want to format only a section of a document.

Select the text you want to format, and then choose Format AutoFormat.

Using Template Wizards

A template wizard is a special template that asks questions and uses your answers to format a document automatically. The available template wizards include Agenda, Award, Calendar, Fax Cover sheet, Letter, Memo, Newsletter, Legal pleading papers, Resume, and Table.

If you use a template wizard, you must use it before you actually enter text in a document. Choose File New to display Word's list of templates. Select the type of template wizard you want to use, and then answer the questions as they appear on-screen. This section describes the questions, answers, and formatting associated with the Memo Wizard.

Choosing a Wizard

To begin a wizard document, open the File menu and choose New. The New dialog box appears (see fig. 9.14). Select the template wizard you want to use (for this example, select Memo Wizard), and then click OK.
Choosing Text Options

Word displays the Memo Wizard dialog box (see fig. 9.15). The dialog box shows you an example of the memo the wizard will format for you. Each dialog box that appears asks you questions about the text and formatting of the document. You choose general text, such as the headings “Interoffice Memo,” “To,” “From,” and so on, from these dialog boxes and Word will apply them to the final memo. You fill in specific text—such as the name, date, and subject—after the memo is created. Additionally, Word asks about other formatting concerns, such as the addition of page numbers, graphics lines, and so on.

The first dialog box asks if you want to use a heading and what text you want to use as a heading. After making your decision, choose Next to continue formatting the memo.

Word displays a second dialog box, asking whether you want a separate page for your distribution list. Choose Yes if you are sending the memo to several people; choose No if you are sending the memo to only one or two people. Choose Next to move to the next dialog box (see fig. 9.16).
Fig. 9.15
Answer the questions and choose Next to continue creating the memo with the Memo Wizard template.

In this dialog box, select the options you want to use: Date, To, CC, From, Subject, Priority, and Separator Line. Enter text in the Date and From text boxes, replacing the date if it is incorrect.

After you select options, choose Back to return to the preceding dialog box or Next to continue. The next dialog box asks whether you want to include the Writer’s and Typist’s Initials, Enclosures, and/or Attachments. Select the options you want and then choose Next.

Next, you can select a header, or title, for your memo. The header can contain a Topic, Date, and/or Page Number; select one, two, or all three to include as a header. Additionally, you can select a footer, which can include the Date, the Page Number, or the word Confidential. Select one, two, or all three of the options for your footer, and then choose Next.

**Formatting the Memo**
The next Memo Wizard dialog box governs the formatting of the document. Figure 9.17 shows the wizard’s prompt for the style of memo to be used.
The style Word assigns to the document includes margins, text formatting, tab settings, graphics lines, and so on.

You can select Classic, Contemporary, or Typewriter style. Most of the wizards ask this style question about the formatting of documents. Classic usually is plain, formal-looking, and straightforward. Contemporary, which often contains various fonts and graphics lines, is more modern in design. Typewriter looks as though the document was typed on a typewriter.

When you select one of the styles, an example displays in the dialog box. Select the style that best suits your memo or document. After selecting the style, choose Finish to close the dialog box.

Word then creates the memo document for you, adding text and formatting the style with the choices you made. Word displays the memo, as shown in figure 9.18. This memo was created in the Contemporary style. Fill in the specific text and your memo is complete.

**Troubleshooting**

*I want to use a wizard that is not listed in the New dialog box.*

Make sure that you are in the Template folder in the Word program folder. If you installed the templates to another folder, change to that folder. Alternatively, you may need to run Word Setup and install the templates, if you did not install them with the original program. See Appendix A, “Installing Microsoft Office,” for more information.
Fig. 9.18
Fill in the text to complete your memo. You can select and format the text, just as you can in any other Word document.

From Here...

Word offers several features that make organizing and managing large documents easier. In addition, you can use Word’s features to format a large document quickly, easily, and professionally. The next chapters show you some advanced techniques for working with Word for the Macintosh.

- Chapter 10, “Working with Tables, Charts, and Graphics,” covers inserting a table, entering text in a table, and modifying the text and table attributes. Additionally, this chapter covers creating and editing charts, as well as adding borders, lines, shading, and pictures to your documents.

- Chapter 11, “Automating with Macros and Mail Merge,” covers how to use Word’s built-in macros, record your own macros, and run macros. This chapter also covers creating a mailing list and letter for use with the mail merge feature in Word.
Chapter 10

Working with Tables, Charts, and Graphics

by Peter Durso

You can enhance and illustrate your documents by adding tables, charts, and graphics. Added elements, such as these, illustrate, define, and explain the text in your documents.

You can create tables to organize columns of numbers, produce forms, or add spreadsheets to your documents. Word enables you to enter and format text in a table, as well as to format the table itself. You can add rows and columns, adjust spacing, add borders, adjust row height, and more.

Additionally, you can create charts to add to your documents. Word includes an applet, or mini-application, called Graph that enables you to create charts and embed them in your document. Embedding is an efficient method of placing the product of another application into Word. This chapter shows you how to use Graph and how to embed the chart in your documents.

Finally, Word enables you to add graphics such as lines, borders, shading, and even pictures to your documents to illustrate them and add interest.

In this chapter, you learn to

- Insert a table into a document
- Enter, edit, and format the text in a table
- Modify row height and column width
- Create and edit data for charts
- Add lines, borders, and shading to a document
- Insert pictures, such as Microsoft Office's clip art
Working with Tables

A table is a convenient method of organizing text. You can use a table to create forms, reports, spreadsheets, and columns of numbers. You even can use tables to produce side-by-side paragraphs, such as those in a résumé.

Tables consist of columns and rows. Columns are the vertical divisions of the table; rows are the horizontal divisions. The box formed by the intersection of a column and row is called a cell. You can fill cells with text and graphics. When you type text into a cell, the text wraps from one line to the next, enlarging the cell as you enter more text.

When you insert a table, you enter the number of columns and rows for the table. After the table is inserted, you can modify the table and its contents by adding borders and shading, formatting the text, adjusting column width and row height, and so on. This section introduces table basics. For information about adding borders and shading to a table, see “Working with Graphics” later in this chapter.

Inserting a Table

You can insert a table by using the Table menu or the Insert Table button in the Standard toolbar. To use the menu, open the Table menu and choose Insert Table. The Insert Table dialog box appears (see fig. 10.1).

Fig. 10.1
Enter the number of columns and rows in the Insert Table dialog box.

The following list describes the options in the Insert Table dialog box:

- **Number of Columns.** Enter the number of columns for the table.
- **Number of Rows.** Enter the number of rows for the table.
- **Column Width.** Set a specific column width for all columns, or leave the option at Auto. Auto column width divides the space between the left and right margins. You can adjust the width of any column at any time.
Table Format. If you used AutoFormat to format the table, this option displays the predefined format.

Wizard. Starts the Table Wizard; answer the wizard’s questions and choose options for formatting the table.

AutoFormat. Displays the Table AutoFormat dialog box, in which you choose styles, borders, fonts, and so on. AutoFormat is very much like the Style Gallery. For more information, see Chapter 9, “Working with Large Documents.”

Help. Displays help on inserting a table.

When you insert a table, Word displays table gridlines. If you do not see any gridlines, open the Table menu and choose Gridlines to display the nonprinting guides.

To insert a table, follow these steps:

1. Position the insertion point where you want to insert the table.
2. Open the Table menu and choose Insert Table. The Insert Table dialog box appears.
3. Enter the Number of Columns and the Number of Rows.
4. Optionally, enter a value in the Column Width box.
5. If you choose Wizard or AutoFormat, answer all queries in the dialog boxes.
6. Click OK to insert the table and close the Insert Table dialog box.

Note

If you click the Insert Table button in the Standard toolbar, a grid appears. Drag the mouse pointer across the grid to specify the number of columns and down the grid to specify the number of rows. When you release the mouse button, Word inserts a table with the specified number of columns and rows.

Adding Text to a Table

After you insert the table, you can add text. Enter text in a table much the same way that you enter text in any document. Moving around in a table, however, is a bit different. You also edit the text in a table as you would any text. After you enter the text, you can select it to apply various types of formatting, such as type sizes and alignments.
Entering Text
To enter text in a table, first position the insertion point in a cell, and then type the text. To move to another cell in the table, use the arrow keys. The arrow keys move from cell to cell and from row to row. If a cell contains text, an arrow key first moves one character at a time and then moves from cell to cell.

Pressing the tab key moves the insertion point to the right from one cell to another, selecting any text in the cell. Press shift+tab to move one cell to the left. To insert a tab in a cell, press control+tab and then set the tab as you normally would.

Selecting Text in a Table
Selecting text in a table is similar to selecting text in any document. You can drag the I-beam pointer over the text to highlight it, or click the selection bar to select an entire row. In addition, you can use some techniques that are specific to selecting text in a table. Following is a list of those techniques:

- To select one cell, triple-click that cell or click the left inside edge of the cell.
- To select an entire column, drag the mouse down the column. Alternatively, place the mouse pointer at the top of the column; the pointer changes to a black down arrow. Then click to select the column, or click and drag across columns to select more than one column.
- Select an entire row by clicking the selection area to the left of the table; drag up or down to select more than one row.
- To select the entire table, position the cursor in the table and press option+clear (on the numeric keypad). Alternatively, place the insertion point in the table and open the Table menu and choose Select Table.

After selecting the text, you can format it as you would any other text by applying various fonts, font sizes, alignments, and so on. Figure 10.2 shows a selected column, centered and bold headings, and right-aligned numbers.

Modifying a Table
You use commands in the Table menu to insert or delete rows and columns, change cell height and width, and make other modifications. When you modify a table element, you first must select that element. You select a row, column, or cell the same way you select text in a table; refer to the preceding section for more information.
Inserting and Deleting Columns and Rows

Inserting columns and rows is relatively simple, after you understand how Word does it. To insert one row, select a row in the table and open the Table menu and choose Insert Rows. Word inserts one row before the selected row. To insert two or more rows, select two or more rows in the table and then open the Table menu and choose Insert Rows. Word inserts as many rows as you selected before the selected rows.

Similarly, to insert one column, select one column and then open the Table menu and choose Insert Columns. Word inserts one column to the left of, or before, the selected column. Select two or more columns to insert two or more rows before the selected columns.

To delete a row or column, select it and then choose Table Delete Rows or Table Delete Columns.

Adjusting Cell Height

You can change the height of a cell or the height of a row in the Cell Height and Width dialog box. Open the Table menu and choose Cell Height and Width. Select the Row tab. Figure 10.3 shows the Cell Height and Width dialog box with the Row tab displayed.

Tip

The Table menu commands change, depending on what you select in the table. When you select a column, for example, the Table menu contains the Insert Columns and Delete Columns commands. If you select a cell, the command reads Insert Cells and Delete Cells.
Adjust the height of the rows and indent or align one row in the Row tab of the Cell Height and Width dialog box.

To adjust the height of the row, select one of the following options in the Height of Row pop-up menu:

- **Auto.** Word adjusts the height of the row to the tallest cell.
- **At Least.** Enter the minimum row height in the At box. Word adjusts the height of the rows to the contents of the cells.
- **Exactly.** Enter a row height in the At box. If the cell contents exceed the height you entered, Word prints only what fits in the cell.

To adjust either the previous row or the next row, choose Previous Row or Next Row. Choose either button to move from row to row as you adjust the height of the rows. Click OK when you are finished adjusting the rows, or continue with adjusting columns.

**Note**

If no row is selected when you open the Cell Height and Width dialog box, the Height of Row option applies to all rows in the table. When you select a row, Height of Row applies only to that row.

**Tip**

Click the Previous Column and Next Column buttons to move from column to column as you adjust the width.

**Adjusting Column and Cell Width**

You also can adjust column and cell width in the Cell Height and Width dialog box. Open the Table menu and choose Cell Height and Width. Select the Column tab (see fig. 10.4).

To adjust the column width, enter a new width in the Width of Column box. Space Between Columns is the amount of blank space between column boundaries and cell contents. AutoFit automatically resizes all columns in the table to fit the contents of the cells.
Troubleshooting

I inserted several rows or columns in the wrong place.

Click the Undo button in the Standard toolbar or open the Edit menu and choose Undo. Then select the rows or columns, keeping in mind that the new rows or columns are inserted before the selected ones.

I want to add another column to the right of a table.

Position the insertion point just outside the last column and open the Table menu and choose Select Column. Then click the Insert Columns button in the Standard toolbar.

Working with Charts

Word includes an applet, or mini-application, called Graph that enables you to create a chart and insert that chart into your Word document. You can use data from a table or spreadsheet in your Word document, or you can enter data directly into the Graph program's worksheet.

After creating the data, you choose the chart type, add labels, and otherwise format the chart. When the chart is finished, you embed the chart in your Word document by using object linking and embedding (OLE), a feature that enables programs to share information.

Embedding a chart means that the chart is part of the document; you can resize and move the chart. You also can double-click the chart at any time to open the Graph applet and edit the chart information.

Note

For information about OLE and embedding objects, see Chapter 29, "Sharing Data between Applications with Linking and Embedding."

Fig. 10.4
Use the Column tab to specify each column's width and to add space between columns.
Creating Chart Data
You can create a chart quickly by selecting data in a table or spreadsheet in your Word document. Alternatively, you can start the Graph applet and enter data in the Graph datasheet. Entering data in a Graph datasheet is similar to entering and editing data in an Excel worksheet.

Tip
Alternatively, you can click the Insert Chart button in the Standard toolbar. The Graph applet opens, ready to receive data.

Fig. 10.5
Select Microsoft Graph in the list of Object Types to open the Graph applet.

Tip
You can select the Datasheet window at any time and edit the data. Any changes you make are reflected in the Chart window immediately.

Note
For more information about using datasheet—entering and editing data, getting around in a datasheet, and so on—see Chapter 12, “Creating Worksheets.”

To use existing data from a table or spreadsheet, select the data (including headings and labels), and then start the Graph applet.

Starting Graph
To start the Graph applet, open the Insert menu and choose Object. The Object dialog box appears. Select Microsoft Graph (see fig. 10.5). Click OK to start the Microsoft Graph applet.

The Microsoft Graph applet opens, as shown in figure 10.6, with a data sheet containing the selected data in a window and a chart with data and labels already in place in another window. Both windows appear in the Microsoft Graph work area.
Note

If you did not select data before opening Graph, you see the same windows for the datasheet and the chart; however, the data in the windows is sample data. You must delete the sample data and enter your own.

Modifying the Chart

You can select the Chart window and use menu commands to modify the chart—change chart types, labels, titles, axes, and so on.

Note

Microsoft Graph offers superb techniques for presenting data in chart form. This section presents only the basics of creating a chart. Look at all the Graph menus and experiment with all the commands, including the Gridlines command in the Chart menu and the 3-D View and Chart commands in the Format menu.

To change the chart type, choose an option from the Chart Type menu, which lists various chart types: Area, Bar, Column, Line, Pie, Scatter, Combination, 3-D Area, 3-D Bar, 3-D Column, 3-D Line, and 3-D Pie.
The currently selected chart type is displayed on the Chart Type button next to its arrow on the Toolbar. This can be seen more clearly if you look at the Chart Type button in fig. 10.6.

**Fig. 10.7**
Select a 3-D Column chart in the Chart Gallery dialog box.

**Embedding the Chart**
When you are satisfied with the chart, you simply go back to work by clicking the text area outside of the chart and typing.

Figure 10.8 shows a completed graph in a Word document.
Note

If you choose not to update the chart before exiting the Graph applet, Graph displays a message box, asking whether you want to update. Choose Yes to update or No to close the applet without updating the chart.

Troubleshooting

I have data in Excel, Microsoft Works, and ClarisWorks, and I want to use it in a Word chart.

To import data from another application, open the Graph program and click the worksheet. Click the File Import Data button (at the far left of the toolbar) and select the file you want to import. Click OK to import the data.

Working with Graphics

Word includes many graphic elements that you can add to your documents, including lines, borders, shading, and pictures. Use graphics to attract attention to your document, break the monotony of straight text, emphasize text, and pique the reader's interest.

You can add a line above headings to make them stand out or add lines to a table to help divide the data. Create a shaded border to attract attention to text, or add clip art to a newsletter to make it more interesting.

You can add borders and shading to text, tables, charts, and other elements by using the Borders toolbar. To add pictures, you use commands in the Insert menu. This section introduces adding graphics to your documents.

Adding Lines, Borders, and Shading

Word enables you to add graphic lines and borders with the Borders toolbar or menu commands. The toolbar method is by far the easier method.

Displaying the Borders Toolbar

To display the Borders toolbar, place the mouse pointer on the Border button on the Formatting Toolbar and click once, or select View Toolbars.

Figure 10.9 shows the Borders toolbar. Pop-up menus contain options for various line thicknesses (Line Style) and various fills and screens (Shading). The rest of the buttons enable you to specify the border's location.
Fig. 10.9
Use the Borders toolbar to assign borders to text, pages, tables, pictures, and other elements.

Applying a Border
To apply a border, place the insertion point where you want the line or border to appear, or select the table, picture, or frame. Choose the Line Style pop-up menu from the Borders toolbar; select a line style. Then in the Border toolbar, click the Border button that you want to use. When you click a Border button, Word inserts the border from margin to margin or side to side (for objects). If you click the Border button again, Word removes the border.

Following is a list of the Border buttons:

- **Top Border.** Inserts a border along the top of a table, frame, or picture, or above a line of text.
- **Bottom Border.** Inserts a border along the bottom of a table, frame, or picture, or below a line of text.
- **Left Border.** Inserts a border along the left side of the object or text.
- **Right Border.** Inserts a border along the right side of the object or text.
- **Inside Border.** Inserts a border along the inside lines of a table.
- **Outside Border.** Applies a border to the outside of any object or frame.
- **No Border.** Before you use this button to remove a border, select the bordered text or object.
You can apply more than one border to an object or text. You can, for example, apply a 3/4-point top border and a 6-point bottom border. To do that, you can add a 3-point left and right border, creating a somewhat strange box around the object or text. You can also apply shading to the same text or object to which you have applied a border.

You can apply various shading and patterns by selecting the object or the text, or by positioning the insertion point. Choose a shading from the pop-up Shading menu in the Borders toolbar. The list provides shading that is stepped in percentages from 5 to 100 percent (or solid). Additionally, Word displays a variety of patterns you can apply to text or objects. The pattern list follows the shading list.

Figure 10.10 shows a table with a double 3/4-point outside border, a single 3/4-point inside border, and 20 percent shading for the heading row.

**Tip**
Adjust the length of a line by selecting it and moving the indent markers in the ruler.

**Fig. 10.10**
You can choose different borders for the inside and outside of a table, and add shading to specific areas of the table.

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**Inserting Pictures and Objects**
In the preceding section, you learned to insert an object from another application: Microsoft Graph. You also can insert other objects, including clip art and pictures. Pictures you can add include files from other programs, such as Adobe Illustrator or MacDRAW!, and clip art from the MSOFFICE folder.
To add a picture to your document, open the Insert menu and choose Picture. The Insert Picture dialog box appears (see fig. 10.11).  

**Fig. 10.11**  
Choose any compatible picture file from any folder.

If you want to insert clip art, the Insert Picture dialog box opens, by default, to the Microsoft Office clip-art folder. You can select one of the files in the File Name list. Additionally, select the Preview Picture check box to see what the picture looks like before you add it.

If you want to use a different file type, choose List Files of Type and select the file type you want to add. Your choices include Pict, MacPaint, TIFF, EPS, Windows Bitmaps, and Windows Megafies.

Select the volume and folder, and then choose the name of the file you want to insert. Click OK to close the dialog box and insert the picture.

Figure 10.12 shows an inserted clip-art picture. Notice that a box surrounds the picture and that small black boxes called selection handles appear at the corners and sides of this box. The box and handles indicate that the picture is selected. You can add borders to any selected picture or object.

Additionally, you can resize the picture by clicking and dragging any selection handle.
Using Frames

Word includes a special feature that enables you to move a picture, object, or text around on the page freely. This feature is a frame. You can insert an empty frame anywhere on the page and then fill the frame with text or a picture or object. Alternatively, you can insert a picture or object, select it, and then put it in a frame.

**Note**

If you choose to insert a frame without selecting a picture or object, the insertion point changes to a crosshair. Position the crosshair and drag it diagonally to draw the frame. Release the mouse button when the frame is the right size.

After inserting the frame, you can move the frame and its contents around the page. You also can apply borders and shading to a frame. You can move an object, such as a picture or graph, around the page even if you do not use a frame, but it is difficult because the object is linked to the text. Therefore, if the object moves, the text also moves. When you insert the object in a frame, you have much more flexibility.

Figure 10.13 shows a chart with a frame inserted. The gray border indicates the frame. You can select a handle and resize the frame and its contents. You also can move the frame around the page.
To insert a frame, first select the text, object, or picture. Open the Insert menu and choose Frame. If you select an object, Word inserts a frame around the object. If you did not select an object, the pointer changes to a crosshair. You can then use the mouse to draw the frame.

**Fig. 10.13**
The mouse pointer, when placed inside a frame, becomes a four-headed arrow. Use this pointer to drag the frame to a new position on the page.

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**From Here...**

Add interest to your documents and illustrate the text by using tables, charts, and graphic lines, borders, shading, and pictures. These chapters introduce more advanced techniques for working in Word:

- Chapter 11, "Automating with Macros and Mail Merge," covers the use of Word's built-in macros, creating and running your own macros, and creating an address list and a letter for use with Word's mail merge feature.

- Chapter 12, "Creating Worksheets," introduces you to some Excel terms and explains how to move around in a worksheet, enter data, select cells and ranges, and save a file.
Chapter 11

Automating with Macros and Mail Merge

by Peter Durso

Word supplies many features that enable you to complete your work quickly and efficiently. Two of these features are macros and mail merge. Both of these features save you time by automating your work; you define parameters one time, and Word takes care of your commands time after time.

You can automate your work with macros, or mini-programs, by recording several commands, saving the recording, and then playing it back any time you want to perform those commands. Instead of choosing the menus and commands yourself, the macro automatically performs the task for you with a click of the mouse.

Word's mail merge feature also saves you time and energy. The Mail Merge Helper guides you to create an address list and the letter or document to merge. The Mail Merge Helper then helps you print your merged documents easily. Because this feature is so intuitive, you should never have to dread mail merge again.

In this chapter, you learn to

- Use Word's prerecorded macros for tables, page and text layout, and converting files
- Create your own macros by recording, saving, and testing the macros
- Create and edit a form letter for use with mail merge
- Create the data source—address list or database—that you will merge with the letter or other document
- Print the merged documents or save them to a file for later use
Using Macros

Macros can speed your work by performing everyday tasks automatically. A macro is a mini-program—a series of commands recorded to work as one command. You can, for example, create a macro to assign a specific font, font size, and alignment to selected text by pressing a shortcut key, instead of accessing the Format menu and the Font and Paragraph commands.

Word supplies several macros you can use (if you used a complete install program); you also can create macros to fit your personal needs. You can use macros to speed regular editing and formatting, automate an elaborate set of tasks, or combine several commands into one. You can even assign a macro to a shortcut key, menu, or button in the toolbar so that it's easier to use. This section introduces Word's macros and explains how to record and run your own macros.

Using Word's Macros

Word provides many macros that you can use with your documents, including macros that speed formatting, create an organizational chart, or find and replace symbols in a document. Word stores these macros in templates that are installed in the Macros folder.

Before you can use Word's macros, you must add them as a global template. Global templates are templates available for use with all documents. Adding the macros as a global template, therefore, enables you to use them with any open document.

Adding Word's Macros

To add Word's macro templates as global templates, choose the File Templates command. The Templates and Add-ins dialog box appears (see fig. 11.1).

To add the templates, follow these steps:

1. Choose Add; the Add Template dialog box appears.

2. Change folders to the MACROS folder in the Microsoft Word folder and select one of the macro templates, as shown in figure 11.2.
3. Click OK. The templates are added to the Global Templates and Add-ins list in the Templates and Add-ins dialog box.

**Note**

Templates in the Global Templates and Add-ins list box that are checked with an X are loaded for use in all documents. To prevent a template from loading into all documents, deselect that template to remove the X from its check box.

**Running Predefined Macros**

You can view each template and the macros it contains in the Macro dialog box. Choose the Tools Macro command to display the Macro dialog box (see fig. 11.3).

To display macro names, select the macro template in the Macros Available in pop-up menu; all macros contained in that template appear in the Macro Name list box. Select any macro, view the description, and choose the Run button to start the macro.
Creating Your Own Macros

Even though Word's menus and toolbars provide many useful built-in features, you probably will want to create your own macros to perform commands you use repeatedly. You can record a macro, for example, that automatically switches from normal to page layout view, shows the ruler, displays the Formatting and Borders toolbars, and zooms to 100 percent. After recording the macro, you can assign a keyboard shortcut to it. Any time you want to perform these commands, press the shortcut keys; Word performs the commands.

To create your own macros, you first name the macro and assign a shortcut key. Then turn on the macro recorder. Using the mouse, the keyboard, or a combination of both, perform the commands you want to include in the macro. Then just turn the recorder off.

Naming the Macro

You use the Tools Macro command to access the Macro dialog box (see fig. 11.4).

Choose the Record button. Word displays the Record Macro dialog box (see fig. 11.5). You can assign the macro to a toolbar, the menu, or the keyboard. For more information about customizing the toolbars and menus, see Chapter 36, “Changing Toolbars and Menus.”

Assigning Keys

When you choose Keyboard, for example, the Customize dialog box appears with the Keyboard tab in view (see fig. 11.6). The insertion point is already in the Press New Shortcut Key text box; press a key combination to use as the shortcut.
If the key combination is already assigned, Word displays its current use in the Currently Assigned To area below the Press New Shortcut Key text box. If the key combination is assigned, press the Delete key and try again. If the combination is not assigned, choose the Assign button. Word adds the assignment to the Current Keys list box. Choose the Close button to begin recording the macro.

**Fig. 11.4**
Name the macro by entering a name in the Macro Name text box. Word considers spaces, commas, or symbols in the macro name to be illegal characters.

**Fig. 11.5**
If you plan to use many macros, don't clutter the toolbars and menus. Instead, choose to assign the macro to the Keyboard.

**Fig. 11.6**
Press a key combination to assign to the macro; don't use a key combination that is already in use.

**Tip**
To find an unused key combination, try using one that starts with control+option or control+shift.
Recording the Macro

Word returns to the Word screen with the Macro Recording toolbar and the modified mouse pointer (see fig. 11.7). Everything you do with the mouse or the keyboard is recorded as part of the macro. Choose menus and commands or click toolbar buttons to carry out the actions you want to record. You also can enter text and format it, open or close files, and arrange windows with macros; the possibilities are endless.

To record a macro, follow these steps:

1. Open the Tools menu and choose the Macro command. The Macro dialog box appears.
2. Enter a name in the Macro Name text box.
3. Choose the Record button. The Record Macro dialog box appears.
4. Choose to assign the macro to the Keyboard. The Customize dialog box appears with the Keyboard tab in view.
5. Press the key combination you want to represent the macro; the key combination appears in the Press New Shortcut Key text box.
6. Click the Assign button and then the Close button. The dialog box closes, and Word returns to the screen.
7. Using the mouse or the keyboard, record the commands for the macro.
8. Click the Stop Recording button in the Macro Recording toolbar.

Fig. 11.7

Choose the commands you want to record; click the Stop Recording button in the Macro Recording toolbar when you finish.
Running the Macro
After recording a macro, run the macro to test it. To test and run the macro, press the shortcut key combination or choose the Tools Macro command, select the macro name, and choose Run. Word runs the macro.

If you do not get the results you want, delete the macro and re-record it. To delete the macro, select the macro in the Macro dialog box and choose the Delete button. Word displays a confirmation dialog box; choose Yes to delete the macro.

Note
Consider the position of the insertion point when creating a macro. If, for example, the macro will check spelling, press Command+Home before choosing the Tools Spelling command so your insertion point will be at the top of the document.

Writing Your Own Macros
If you are familiar with Basic programming, you can write your own macros in Word. Word's programming capability is known as WordBasic. Although WordBasic is not the same as Visual Basic, which is used in Excel, Word is compatible with Visual Basic for Applications. Visual Basic for Applications is based on the Visual Basic for Windows programming language. The advantage is that because Word is compatible, it can be controlled by another application, such as Excel. For more information about Visual Basic, see Chapter 37, “Using Visual Basic for Applications.”

To write your own macro while in the Word program, choose Tools Macro. The Macro dialog box appears. Enter the new macro name, or the name of a macro you want to edit, in the Macro Name text box. Choose the Create/Edit button. The button reads Create if you entered a new name in the Macro Name text box and Edit if you entered the name of a macro that already exists. If the macro already exists, its contents appear in the macro-editing window.

The macro-editing window appears, with the Macro toolbar (see fig. 11.8). You can write the entire macro in the text area, or you can use a combination of recording and writing by using the Macro toolbar.
Chapter 11—Automating with Macros and Mail Merge

Fig. 11.8
Use the macro-editing window and Macro toolbar to write your own macros in WordBasic.

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**Note**

Word includes extensive help on programming with WordBasic. Choose Help Search for help information. In the Type a Word text box, type macros. In the Select a Topic text box, select WordBasic Help. Then click OK.

When you finish writing the macro, save both the macro and the template by choosing File Save Template or by pressing Command+S. Word displays a dialog box, asking whether you want to keep the changes in the macro. Choose Yes. Choose File Close to close the macro-editing window and return to the document window.

**Troubleshooting**

I'm recording a macro to move the insertion point and select text; however, I cannot use the mouse to move the cursor within the text.

The macro recorder cannot record mouse actions within document text, such as moving the cursor, creating an insertion point, or selecting text. Use the keyboard to record any actions within the text. You can, however, use the mouse to choose menus and commands.
I want to load Word's macros, but I cannot find the Macros folder.

The templates may not have been installed when you installed the program. Run the Word Setup program to install the folder and the templates. See Appendix A, “Installing Microsoft Office,” for more information.

I want to move a macro from the Normal template to another template for use in a specific document.

Choose Tools Macro Organizer. In the Macros tab, copy any macros from the current template to the selected template. Choose Close when you finish. Run the macro to test your edits.

Using Mail Merge

Using Word’s mail merge feature, you can personalize letters—such as announcements, change of address, advertising, and so on—so each letter contains a different name, address, and company name. In addition, you can include the addressee’s title, phone number, and other personal information. You can even position the information in the address, salutation, or anywhere within the text.

To perform a mail merge in Word, you must complete several steps. You identify the type of document you want to create, such as a letter. Then you create or open a file containing the address list. You can create the address list in Word or use an existing list from another program—Access, for example.

Next, you create the letter containing general text that is common to all recipients; you also enter fields that represent information specific to each recipient. Finally, you merge the address list with the letters to produce the completed letters.

Identifying the Document

The first step in creating a mail merge is to identify the document type in Word’s Mail Merge Helper. Mail Merge Helper is an assistant of sorts that leads you step by step through the merging process. To use the Mail Merge Helper, choose the Tools Mail Merge command. The Mail Merge Helper dialog box appears, as shown in figure 11.9.

Select the first option in the Mail Merge Helper dialog box: Main Document. Then choose the Create button; a pop-up menu appears. You can create Form Letters, Mailing Labels, Envelopes, or a Catalog. Select Form Letters to begin the mail merge process.
Fig. 11.9
Follow the step-by-step instructions in Mail Merge Helper; choose Create to identify the document type.

Word displays a message box, stating that you can use the active document window to create your letter or start a new document. If you already have a letter typed, or if you just started a new document, you can use the active document window. Otherwise, you can start a new document for the letter. Choose the appropriate response, and Word returns to the Mail Merge Helper. You will create the actual letter later.

**Choosing a Data Source**
The next step is to choose option number 2: Data Source. The Data Source is the address list. Choose the Get Data button; a pop-up menu appears. If you already have a database of names and addresses—in Access, for example—select Open Data Source. If you do not have a data source, select Create Data Source to enter names and addresses into Word.

**Opening a Data Source**
If you choose to open a data source, the Open Data Source dialog box appears (see fig. 11.10). Select the volume, folder, and file name; then click OK to open the data source.

**Fig. 11.10**
The Open Data Source dialog box enables you to open a data source from another program to use as your address list.
Using Mail Merge

Word displays a message, asking whether you want to add fields to your main document. Choose Edit Main Document. Word returns to the document screen but adds the Merge toolbar for you to use. You will learn how to create a letter doing just this in “Creating the Letter,” later in this chapter.

Creating a Data Source

If you do not have an existing data source, choose Create Data Source to enter the names and addresses in Word. The Create Data Source dialog box appears, as shown in figure 11.11.

![Create Data Source dialog box](image)

To accept all the field names in the Field Names in Header Row list, click OK. Probably, however, you will want to remove some of Word's fields and enter some of your own. To add your own fields, type the new names in the Field Name text box, and then choose Add Field Name. To remove fields from the Field Names in Header Row list, select the fields, and then choose Remove Field Name. You might choose, for example, to keep Title, FirstName, LastName, Company, Address1, City, State, and PostalCode. Click OK when you're satisfied with the field names. Word displays the Save Data Source dialog box (see fig. 11.12).

![Save Data Source dialog box](image)

**Tip**
If you have problems adding a field name, make sure that the name contains no spaces, symbols, or punctuation.

**Fig. 11.12**
Name the new data source file; you may want to use the file again later for more letters, envelopes, mailing labels, and so on.

**Fig. 11.11**
You must name the fields you will use in the document to be merged; you can select Word's fields or enter your own.
Select a volume and folder, and enter the file name of the data source you are about to create. Word displays a message box, asking whether you want to enter the records in the data source or work on the main document (the letter). Choose to Edit Data Source; Word displays the Data Form dialog box (see fig. 11.13).

Fig. 11.13
Enter the data in the fields for the first record; choose Add New to continue.

As you enter the data for each record, you can review records by choosing Record and entering the record number. Additionally, you can delete records by choosing Delete. Choose Help if you need more information about the data form. When you finish entering records, click OK to close the Data Form dialog box. Word displays the document screen and the Merge toolbar.

Creating the Letter
When you finish entering data, or when you have opened a data source file, Word displays the editing screen and the Merge toolbar, as shown in figure 11.14.
Type and format the letter as you normally would, with one exception: insert a merge field wherever you want to insert personalized information. Position the insertion point, and then click the Insert Merge Field button in the Merge toolbar. Select the field from the drop-down list.

Be sure to add spaces, paragraph returns, and punctuation before, between, and after the fields. Between <<City>> and <<State>> fields, for example, enter a comma and a space; after the <<State>> field, enter a space or two to separate the state and the ZIP code.

When you finish entering the letter and the merge fields, save the document.

**Viewing Data**

Use the Merge toolbar to view the data in place of the merge fields by clicking the View Merged Data button, as shown in figure 11.15.

You also can use the Record buttons to view each record or specific records in the data source. View the first, last, next, or previous record by clicking the appropriate toolbar button. Alternatively, enter the number of the record in the Go To Record text box in the toolbar.
Editing the Data Source
If you find that you need to edit the data source, add a record, or delete a record, click the Edit Data Source button (the last button on the right in the toolbar). Clicking this button displays the Data Form dialog box, with your records in view. Make any editing changes, and click OK to close the dialog box. Word returns to the document.

Merging the Data and the Document
You can merge the data and the document to a new document or to the printer by clicking buttons in the Merge toolbar. Most of the time, you will merge your files to the printer.

Merging the files to the printer prints each letter with its personalized information. The letter file remains separate from the data source file, but the information is merged just before printing.

If you click the Merge to New Document button, Word creates a document containing one letter for each record in the data source. The reasons you would merge the data to a new document are to check each letter (and perhaps add personal comments to some of the letters) and to start printing where you left off if your printer jams.

Caution
If you have many records in your data source—hundreds or even thousands—a merged file may be unmanageable; it could slow your system considerably.

To merge the files to the printer, click the Merge to Printer button in the Merge toolbar.

From Here...
Learning to use macros and mail merge can save you time and energy. You can automate your work with macros by recording several commands, saving the recording, and then playing it back any time you want to perform those commands. Additionally, you can use Word's Mail Merge Helper to create an address list and a letter, and then print your merged documents. For related information on these topics, see the following chapters:
Chapter 12, "Creating Worksheets," covers common terms used in Excel, moving around a worksheet, entering data, selecting cells and ranges, entering series data, and saving and naming a file.

Chapter 13, "Editing Worksheets," covers editing, copying, and moving worksheet data; inserting and deleting columns, rows, and cells; inserting and deleting worksheets; finding and replacing data; and spell-checking text in a worksheet.
Part III

Using Excel

12 Creating Worksheets
13 Editing Worksheets
14 Formatting Worksheets
15 Using Formulas and Functions
16 Creating and Printing Reports and Charts
17 Managing and Analyzing Data
18 Automating with Excel Macros
PivotTable Wizard - Step 1 of 4

The PivotTable Wizard builds a PivotTable that summarizes data from Microsoft Excel source.

Create PivotTable from data in:
- Microsoft Excel List or PivotTable
- External Data Source
- Multiple Consolidation
- Another PivotTable

Tip: To learn more about PivotTable Wizard, consult the Help menu.
Chapter 12
Creating Worksheets

by Todd Knowlton

In this chapter, you learn the basic techniques for creating worksheets in Excel. Once you’ve mastered these techniques you’ll have the confidence to create nearly any type of worksheet.

In this chapter, you learn to

■ Move around the worksheet
■ Enter text, numbers, and formulas
■ Select cells and ranges
■ Repeat and undo Excel commands
■ Save a worksheet

Defining Excel Terms

When you start Excel, a blank workbook appears in the document window. The workbook is the main document used in Excel for storing and manipulating data. A workbook consists of individual worksheets, each of which can contain data. Initially, each new workbook you create contains 16 worksheets; you can add more worksheets.

Each worksheet is made up of 256 columns and 16,384 rows. The columns are lettered across the top of the document window, beginning with A through Z and continuing with AA through AZ, BA through BZ, and so on through column IV. The rows are numbered from 1 to 16,384 down the left side of the document window.
The intersections of rows and columns form *cells*, which are the basic units for storing data. Each cell takes its name from this intersection and is referred to as a *cell address*. The address of the cell at the intersection of column C and row 5, for example, is referred to as cell C5.

At the bottom of each workbook is a series of *sheet tabs*, which enable you to identify each worksheet in the workbook. The tabs initially are labeled Sheet1, Sheet2, and so on, as shown at the bottom of the screen in figure 12.1.

![Figure 12.1: An Excel worksheet is made up of columns, rows, cells, and worksheets.](image)

Each workbook can contain as many as 255 sheets. In Excel, you can create up to six different types of sheets. You can create a worksheet, chart sheet, visual basic module, dialog box, Microsoft Excel 4.0 macro sheet, and a Microsoft Excel 4.0 international macro sheet.

**Moving Around in a Worksheet**

In a new worksheet, the cell at the intersection of column A and row 1 is highlighted, indicating that cell A1 is the active cell. The active cell is the cell where data appears when you type. You can move the highlight using either the mouse or keyboard.
Mouse Movements

Using the mouse, you can activate a cell quickly by placing the mouse pointer on the cell and clicking. Figure 12.2 shows the mouse pointer highlighting the active cell.

Fig. 12.2
To activate a cell, place the mouse pointer on that cell and click.

Keyboard Movements

You can use the arrow, page up, and page down keys on your keyboard, or various key combinations, to move to another cell. The keys that you use to move to new locations are listed in table 12.1.

Note

The standard (non-extended) Macintosh keyboards do not have the home, end, page up, or page down keys.

| Table 12.1 Using the Keyboard to Move among Cells |
|---|---|
| Keys | Description |
| ←,→,↑,↓ | Moves one cell to the left, right, up, or down, respectively |
| ⌘← | Moves to the left edge of the current data region (*) |

(continues)
Table 12.1 Continued

<table>
<thead>
<tr>
<th>Keys</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>⏩+ →</td>
<td>Moves to the right edge of the current data region (*)</td>
</tr>
<tr>
<td>⏩+ ↑</td>
<td>Moves to the top edge of the current data region (*)</td>
</tr>
<tr>
<td>⏩+ ↓</td>
<td>Moves to the bottom edge of the current data region (*)</td>
</tr>
<tr>
<td>tab</td>
<td>Moves one cell to the right</td>
</tr>
<tr>
<td>shift+tab</td>
<td>Moves one cell to the left</td>
</tr>
<tr>
<td>home</td>
<td>Moves to column A of the active row</td>
</tr>
<tr>
<td>⏩+home</td>
<td>Moves to cell A1 of the worksheet</td>
</tr>
<tr>
<td>⏩+end</td>
<td>Moves to the last cell used in the worksheet</td>
</tr>
<tr>
<td>page up</td>
<td>Moves up one screen</td>
</tr>
<tr>
<td>page down</td>
<td>Moves down one screen</td>
</tr>
<tr>
<td>option+page up</td>
<td>Moves one screen width to the left</td>
</tr>
<tr>
<td>option+page down</td>
<td>Moves one screen width to the right</td>
</tr>
<tr>
<td>⏩+page up</td>
<td>Moves to the preceding worksheet</td>
</tr>
<tr>
<td>⏩+page down</td>
<td>Moves to the following worksheet</td>
</tr>
</tbody>
</table>

*A data region is a block of cells bounded by blank cells.

Use the Go To command to move to a specific cell. Open the Edit menu and choose the Go To command; or press the F5 function key to display the Go To dialog box (see fig. 12.3).

**Fig. 12.3**
The Go To dialog box enables you to move to a specific cell.

When the Go To dialog box appears, type the address of the cell you want to move to in the Reference text box and click the OK button. To move to cell
D5, for example, type D5 and then click the OK button. The highlight moves to cell D5, which becomes the active cell.

You also can move to a specific cell by using the *name box*, located at the left end of the formula bar. Click the box, type the address of the cell to which you want to move, and then press return or enter. (The formula bar is discussed in the section "Entering Data" below.)

**Moving Around by Scrolling**

To view another section of the worksheet without moving the active cell, use the vertical and horizontal scroll bars to reposition the screen. Using the mouse, click the up or down scroll arrow to scroll line by line. You also can scroll the screen by dragging the scroll box up and down the scroll bar. If you click the scroll bar above the scroll box, the screen scrolls up one page. If you click the scroll bar below the scroll box, the screen scrolls down one page.

To scroll through a worksheet by using the keyboard, press the scroll lock key on your keyboard, and use the arrow keys, page up, and page down to scroll to the section of the worksheet you want to view. To move greater distances while scroll lock is on, press the *key in combination with the arrow keys. Scrolling moves the screen but does not change the active cell.

**Entering Data**

After you activate the cell in which you want to enter data, you can type text, numbers, dates, times, or formulas in the cell. As you type, the data appears in the active cell and in the area above the worksheet called the *formula bar* (see fig. 12.4). The cell displays the *insertion point*, a blinking bar that indicates where the next character you type will appear. If you click in the formula bar, the insertion point will appear there, rather than in the cell.

When you are entering data, three small buttons appear between the name box and the insertion point in the formula bar. The first two buttons enable you to reject or accept the data you entered. To reject your entry, click the cancel box or press esc. To accept your entry, click the enter box or press enter to leave the same cell active. You can press return to accept the data as well as move the highlight to the cell below.

The third button in the formula bar activates the Function Wizard, a dialog box that enables you to build formulas by using Excel's built-in functions. Chapter 15, "Using Formulas and Functions," describes how to enter formulas with the Function Wizard.
Fig. 12.4
When you enter data in a cell, the data appears in the cell and in the formula bar.

Entering Text
Text entries consist of alphanumeric characters such as letters, numbers, and symbols. You can enter up to 255 characters in a single cell, although Excel may not be able to display all the characters if the cell is not wide enough or if an entry appears in the cell to its right. When you enter text in a cell, Excel stores that entry as text and aligns it to the left edge of the cell.

When you enter data that consists of numbers and text, Excel evaluates the entry to determine its value. If you type an entry such as 1098 Adams Street, for example, Excel automatically determines that it is a text entry because of the letters.

If you want to enter a number as text, such as a ZIP code, precede the entry with an apostrophe. Excel uses the apostrophe label prefix to denote a text entry. You can use the apostrophe when you want to enter a number but do not want Excel to interpret it as a value to be used in calculations.

Entering Numbers
Numeric entries are constant values and consist only of numeric values. You can enter integers (such as 124), decimal fractions (such as 14.426), integer...
Entering Data

Entering Data

Entering Data

Entering Data

Entering Dates and Times
In addition to entering text and numbers, you can enter dates and times in a worksheet cell. When you enter a date or time, Excel converts the entry to a serial number. This serial number represents the number of days from January 1, 1904 to the date you type.

Because Excel converts dates and times to serial numbers, you can perform calculations on these values as you would with any number. For example, you could determine the number of days that have passed between two dates.

To enter a date, type the date using any of these formats:

3/12/94
12-Mar-94
12-Mar
Mar-12

To enter a time, use any of these formats:

14:25
14:25:09
2:25 PM
2:25:09 PM

Entering Formulas
One of the most valuable features of Excel is its capability to calculate values by using formulas. Excel formulas can range from the simple, such as adding a range of values, to the complex, such as calculating the future value of a stream of cash flows.

You can calculate values based on numbers that you type directly into the formula. For example, you can enter the formula =4+5+7 to add the values 4, 5, and 7. However, the power of Excel’s formula capability lies in the fact that
formulas also can refer to data in other cells in the worksheet. The formula 
=B2+B3+B4, for example, adds the values in cells B2, B3, and B4. When the 
values in these cells change, Excel automatically updates and recalculates the 
formula, using the new data in these cells.

Excel recognizes a formula in a cell if the entry starts with an equal sign (=) or 
a plus sign (+). To enter a formula, first type = and then type the formula. The 
active cell and the formula bar display the formula as you enter it. After the 
formula is complete, press return; the active cell displays the result of the 
formula (see fig. 12.5). The formula bar continues to show the formula when 
the cell is the active cell.

**Fig. 12.5**
When you enter a formula in a cell, Excel displays the result.

---

**Troubleshooting**

*A formula used to calculate a range of cells does not calculate properly.*

Make sure that values in the range have not been entered as text. To do so, highlight 
each cell in the range, and check for the appearance of an apostrophe at the begin­ 
nning of the entry. If an apostrophe appears, press `F4` to enter edit mode, delete 
the apostrophe, and press return. Continue with these steps until all cell entries have 
been checked.
Excel converted a date to a number.

You must enter dates in a format that Excel recognizes—for example, 3/12/94 or 12-Mar-94. Other characters may not produce a valid date. Sometimes a cell in which you enter a date may already contain a numeric format. Use the Cells command in the Format menu to assign a different format.

A formula appears as a label in a cell.

If you neglect to enter an equal sign or plus sign in front of a cell reference, Excel interprets the entry as a label. To fix this problem, highlight the cell and press `Ctrl+U`. Then press the home key, type the equal sign, and press return.

Selecting Cells and Ranges

Many commands in Excel require that you select a cell or range of cells. You already have learned how to select a single cell. You also can select several cells at the same time. A group of cells is called a range. A range is a group of cells that can be acted upon with Excel commands.

You can use the keyboard or the mouse to select a range. To select a range with the mouse, follow these steps:

1. Point to the first cell of the range you want to select.
2. Drag the mouse over the range.
3. When you reach the end of the selection range, release the mouse button.

To select a range with the keyboard, follow these steps:

1. Move to a cell at a corner of the range you want to select.
2. Press and hold down the shift key, and then press the arrow keys to select the range.

Figure 12.6 shows a selected range.

**Note**

If you select a range of cells and then click the mouse in a cell, the range is deselected. If this happens, just select the range again.
Excel also enables you to select more than one range of cells at a time with the same ease as selecting a single range.

To select multiple ranges with the mouse, follow these steps:

1. Drag the mouse over the first range you want to select.

2. Press and hold down the `\` key, and continue selecting other ranges.

To select multiple ranges with the keyboard, follow these steps:

1. Press and hold down the `Shift` key, and use the arrow keys to select the first range.

2. Press `Shift+F8`. The indicator `ADD` appears in the status bar at the bottom of the screen indicating that you can extend a selection.

3. Move to a cell at a corner of the next range you want to select.

4. Press `Shift` and an arrow key to select the range. `ADD` disappears from the status bar. To add another range, press `Shift+F8` to go back to add mode, and repeat steps 3 and 4.

To select the entire worksheet, click the rectangle directly above the row numbers and to the left of the column headings, or press `Ctrl+Shift+Space` bar.

To deselect a range, click any cell outside the range.
Caution

When you select an entire worksheet, any command or action you perform affects the worksheet as a whole.

To select an entire row, click the heading of the row you want to select. You also can highlight a cell in the row you want to select and press shift+space bar. Figure 12.7 shows two ranges selected in a worksheet.

![Figure 12.7](image)

To select an entire column, click the heading of the column you want to select. You also can highlight a cell in the column you want to select and press shift+space bar (see fig. 12.8).

Note

Some Excel commands require a specific action before you can use the command. If you do not cut or copy something to the Clipboard, for example, the Paste command in the Edit menu is not available and appears grayed (dimmed). If an object is not selected, the commands that are relevant only to selected objects are dimmed and unavailable.
Fig. 12.8
Click a column heading to select entire column; click a row heading to select entire row.

Entering a Series of Text, Numbers, and Dates

When creating budgets and forecasts, you often need to include a series of dates, numbers, or text. Excel relieves this tedious task by offering the AutoFill feature, which enables you to create a worksheet quickly by filling a range of cells with a sequence of entries. For example, you can fill a range of cells with consecutive dates or create a series of column headings.

You can create a series of entries in two ways: use the mouse to drag the AutoFill handle (the small square at the bottom right corner of the active cell), or open the Edit menu, choose Fill, and then choose the Series command.

Creating a Series of Text Entries

Excel recognizes common text entries, such as days, months, and quarterly abbreviations.

To fill a range of cells with text entries, follow these steps:

1. Select the first cell that contains the data.

2. Drag the AutoFill handle over the range of adjacent cells that you want to fill (see fig. 12.9). The pointer becomes a large + when positioned over the AutoFill handle.
3. Release the mouse button. Excel fills the range of selected cells with the appropriate text entries (see fig. 12.10).

Fig. 12.9
The AutoFill handle is dragged to the right to create a series of column headings.

Fig. 12.10
Excel fills the selected range of cells with a series of column headings.
Excel’s AutoFill feature recognizes numbers, dates, times, and key words, such as days of the week, month names, and quarterly abbreviations. Excel knows how these series run and correctly extends the series. Table 12.2 shows examples of series that Excel can use with AutoFill.

### Table 12.2 Fill Sequences

<table>
<thead>
<tr>
<th>Data You Enter</th>
<th>Sequence Returned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qtr 1</td>
<td>Qtr 2, Qtr 3, Qtr 4</td>
</tr>
<tr>
<td>Product 1</td>
<td>Product 2, Product 3, Product 4</td>
</tr>
<tr>
<td>Jan</td>
<td>Feb, Mar, Apr</td>
</tr>
<tr>
<td>Jan-93</td>
<td>Feb-93, Mar-93, Apr-93</td>
</tr>
<tr>
<td>Mon</td>
<td>Tue, Wed, Thu</td>
</tr>
<tr>
<td>2, 4</td>
<td>6, 8, 10</td>
</tr>
</tbody>
</table>

### Creating a Series of Numbers

You can enter a series of numbers that increment by 1 or that increment by values that you specify.

To fill a range of cells with a series of numbers, follow these steps:

1. Enter the starting number in the first cell of the range. If you want to increment the numbers by a value you specify, enter the first two values in adjacent cells.

   Excel uses these two values to determine the amount to increment in each step.

2. Select the range containing the numbers.

3. Drag the fill handle over the range of adjacent cells you want to fill.

4. Release the mouse button. Excel fills the range of selected cells with the appropriate numeric entries (see fig. 12.11).
To increment by a value other than 1, enter desired values in the first two cells of the range.

Creating a Series of Dates

You can fill a range of cells with a series of consecutive dates that increment by a specific value.

To fill a range of cells with dates, follow these steps:

1. Enter the starting date in the first cell in the range. If you want to increment the date by a specific value, enter the appropriate date in the next cell in the range.

2. Select the range containing the dates.

3. Drag the AutoFill handle over the range of adjacent cells you want to fill.

4. Release the mouse button. Excel fills the range of selected cells with the appropriate dates (see fig. 12.12).
Fig. 12.12
The AutoFill handle created this series of dates in increments of one week.

Entering a Series with the Edit Fill Series Command
The Series command enables you to fill a range of cells with greater precision than with the AutoFill handle. For example, with the Series command, you can specify a stop value as well as a start value.

To fill a range of cells with the Series command, follow these steps:

1. Enter the starting number or date in the first cell of the range you want to fill.

2. Select the range of cells you want to fill.

3. Open the Edit menu, choose Fill, and then choose Series. The Series dialog box appears (see fig. 12.13).

4. Specify the Type of series you want to create.

5. If you are creating a series of dates, specify the Date Unit.
6. Enter the Step Value. This value represents the amount by which the series changes from cell to cell.

7. Enter the Stop Value. This value represents the last value in the series. (If the number of stops is more than or less than the range of cells selected, it stops short or stops early.)

8. Click OK.

### Troubleshooting

AutoFill filled the entire range with the same label entered in the first cell of the range.

When Excel cannot recognize the correct pattern for entering labels, AutoFill copies the starting label to the entire range. Make certain that the starting label is one that AutoFill can recognize. For example, Qtr 1 or January.

I tried to use AutoFill to extend a series, but numbers were not incremented by the difference of the first two numbers of my series.

If the increment in the AutoFill range was 1, you probably did not select the first two cells before using AutoFill. Be sure to select the two cells because that is what Excel uses to determine the increment or it defaults to 1. If the increment was not the difference between your first two cells or 1, you probably selected more than two cells and Excel averaged the difference to determine the increment. Again, be sure to just select two cells.

### Repeating and Undoing a Command

Excel has a built-in safety net that enables you to reverse many commands or actions. The Undo command reverses the last command you selected or the last action you performed. To undo a command or action, open the Edit menu and choose Undo, click the Undo button on the toolbar, or press Alt+Z.

#### Note

Excel retains only the last action or command. You must choose the Undo command immediately after the command or action.

Undo is not available for all commands. If you choose Delete Sheet from the Edit menu and delete a worksheet from a workbook, for example, the Edit menu shows Can’t Undo as a dimmed command. Although Undo can reverse many actions, you still must use certain commands with caution.
To reverse the Undo command, choose Redo from the Edit menu, click the Undo button on the toolbar again, or press \textasciitilde Z again.

Excel also enables you to repeat the last command or action you performed. To repeat a command or action, choose Repeat from the Edit menu, click the Repeat button on the toolbar, or press \textasciitilde Y.

**Saving Workbooks**

When you create a new workbook, Excel assigns to it a temporary name. You must save the file to disk to make the workbook permanent. To save a file in Excel, choose Save from the File menu, click the Save button on the toolbar, or press \textasciitilde S. Enter a name for the file and specify the location to which the workbook should be saved.

In addition to saving new workbooks, you can also save files to other file formats, such as older versions of Excel and several Lotus 1-2-3 formats. Excel also enables you to save workbook settings in a workspace file.

**Saving Files to Other File Formats**

In the Save dialog box, you can use the Save File as Type drop-down list to save an Excel file in another file format. To save an Excel file for use in Lotus 1-2-3, for example, drop down the Save File as Type list, and then select the 1-2-3 Lotus file format you want (see fig. 12.14).

---

Fig. 12.14

You can save an Excel file in a 1-2-3 file format.
If you use a worksheet feature that is not supported by earlier versions of Excel or other spreadsheets, the value result of that feature is calculated and saved with the worksheet.

**Saving a Workspace File**

If you work with the same set of workbooks on a daily basis, Excel enables you to save information about what workbooks are open and how they are arranged on-screen. The next time you want to work with these workbooks, you only need to open the workspace file, and all the workbooks are opened and arranged as they were when you saved the file.

The Save Workspace command in the File menu creates a workspace file that contains the name and location of each workbook in the workspace and the position of each workbook when the workspace was saved.

To create a workspace file, follow these steps:

1. Open and arrange the workbooks as you want them to be saved in the workspace.
2. Open the File menu and choose the Save Workspace command. The Save Workspace dialog box appears (see fig. 12.15).
3. Type a name for the file in the Save As box.
4. Click Save.

![Save Workspace dialog box](Image)

**Fig. 12.15** Type a name for the workspace file in the Save Workspace dialog box.

**Note**

When you create a workspace file, do not move any of the workbook files to a new location. If you do, Excel will not be able to locate the files when you open the workspace file.
You can open a workspace file just as you do any other Excel file. After you have opened the file, you can save and close the individual workbooks in the workspace as you normally do. When you make changes to a workbook in the workspace, you must save the file using the Save command. The Save Workspace command saves only information on which workbooks are open and how they are arranged on-screen.

From Here...

In this chapter, you learned the basic skills for creating and working with Excel worksheets. For more information about working with worksheets and data, see the following chapters:

- Chapter 13, "Editing Worksheets," shows you how to edit worksheet data.
- Chapter 14, "Formatting Worksheets," presents the formatting features of Excel that enable you to improve the appearance of data in the worksheet.
- Chapter 15, "Using Formulas and Functions," teaches you how to create formulas and use Excel's built-in functions to calculate values.
- Chapter 16, "Creating and Printing Reports and Charts," shows you how to print Excel worksheets and how to present worksheet data in graphs.
- Chapter 17, "Managing and Analyzing Data," explains how to manage lists of information and how to analyze worksheet data.
- Chapter 18, "Automating with Excel Macros," shows you how to create macros to automate Excel features.
Chapter 13
Editing Worksheets

by Todd Knowlton

After creating a worksheet, you will spend the majority of your time editing the work you have done. You may need to move data from one area of the worksheet to another, or you may want to copy a range of data. This chapter presents the basics for editing a worksheet in Excel.

In this chapter, you learn to

- Edit the contents of a cell
- Clear the contents of a cell
- Copy, cut, and paste worksheet data
- Insert and delete columns, rows, and worksheets
- Find and replace worksheet data
- Spell-check your worksheet

Editing Worksheet Data

After you enter data in a cell, you can edit the contents of the cell. You can edit the contents using the formula bar, or you can use Excel’s in-cell editing feature to edit the contents directly in the cell.

**Note**

To use the in-cell editing feature, you must make sure the feature has been enabled. To double-check, open the Tools menu, choose the Options command, and choose the Edit tab. The Edit Directly in Cell option should be selected. If it isn’t, click the check box to the left of the option. Click OK when you finish.
Editorion an Existing Cell Entry

To edit the contents of a cell in the formula bar, first select the cell you want to edit, and then click the formula bar. The contents of the cell appear in the formula bar with a blinking insertion point.

To edit the contents of a cell directly in the cell, double-click the cell, or select the cell you want to edit and press $\text{Alt}+\text{U}$.

To edit the entry, use the left and right arrow keys to reposition the insertion point in the formula bar, or move the mouse and use the on-screen I-beam to reposition the insertion point in the formula bar or in the cell. The insertion point appears where the I-beam is positioned when you click the mouse. Press delete to delete characters to the left of the insertion point. If your keyboard has the forward delete key (del), shown in figure 13.1, you can use it to delete characters to the right of the insertion point.

When editing a cell, you can reposition the insertion point by using the mouse or the keyboard. Table 13.1 lists the editing keys on the keyboard. You must press $\text{Alt}+\text{u}$ before using the editing keys.

<table>
<thead>
<tr>
<th>Key</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\leftarrow$</td>
<td>Moves one character to the left.</td>
</tr>
<tr>
<td>$\rightarrow$</td>
<td>Moves one character to the right.</td>
</tr>
<tr>
<td>$\text{Alt}+\rightarrow$</td>
<td>Moves to the next word.</td>
</tr>
<tr>
<td>$\text{Alt}+\leftarrow$</td>
<td>Moves to the preceding word.</td>
</tr>
<tr>
<td>end</td>
<td>Moves to the end of the cell entry.</td>
</tr>
</tbody>
</table>
### Key | Action
---|---
home | Moves to the beginning of the cell entry.
del | Deletes next character to the right.
delete | Deletes next character to the left.

#### Deleting Worksheet Data
In addition to editing the contents of a cell, you can delete the data in a cell. To replace an existing cell entry, select the cell and type the new entry. When you do, the new entry replaces the current contents of the cell. If you want to delete the contents of a cell or range altogether, the easiest way to do it is to select the cell or range of cells and then press the del key. When you do, Excel clears the contents of the cell or range.

#### Clearing Cell Contents
When you use the delete key to clear a cell, Excel clears the contents of the cell, but the formatting is unchanged. The Clear commands, on the other hand, enable you to clear the format and notes from the cell.

To clear the contents of a cell or range, select the cell or range and then choose a command from the Clear submenu on the Edit menu, shown in figure 13.2.

![Fig. 13.2](image)
The Clear commands give you control over what is cleared from cells.
Choose All to clear everything from the cell, including cell formatting and cell notes. Choose Formats to clear only cell formatting from the cell. To clear the contents of a cell, but leave formatting and cell notes intact, choose Contents. To remove only cell notes from a selected range of cells, choose Notes.

<table>
<thead>
<tr>
<th>Caution</th>
</tr>
</thead>
<tbody>
<tr>
<td>A common error many new users make when clearing cells is selecting the cell and then pressing the space bar. Although the cell may appear to be blank, Excel actually is storing the space in the cell. Spaces can cause problems in worksheet calculations. Don't press the space bar to clear a cell. Instead, use the methods outlined in this section.</td>
</tr>
</tbody>
</table>

## Copying Worksheet Data

Excel provides several options for copying worksheet data. You can copy data by using the drag-and-drop method, copy data to the Clipboard, or copy data to adjacent cells by using the AutoFill feature.

### Copying Data with Drag-and-Drop
The quickest way to copy worksheet data is to use the drag-and-drop method. As its name implies, you simply drag the data you want to copy to another area of the worksheet.

To copy data with drag-and-drop, follow these steps:

1. Select the range of cells you want to copy.
2. Position the mouse pointer on the border of the selected data.
3. Hold down the option key, and drag the selection to the new location. When you press the option key, the mouse pointer appears as an arrow with a plus sign (+) next to it.

   As you move the mouse pointer, Excel displays an outline indicating the size and location of the copied data (see fig. 13.3).
4. Release the mouse button to drop the copied data in its new location.
**Copying Data with Copy and Paste**

When you need to make multiple copies of worksheet data, the easiest way is to use the Copy and Paste commands. When you use the Copy command, a copy of the selected data is stored on the Clipboard. You then can paste as many copies in the worksheet as you need.

To copy data using Copy and Paste, follow these steps:

1. Select the range of data you want to copy.

2. Open the Edit menu and choose the Copy command, or press $\text{Ctrl}+\text{C}$. You also can choose the Copy command by clicking the Copy button on the toolbar.

   A marquee surrounds the selection you copied, and the status bar at the bottom of the screen prompts you to select the location to copy the data to (see fig. 13.4).

3. Select the cell in which you want to paste a copy of the data.

4. Open the Edit menu and choose the Paste command, press $\text{Ctrl}+\text{V}$, or click the Paste button on the toolbar. If you want to paste a single copy of the selection, press enter on the numeric keypad.

---

**Fig. 13.3**

An outline indicates the location where the copied data will be placed.

---

See “Copying and Moving,” p. 43
Fig. 13.4
A marquee surrounds the copied data.

Note
As long as the marquee surrounds the copied data, you can continue to use the Paste command to paste copies of the data in the worksheet. If you press enter to paste a copy of the data in the worksheet, Excel clears the copied data from the Clipboard.

Copying Data with AutoFill
The AutoFill command lets you copy cell contents to adjacent cells quickly. As a bonus, if the entry consists of a date, day of the week, or alphanumeric item such as Product 1, Excel automatically extends the series in the selected cells (see fig. 13.5).

To use the AutoFill command to copy data, follow these steps:

1. Select the cell that contains the data you want to copy.
2. Position the mouse pointer on the fill handle that appears in the lower right corner of the cell.
3. Drag the fill handle over the adjacent cells in which the copied data will appear, and release the mouse button.
Copying and Applying Formats

Another option for copying data in your worksheet is to copy cell formatting from one range to another. This feature is handy if you want to apply formatting to a range of cells but don’t want to create a style.

To copy formatting from one range to another, follow these steps:

1. Select the range of cells that contains the formatting you want to copy.

2. Click the Format Painter button on the toolbar, or double-click the button if you want to apply the formatting to more than one range. Figure 13.6 shows the result of using the Format Painter.

3. Select the cell or range of cells where you want to apply the formatting. When you release the mouse button, Excel applies the formatting.

4. Continue selecting each additional range of cells. If you double-clicked the Format Painter button, click the button again to turn off the feature.
Fig. 13.6
With the Format Painter button you can copy formatting from one range of cells to another.

Troubleshooting

I tried to copy data, using drag-and-drop, but it wasn't working. Excel would just select the range of cells rather than copy the data.

The cell drag-and-drop feature is probably turned off. To check, open the Tools menu and choose the Options command, and then click the Edit tab. Make sure that the Allow Cell Drag and Drop check box is selected (if it is, an X appears in the check box). Click OK.

If the drag-and-drop feature is enabled, remember that you must drag from the outer edge of the selected range.

I used the Copy and Paste commands to copy a range of data in my worksheet. I pressed enter to paste the data in the new location, and it worked without a hitch. But when I tried to use the Paste command to paste another copy, the Paste command was unavailable.

When you use the Copy command to move a range of data, Excel does indeed copy the data to the Clipboard. But when you press enter to paste the data, Excel clears the contents of the Clipboard. Notice also that the marquee surrounding the data disappears.
If you want to paste multiple copies of the data in the worksheet, don't press the enter key to paste the data. Instead, continue to choose the Paste command to paste the copies in the worksheet. You can use the enter key to Paste the final copy.

I tried to copy a range of data by using AutoFill, but I just moved the selected cell when I dragged it.

You probably dragged the edge of the cell rather than the AutoFill handle. The AutoFill handle is located on the lower right corner of the cell, and the mouse pointer changes to a solid plus sign (+) when placed on the AutoFill handle.

Moving Worksheet Data

As with copying, you can move worksheet data from one area of the worksheet to another. You can use the drag-and-drop method to move a range of data quickly, or you can use the Cut and Paste commands to cut a range of data and paste it in another location.

Moving Data with Drag-and-Drop

Unlike copying data, which enables you to copy a range of data while keeping the source data intact, when you use the drag-and-drop method to move data, you are physically moving the range of data from one area to another.

To move a range of data with drag-and-drop, follow these steps:

1. Select the range that contains the data you want to move.
2. Position the mouse pointer on the border of the selected data.
3. Click and drag the selection to the new location. As you move the mouse, a border appears in the worksheet, indicating the location in which the data will appear.
4. Release the mouse button to drop the selected data in the new location.

Note

Excel does not allow you to accidentally overwrite existing data when you use drag-and-drop. An error message appears, warning you that you are about to overwrite existing data. Choose Cancel and indicate a new position, or click OK if you want to overwrite cells.
Moving Data with Cut and Paste

When you use the Cut (Ctrl+X) command to move worksheet data, a copy of the data is stored on the Windows Clipboard. You then can paste the data in another area of the worksheet.

To move data using the Cut command, follow these steps:

1. Select the range of data you want to move.

2. Open the Edit menu and choose the Cut command, press Ctrl+X, or click the Cut button on the toolbar.

   A marquee surrounds the selection you cut, and the status bar at the bottom of the screen prompts you to select the location where you want to paste the data.

3. Select the cell in which you want the data to appear, and then choose the Paste command from the Edit menu, press Ctrl+V, or click the Paste button. You also can press enter.

---

**Note**

When using the Paste command to paste data from the Clipboard, indicate a single cell, rather than a range of cells, in which to paste the data. If you select a range of cells, the range you select must be the same size as the range you placed on the Clipboard.

---

**Troubleshooting**

I tried to move a range of data by using drag-and-drop, but the data I was trying to move was instead copied to the range of cells I wanted it to move to.

You probably dragged the AutoFill handle rather than the edge of the cell. The AutoFill handle is located on the lower right corner of the cell and is used to quickly fill a range of cells with the data. When the mouse is positioned on the AutoFill handle, the mouse pointer changes to a solid plus sign (+) instead of an arrow.

To move the data, position the mouse pointer on an edge of the cell, and then drag the mouse to move the data.
Inserting and Deleting Columns, Rows, and Cells

Another area of editing you can work with in Excel is inserting and deleting columns, rows, and cells. Sometimes, restructuring a worksheet entails more than moving data to another location. For example, if you add another sales region to your sales tracking worksheet, you can insert a new column to hold the data. Likewise, if you remove a product from your product line, you can delete the rows that contain the data.

Inserting Columns, Rows, and Cells

When you need to insert additional space in your worksheet, you can insert columns, rows, and cells in the middle of existing data. When you insert columns, rows, and cells, existing data shifts to accommodate the insertion.

To insert a column, follow these steps:

1. Select a cell in the column where the new column should appear.
2. Open the Insert menu and choose the Columns command. Excel inserts a new column, and existing columns shift to the right.

To insert a row, follow these steps:

1. Select a cell in the row below where the new row should appear.
2. Open the Insert menu and choose the Rows command. Excel inserts a new row, and existing rows move down.

To insert a cell or range, follow these steps:

1. Select the cell or range where the new cells should appear.
2. Open the Insert menu and choose the Cells command. The Insert dialog box appears (see fig. 13.7).
3. Select Shift Cells Right to insert the new cells to the left of the selection. Select Shift Cells Down to insert the new cells above the selection.

4. Click OK. The selected cells move in the direction you specified.

Deleting Columns, Rows, and Cells
You can delete columns, rows, and cells from your worksheet when they contain data that is no longer needed. When you delete columns, rows, and cells, existing data moves to close the space.

To delete a column, follow these steps:

1. Click the letter of the column you want to delete. To delete multiple columns, highlight each additional column.

2. Open the Edit menu and choose the Delete command. The selected column is removed from the worksheet, and existing columns move to the left.

To delete a row, follow these steps:

1. Click the number of the row you want to delete. To delete multiple rows, highlight each additional row.

2. Open the Edit menu and choose the Delete command. The selected row is removed from the worksheet, and existing rows move up.

Caution
Use care when using commands that insert or delete cells. When you use these commands, the entire worksheet is affected by your action. If a formula refers to a cell that is deleted, for example, the cell containing the formula returns the #REF! error value. If this occurs, choose the Undo command from the Edit menu immediately after making a deletion.

To delete a cell or range of cells, follow these steps:

1. Select the range of cells you want to delete.
2. Open the Edit menu and choose the Delete command. The Delete dialog box appears (see fig. 13.8).

3. Select Shift Cells Left, and the existing data will move to the left. Choose Shift Cells Up, and the existing data will move up.

4. Click OK after you make your selection.

Inserting and Deleting Sheets

Excel 5.0 provides true 3-D functionality, which enables you to create workbooks that contain multiple sheets of data. Each new workbook you create contains 16 worksheets; but you can insert worksheets up to a maximum of 255 worksheets. You can also delete worksheets you no longer need.

Inserting Sheets

When you insert a worksheet, Excel inserts the sheet before the current worksheet. To insert a worksheet, select the sheet to the right of where the new worksheet should appear, and choose the Worksheet command from the Insert menu. Excel inserts a sheet and assigns a name to the sheet.

Deleting Sheets

To delete a sheet, move to the sheet you want to delete, and then choose the Delete Sheet command from the Edit menu. You will be warned that the sheet is about to be deleted. Click OK to delete the sheet or Cancel to keep the sheet in the workbook.

Moving Sheets

In addition to inserting and deleting sheets, you can rearrange worksheets in the workbook by moving them to a new location.

Excel employs the drag-and-drop method for moving sheets. To move a sheet, point to the tab of the sheet you want to move. Hold down the mouse button, and drag the sheet to the new position in the workbook. While dragging, the mouse pointer appears as a piece of dog-eared paper with an arrow.
on it. When you release the mouse button, the sheet is dropped in its new location.

**Naming Sheets**
Initially, Excel names each worksheet in the workbook Sheet1, Sheet2, and so on, right on up to Sheet255. You can, however, easily rename a sheet to reflect the data it contains. In a Monthly Sales worksheet, for example, you can use a separate sheet for each sales region. You then could name each sheet North, South, East, and West. Thereafter, anyone else who uses the worksheet will be able to tell what the worksheet contains just by looking at the name.

To rename a worksheet, double-click the sheet tab of the worksheet you want to rename. The Rename Sheet dialog box appears (see fig. 13.9).

![Rename Sheet dialog box](image)

Fig. 13.9
Type a name for the worksheet in the Rename Sheet dialog box.

Enter a name for the worksheet in the text box, and click OK. Excel displays the name on the selected sheet’s tab.

**Finding and Replacing Worksheet Data**
Excel provides the capability to find and (optionally) replace specific data in your worksheet. You can, for example, search for all occurrences of the value 1994 and replace it with 1995.

**Finding Worksheet Data**
You can search the entire worksheet, or you can search only a selected range. To search the entire worksheet, select a single cell. To search a specified range, select the range that you want to search.

1. Open the Edit menu and choose the Find command, or press $F_1+F$.
   The Find dialog box appears (see fig. 13.10).
2. In the Find What box, type the data you want to find. Then specify the search options, described in table 13.2 (which follows these steps).
3. Choose Find Next to begin the search. When Excel locates the characters, choose Find Next to find the next occurrence, or choose Replace to access the Replace dialog box (this option is discussed in the next section).

4. Choose Close to end the search and close the dialog box.

![Find dialog box](image)

**Note**

If you’re not sure of the specific string you are looking for, you can specify wild-card characters in the search string to locate data that contains some or all of the characters. You can use an asterisk (*) to search for any group of characters and a question mark (?) to search for any single character.

**Table 13.2 Find Options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search</td>
<td>Specifies whether to search across rows or down columns.</td>
</tr>
<tr>
<td>Look In</td>
<td>Selects the location of the data: cell formulas, cell values, or cell notes.</td>
</tr>
<tr>
<td>Match Case</td>
<td>Finds only characters that match the case of the characters you specified.</td>
</tr>
<tr>
<td>Find Entire Cells Only</td>
<td>Searches for an exact match of the characters you specified. It does not find partial occurrences.</td>
</tr>
<tr>
<td>Find Next</td>
<td>Finds the next occurrence of the search string.</td>
</tr>
<tr>
<td>Close</td>
<td>Ends the search and returns to the worksheet.</td>
</tr>
<tr>
<td>Replace</td>
<td>Opens the Replace dialog box (discussed in the next section).</td>
</tr>
</tbody>
</table>

**Tip**

If the Find dialog box is obstructing your view of the worksheet, click and drag the title bar of the dialog box until you can see the active cell in the worksheet.

**Fig. 13.10**

The Find command enables you to locate specific data in your worksheets.
Replacing Worksheet Data

The Replace command (⌘+H) is similar to the Find command in that it enables you to locate specific characters in your worksheet. The Replace command then lets you replace the characters with new data.

To replace worksheet data, follow these steps:

1. To search the entire workbook, select a single cell. To search a specified range, select the range you want to search.

2. Open the Edit menu and choose the Replace command; or press ⌘+H. The Replace dialog box appears (see fig. 13.11).

3. In the Find What box, type the data you want to replace. In the Replace With box, type the data with which you want to replace the current data.

4. Specify the replace options, as described in table 13.3 (which follows these steps).

Tip
If you make a mistake when replacing data, close the dialog box, and choose the Undo command from the Edit menu (⌘+Z) immediately to reverse the replacement.

Caution
Make sure that Find Entire Cells Only is activated if you are replacing values or formulas. If it isn’t selected, Excel will replace characters even if they are inside other strings. For example, replacing 20 with 30 will also make 2000 become 3000.

5. Choose Find Next to begin the search. When Excel locates the first occurrence of the characters, choose the appropriate replace option (see table 13.3).

6. Click Close to close the dialog box.

Fig. 13.11
You can use the Replace command to replace formulas, text, or values.
Table 13.3 Replace Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search</td>
<td>Specifies whether to search across rows or down columns.</td>
</tr>
<tr>
<td>Match Case</td>
<td>Finds only characters that match the case of the characters you specified.</td>
</tr>
<tr>
<td>Find Entire Cells Only</td>
<td>Searches for an exact match of the characters you specified. It does not find partial occurrences.</td>
</tr>
<tr>
<td>Find Next</td>
<td>Finds the next occurrence.</td>
</tr>
<tr>
<td>Replace</td>
<td>Replaces the characters in the active cell with those specified in the Replace With text box.</td>
</tr>
<tr>
<td>Replace All</td>
<td>Replaces all occurrences of the characters with those specified in the Replace With text box.</td>
</tr>
<tr>
<td>Close</td>
<td>Closes the Replace dialog box.</td>
</tr>
</tbody>
</table>

Caution

When replacing data in your worksheet, use Replace All with care, because the results may not be what you expect. Whenever you use the Replace command, it's a good idea to first locate the data you want to replace to make sure you really want to replace it.

Spell Checking the Worksheet

Excel's Spelling command enables you to check worksheets, macro sheets, and charts for misspellings and to correct the errors quickly. The spelling checker offers a standard dictionary and also enables you to create an alternate customized dictionary to store frequently used words not found in the standard dictionary. When you run the spelling checker, Excel then looks in the standard dictionary and the custom dictionary for the correct spelling.

In addition to finding spelling errors, Excel finds repeating words and words that might not be properly capitalized. You can check spelling in an entire worksheet, or a selected range. You can check more than one sheet by selecting the sheets you want to check.
To check the spelling of data in your worksheet, follow these steps:

1. Specify the worksheet range you want to check. To check an entire worksheet, select cell A1 of that sheet. Excel starts checking from the active cell and moves forward to the end of the workbook. To check a specific range, select the range you want to check. To select multiple sheets, hold down the command key while clicking the sheet tabs of the sheets you want to select.

2. Open the Tools menu and choose the Spelling command, or click the Spelling button on the toolbar. When Excel finds a spelling error, the Spelling dialog box appears (see fig. 13.12).

![Fig. 13.12]
The Spelling dialog box appears when Excel finds a spelling error in the worksheet.

Table 13.4 lists the options that are available to correct a spelling error.

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change To</td>
<td>Types a replacement for the word.</td>
</tr>
<tr>
<td>Suggestions</td>
<td>Selects a replacement word from a list of suggested words.</td>
</tr>
<tr>
<td>Add Words To</td>
<td>Selects the dictionary to which you want to add words that are spelled correctly but not found in the standard dictionary.</td>
</tr>
<tr>
<td>Ignore</td>
<td>Ignores the word and continue the spell check.</td>
</tr>
<tr>
<td>Ignore All</td>
<td>Ignores all occurrences of the word.</td>
</tr>
<tr>
<td>Change</td>
<td>Changes the selected word to the word displayed in the Change To box.</td>
</tr>
<tr>
<td>Change All</td>
<td>Changes all occurrences of the word to the word displayed in the Change To box.</td>
</tr>
<tr>
<td>Option</td>
<td>Action</td>
</tr>
<tr>
<td>--------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Add</td>
<td>Adds the selected word to the custom dictionary.</td>
</tr>
<tr>
<td>Suggest</td>
<td>Displays a list of proposed suggestions.</td>
</tr>
<tr>
<td>Always Suggest</td>
<td>If selected, Excel automatically displays a list of proposed suggestions whenever a word is not found in the dictionary.</td>
</tr>
<tr>
<td>Ignore UPPERCASE</td>
<td>If selected, the spelling checker skips words that are all uppercase.</td>
</tr>
<tr>
<td>Undo Last</td>
<td>To undo the last spelling change.</td>
</tr>
<tr>
<td>Cancel/Close</td>
<td>Closes the dialog box (the Cancel button changes to Close when you change a word or add a word to the dictionary).</td>
</tr>
</tbody>
</table>

**From Here...**

For additional information on editing worksheets, you may want to review the following chapters:

- Chapter 14, "Formatting Worksheets," shows you how to format worksheets.
- Chapter 15, "Using Formulas and Functions," discusses copying and moving Excel formulas.
After you create a worksheet, the next step is to change the appearance of data in your worksheet to make it more visually appealing. Excel provides many features and functions that enable you to produce high-quality worksheets. You can include such formatting options as applying different fonts, and you can add graphics, colors, and patterns to worksheet elements.

In this chapter, you learn to

- Format numbers
- Change column widths and row heights
- Align text
- Change fonts, sizes, and styles
- Apply patterns and borders
- Create and apply a style
- Create and work with graphic objects

### Formatting Numbers

When you enter numbers in the worksheet, don’t be concerned with the way they look. You can change the appearance of numbers by applying a numeric format.

Excel provides many common numeric formats; you can create your own as well. For example, you can apply a predefined currency format that uses two decimal places or create a currency format that uses an international currency symbol.
To apply a numeric format, follow these steps:

1. Select the cells containing the numbers you want to format.

2. Open the Format menu and choose the Cells command; or press $+$ +1. The Format Cells dialog box appears (see fig. 14.1). If necessary, select the Number tab in the Format Cells dialog box.

3. Choose the type of number format you want to apply from the Category list. A listing of numeric formats for the corresponding Category is displayed in the Format Codes list box. Some common symbols used in these formats are listed in table 14.1 (following these steps).

4. Choose the number format you want to use from the Format Codes list. A sample of the selected format appears in the Sample area of the dialog box.

5. Click OK. Excel applies the selected number format to the selected cells in your worksheet.

### Table 14.1 Numeric Formatting Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#</td>
<td>Place holder for digits.</td>
</tr>
<tr>
<td>0</td>
<td>Place holder for digits. Same as #, except that zeros on either side of the decimal point force the numbers to match the selected format.</td>
</tr>
<tr>
<td>$</td>
<td>Currency symbol is displayed with the number.</td>
</tr>
<tr>
<td>,</td>
<td>Place holder for thousands separator.</td>
</tr>
</tbody>
</table>
### Formatting Numbers

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>.</td>
<td>Place holder for decimal point.</td>
</tr>
<tr>
<td>%</td>
<td>Multiplies number by 100 and displays number with a percent sign.</td>
</tr>
</tbody>
</table>

### Applying Number Formats Using the Toolbar
You can quickly apply commonly used number formats—such as Currency, Comma, and Percentage—by using the Formatting toolbar (see fig. 14.2).

![Fig. 14.2](image)

The Formatting toolbar contains five buttons that enable you to apply common number formats quickly.

The Formatting toolbar is displayed by default. If the Formatting toolbar is not visible, choose the Toolbars command from the View menu, select Formatting from the list of toolbars, and click OK.

To apply a number format using the Formatting toolbar, select the cells containing the numbers you want to format and then click the appropriate button in the toolbar.

### Formatting Numbers Using the Style Menu
You also can format numbers by using styles. To apply one of the predefined number formats listed as a style, select the cells containing the numbers you want to format and then choose the Style command from the Format menu. The Style dialog box appears (see fig. 14.3). Select the desired style in the Style Name drop-down list, and then click OK.

Table 14.2 describes the formatting choices.
Fig. 14.3
Format numbers using the pre-defined styles in the Style dialog box.

Table 14.2  Number Formats in the Style Name Pop-up List in the Style Dialog Box

<table>
<thead>
<tr>
<th>Format</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comma</td>
<td>Adds two decimal places to the number, and adds commas to numbers that contain four or more digits. A number entered as 1000 is formatted as 1,000.00.</td>
</tr>
<tr>
<td>Comma (0)</td>
<td>Rounds decimals and adds commas to numbers that contain four or more digits. A number entered as 1000.55 is formatted as 1,001.</td>
</tr>
<tr>
<td>Currency</td>
<td>Adds a dollar sign and two decimal places to the number. Also adds a comma to numbers that contain four or more digits. A number entered as 1000 is formatted as $1,000.00.</td>
</tr>
<tr>
<td>Currency (0)</td>
<td>Adds a dollar sign to the number and rounds decimals. Also adds a comma to numbers that contain four or more digits. A number entered as 1000.55 is formatted as $1,001.</td>
</tr>
<tr>
<td>Normal</td>
<td>Applies the style that defines normal or default character formatting. A number entered as 1000 is formatted as 1000.</td>
</tr>
<tr>
<td>Percent</td>
<td>Multiplies the number by 100 and adds a percentage symbol to the number. A number entered as .15 is formatted as 15 percent.</td>
</tr>
</tbody>
</table>

You also can use the following shortcut keys to format numbers:

<table>
<thead>
<tr>
<th>Key</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control+shift+-</td>
<td>General format</td>
</tr>
<tr>
<td>Control+shift+!</td>
<td>Comma format with two decimal places</td>
</tr>
</tbody>
</table>

See “Customizing Application Toolbars,” p. 735
Key | Format
--- | ---
Control+shift+$ | Currency format with two decimal places
Control+shift+% | Percent format
Control+shift+^ | Scientific notation format

**Creating a Custom Number Format**

Although Excel provides most of the common number formats, at times you may need a specific number format that the program doesn’t provide. For example, you may want to create additional numeric formats that use various international currency symbols. Excel enables you to create custom number formats. In most cases, you can base your custom format on one of Excel’s predefined formats.

To create a custom number format, follow these steps:

1. Open the Format menu and choose the Cells command; or press \[Ctrl+1\]. If necessary, select the Number tab in the Format Cells dialog box.

2. Select the category from the Category list that contains the format you want to modify. Then select the predefined format in the Format Codes list. The formatting symbols appear in the Code text box, and a sample appears below the text box (see fig. 14.4).

3. Select the Code text box, and edit the selected format.

4. Click OK. The dialog box closes. Choose Cells from the Format menu again. The custom format appears at the end of the Format Codes list.

**Fig. 14.4**
You can enter a custom format in the Code text box.
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Note

You can select and delete custom formats from the list; however, you cannot delete any of Excel's predefined number formats.

Changing Date and Time Formats

Excel recognizes most dates and times entered in a worksheet cell. If you enter 1-1-95 in a cell, for example, Excel assumes you are entering a date and displays the number in a date format. (The default date format is 1/1/95.) If you enter 9:45, Excel assumes you are referring to a time and displays the entry in a time format. You can change to another date or time format.

To apply a date or time format, follow these steps:

1. Select the cell or range containing the data you want to format.
2. Open the Format menu and choose the Cells command, or press `+1.
3. Select Date from the Category list to display the list of date formats (see fig. 14.5). To apply a time format, select Time from the Category list.
4. Select the format you want to use from the Format Codes list box.
5. Click OK. Excel applies the format to the data.

You also can use the following shortcut keys to enter and format the current date and time:

- See “Entering Dates and Times,” p. 235

Fig. 14.5

A list of pre-defined date formats appears in the Date section of the Format Cells dialog box.
To create custom date and time formats, use the same procedure as custom number formats; the only difference is that you use date and time format codes. Table 14.3 lists these codes.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>m</td>
<td>Month as a number with no leading zero</td>
</tr>
<tr>
<td>mm</td>
<td>Month as a number with leading zero</td>
</tr>
<tr>
<td>mmm</td>
<td>Month as a three-letter abbreviation</td>
</tr>
<tr>
<td>mmmm</td>
<td>Month as a full name</td>
</tr>
<tr>
<td>d</td>
<td>Day of week with no leading zero</td>
</tr>
<tr>
<td>dd</td>
<td>Day of week with leading zero</td>
</tr>
<tr>
<td>ddd</td>
<td>Day of week as a three-letter abbreviation</td>
</tr>
<tr>
<td>dddd</td>
<td>Day of week as a full name</td>
</tr>
<tr>
<td>yy</td>
<td>Year as a two-digit number</td>
</tr>
<tr>
<td>yyyy</td>
<td>Year as a four-digit number</td>
</tr>
<tr>
<td>h</td>
<td>Hour with no leading zero</td>
</tr>
<tr>
<td>hh</td>
<td>Hour with leading zero</td>
</tr>
<tr>
<td>m</td>
<td>Minute with no leading zero</td>
</tr>
<tr>
<td>mm</td>
<td>Minute with leading zero</td>
</tr>
</tbody>
</table>
Troubleshooting

Excel fills a cell with ##### when I apply a numeric format to a number in my worksheet.

When a cell isn't wide enough to accommodate a formatted number, Excel displays the number as #####. To display the complete number in the cell, adjust the column width of the cell. When you widen the column sufficiently, Excel displays the fully formatted number in the cell. For more information on changing column widths, see the following section, “Changing Column Width and Row Height.”

I want to create a numeric format that uses an international currency symbol. How can I use an international symbol in a custom format?

To create a custom numeric format with an international currency symbol, choose the Cells command from the Format menu, and select the Number tab. In the Category list, select Currency; then select the format that closely resembles the format you want to use from the Format Codes list box. In the Code text box, highlight the currency symbol used by that format, and press delete to delete the symbol. You then can enter special characters to display the currency symbols. To use the pound symbol (£), press option+3. To use the yen symbol (¥), press option+Y. The appropriate currency symbols are inserted into the Code text box. Click OK to save the custom numeric format.

Changing Column Width and Row Height

When you enter data into a cell, the data often appears truncated because the column is not wide enough to display the entire entry. If a cell can't display an entire number or date, Excel fills the cell with pound signs or displays the value in scientific notation (for example, 4.51E+08). After you adjust the width of the cell, the entire number or date appears.

You can change the column width by using the mouse or menu commands. When you use the mouse to change the column width, drag the column border to reflect the approximate size of the column. When you use the Column Width command, you can specify an exact column width.

Using the Mouse to Change Column Width

To change the column width by using the mouse, follow these steps:

1. Position the mouse pointer on the right border of the heading of the column whose width you want to change. The mouse pointer changes
to a double-headed horizontal arrow when positioned properly. To change the width of multiple columns, select the columns you want to change and position the pointer on the right border of the heading of any of the selected columns.

2. Drag the arrow to the right or left to increase or decrease the column width, respectively. A dotted line indicates the column width (see fig. 14.6).

3. Release the mouse button when the column is the width you want.

**Using the Column Width Command to Change Column Width**

To change the column width by using the Column Width command, follow these steps:

1. Click the heading of the column whose width you want to change.
   
   To change the width of multiple columns, select the columns you want to change.
Chapter 14—Formatting Worksheets

2. Open the Format menu, choose Column, and then choose the Width command from the submenu. The Column Width dialog box appears (see fig. 14.7).

![Column Width dialog box]

3. Enter the column width in the Column Width text box.

4. Click OK. Excel adjusts the width of the selected columns.

**Adjusting Column Width Automatically**

In addition to changing column width manually, Excel enables you to adjust the column width to accommodate the widest cell entry in a column.

To adjust the column width to the widest entry, select the cell containing the widest entry, and then open the Format menu, choose Column, and then choose AutoFit Selection. Excel adjusts the width of the column.

**Adjusting the Row Height**

Excel automatically adjusts the row height based on the font you are using, but you can change the row height to accommodate additional white space or to minimize the row height in your worksheet. You can use both the mouse and Excel commands to change the row height.

To adjust the row height by using the mouse, follow these steps:

1. Position the mouse pointer on the bottom border of the heading of the row whose height you want to change. The mouse pointer changes to a double-headed vertical arrow when positioned properly. To change the height of multiple rows, select the rows you want to change and position the pointer on the bottom border of the heading of any of the selected columns.

2. Drag the arrow down or up to increase or decrease the row height, respectively. A dotted line indicates the row height (see fig. 14.8).

3. Release the mouse button when the row is the height you want.
To adjust the row height by using the Row Height command, follow these steps:

1. Click the heading of the row whose height you want to change. To change the height of multiple rows, select the rows you want to change.

2. Open the Format menu, choose Rows, and then choose the Height command from the submenu. The Row Height dialog box appears (see fig. 14.9).

3. Enter the row height in the Row Height text box.

4. Click OK. Excel adjusts the height of the selected rows.
Aligning Data

Excel provides several formatting options for changing the appearance of data in the worksheet. For example, you can change the alignment of text or numbers within a cell so that they appear left-aligned, right-aligned, or centered. You also can format lengthy text to wrap within a cell, center text across a range of columns, or align text vertically within a cell.

To align data, follow these steps:

1. Select the cell or range that contains the data you want to align.
2. Open the Format menu and choose the Cells command, or press F:J:+1. The Format Cells dialog box appears. Select the Alignment tab (see fig. 14.10).
3. Specify the horizontal and vertical alignment you want to use. See table 14.4 for descriptions of alignment options.
4. Click OK.
Table 14.4 Alignment Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Aligns text to the left edge of the cell and numbers to the right edge of the cell</td>
</tr>
<tr>
<td>Left</td>
<td>Aligns text and numbers to the left edge of the cell</td>
</tr>
<tr>
<td>Center</td>
<td>Centers text and numbers within a cell</td>
</tr>
<tr>
<td>Right</td>
<td>Aligns text and numbers to the right edge of the cell</td>
</tr>
<tr>
<td>Fill</td>
<td>Repeats the contents until the cell is full</td>
</tr>
<tr>
<td>Justify</td>
<td>When text is wrapped within a cell, aligns text evenly between the cell borders</td>
</tr>
<tr>
<td>Center across selection</td>
<td>Centers text and numbers across a selected area</td>
</tr>
<tr>
<td>Top</td>
<td>Aligns text vertically against the top of the cell</td>
</tr>
<tr>
<td>Bottom</td>
<td>Aligns text vertically against the bottom of the cell</td>
</tr>
</tbody>
</table>

Left, center, and right alignment can be chosen from the Formatting toolbar (see fig. 14.11).

Fig. 14.11
Use the Formatting toolbar to quickly set alignment.

Wrapping Text within a Cell
You can align text entries to wrap within a single cell or a range of cells. To wrap text within a cell or range, select the cell or range of cells containing the entry, and then choose Cells from the Format menu, or press Ctrl+1. In the Format Cells dialog box, select the Alignment tab. Then select Wrap Text and click OK. Excel wraps the text (see fig. 14.12).
Centering Text across Columns

To center text over multiple columns, enter the text to be centered in the leftmost cell of the range across which you want to center the text. Then select the range, including the cell with the text to be centered across the columns. The other cells defining the range of columns must be blank.

Click the Center Across Columns button from the Formatting toolbar.

You also can perform the task from the Format Cells dialog box. Select the Alignment tab in the Format Cells dialog box. Then select Center Across Selection and click OK.

Whether you use the toolbar or the Format Cells dialog box, Excel centers the text across the specified columns (see fig. 14.13).
Aligning Text Vertically or Horizontally
Excel enables you to align text either vertically or horizontally in a cell.

To format text vertically or horizontally, follow these steps:

1. Select the cell or range of cells containing the text you want to format.

2. Open the Format menu and choose the Cells command, or press \+. The Format Cells dialog box appears. Select the Alignment tab.

3. In the Orientation section, select the vertical or horizontal orientation. If you select a vertical orientation, you also must select a specific vertical alignment (Top, Center, or Bottom) in the Vertical box.

4. Click OK. Excel aligns the text (see fig. 14.14).

**Tip**
When aligning text vertically or horizontally, double-click the borders in the column and row headers to adjust the column width or row height quickly.
Troubleshooting

I used the Center Across Selection command to center a text entry across a range of columns, but the entry would not center.

Make sure the text you want to center across the columns is in the leftmost column of the range. It could also be that one of the cells in the selection contains a space character or some other entry. To remove these characters, select the range of cells (except for the cell containing the entry you want to center) and then press delete.

After I aligned text vertically in a cell, some of the characters did not display.

When a row height is set to the default row height, only a few characters of vertically rotated text appear. To display the entire contents, position the mouse pointer on the bottom border of the row and double-click, or click the row heading and open the Format menu, choose Rows, and then choose the AutoFit command from the submenu to adjust the height to best fit the row's contents.
Changing Fonts, Sizes, and Styles

Excel provides several formatting options for changing the appearance of text in your worksheets. You can, for example, choose a different font, change the size of the selected font, and apply a font style to cells in your worksheet.

Changing Fonts
The list of fonts available in the Font dialog box depends on the fonts you have installed.

To change a font, follow these steps:

1. Select the cell or range of cells that you want to change.
2. Open the Format menu and choose the Cells command; or press \( +1 \).
   In the Format Cells dialog box, select the Font tab.
3. In the Font list box, select the font you want to use; to change the text size, select a size in the Size list or type any size in the Size text box (see fig. 14.15).
4. Click OK.

![Fig. 14.15](image)
The Font section of the Format Cells dialog box displays the currently installed fonts.

Applying Text Formats
In addition to changing the font and size of data in your worksheets, you can apply text attributes to the data. For example, you can assign such attributes as bold, italic, and underline, and change the color of text.

To apply a formatting attribute, follow these steps:

1. Select the cell or range of cells you want to format.
2. Open the Format menu and choose the Cells command, or press \( +1 \).
   In the Format Cells dialog box, select the Font tab.
3. Select the style you want to apply in the Font Style list box. Use the Underline drop-down list to select an underline style. To change the color of the data, click the Color drop-down list and select a color. Select Strikethrough, Superscript, Subscript, Outline, or Shadow, if you want.

4. When you finish, click OK.

Bold, italic, and underline styles can be chosen without accessing the Format Cells dialog box by clicking buttons on the Formatting toolbar (see fig. 14.16).

**Note**
As you make changes in the dialog box, Excel applies the selections to the text in the Preview box. The changes aren’t made to the selected cells until you click OK.

**Fig. 14.16**
The Italic, Bold, and Underline styles are available on the Formatting toolbar.

**Formatting Characters in a Cell**
You can apply formatting to individual characters in a text entry. For example, you can assign the Bold format to a single character in a cell.

To format characters in a cell, follow these steps:

1. Double-click the cell containing the data you want to format, or select the cell and then press $\frac{1}{2}+U$.

2. In the cell or formula bar, select the characters you want to format.

3. Open the Format menu and choose the Cells command, or press $\frac{1}{2}+1$. In the Format Cells dialog box, select the Font tab.

4. Select the attributes you want, and then click OK.

**Tip**
When formatting characters in a cell, you also can use the formatting buttons in the Formatting toolbar to change the appearance of text.
Applying Patterns and Borders

In addition to formatting numbers or text, you can format cells. For example, you can add a border to a cell or range of cells and fill a cell with a color or pattern.

Applying a Border

Borders enhance a worksheet's appearance by providing visual separations between areas of the worksheet. Borders also improve the appearance of printed reports.

To apply a border, follow these steps:

1. Select the cell or range you want to format.
2. Open the Format menu and choose the Cells command, or press $+$1. In the Format Cells dialog box, select the Border tab (see fig. 14.17).

3. Choose the placement of the border by selecting Outline, Left, Right, Top, or Bottom in the Border box. The Outline option puts a border around the outer edges of the selection. The Left, Right, Top, and Bottom options place a border along the specified edges of each cell in the selection.

4. In the Style area, select the type of border you want. To change the color of the border, select the color from the Color drop-down list.

5. When you finish, click OK.

Applying Patterns

You can enhance a cell with patterns and colors. The Format Cells dialog box enables you to choose foreground and background colors as well as a pattern.
To format a cell with colors and patterns, follow these steps:

1. Select the cell or range you want to format.

2. Open the Format menu and choose the Cells command, or press $E+1$.

3. Set the foreground color (text color) in the Font section of the dialog box.

4. In the Format Cells dialog box, select the Patterns tab (see fig. 14.18).

5. Select a background color for the cell in the Color section. The Sample box in the bottom right corner of the dialog box shows you what the color looks like.

6. Select a pattern in the Pattern drop-down list by clicking the down arrow. To specify a background color for the pattern, select a pattern color from the Pattern pull-down list. If the foreground and background colors are the same, the cell displays a solid color. The Sample box shows you what the formatting looks like.

7. Click OK.

**Using Automatic Range Formatting**

If you aren't sure which colors and formats work well together, Excel's AutoFormat feature can eliminate much of the guesswork. AutoFormat lets you make choices from a list of predefined formatting templates. These formats are a combination of number formats, cell alignments, column widths, row heights, fonts, borders, and other formatting options.

To use the AutoFormat feature, follow these steps:

1. Select the range you want to format.
2. Open the Format menu and choose the AutoFormat command. The AutoFormat dialog box appears (see fig. 14.19).

![AutoFormat Dialog Box](image)

3. Select one of the format types in the Table Format list box. Excel displays the selected format in the Sample box.

4. Click OK to apply the format.

**Note**

To copy the formats from a range of cells to another range in the worksheet, select the range of cells containing the formats and click the Format Painter button in the Standard toolbar. Then, using the mouse, highlight the range of cells to which you want to copy the formats. When you release the mouse button, Excel applies the formats to the selected range.

**Troubleshooting**

*After I changed the color of a cell, the entry was no longer displayed.*

When the background color of a cell is the same color used by the cell entry, you will not see the entry. To change the color of the cell entry, select the cell and choose the Cells command from the Format menu. Select the Font tab, select a color from the Color drop-down menu, and click OK.

*After I choose the AutoFormat command, Excel displays an error message, stating that it cannot detect a table around the active cell.*

You probably selected a single cell before choosing the AutoFormat command. You must select more than one cell for AutoFormat to work.
Creating and Applying a Style

When you find yourself applying the same worksheet formats over and over, you can save yourself some time by saving the formats in a style. Then, when you want to use the formats, you can apply all of them with a single command.

You can create a style based on cell formats that already appear in the worksheet, or you can create a new style by using the options in the Style dialog box.

Creating a Style by Example

You can define a style based on existing formats in your worksheet. When you create a style by example, Excel uses the formats of the selected cell to create the style.

To create a style by example, follow these steps:

1. Select the cell that contains the formats you want to name as a style.
2. Open the Format menu and choose the Style command. The Style dialog box appears (see fig. 14.20).
3. Type a name for your new style in the Style Name box, and then choose Add. The style appears in the Style Name drop-down list.
4. Click OK.

Defining a Style

To create a new style, follow these steps:

1. Open the Format menu and choose the Style command to display the Style dialog box.
2. Type a name for the style in the Style Name text box. (Normal is the default style.) The current format appears in the Style Includes box.

3. Choose the Modify button. The Format Cells dialog box appears.

4. Select the tab for the attribute you want to change. The dialog box for the selected attribute appears.

5. Enter the changes you want to make. Click OK to return to the Style dialog box.

6. After you make all the necessary style changes, click OK. The dialog box closes, and Excel applies the style to any selected cells in the worksheet.

Applying a Style
To apply a style, follow these steps:

1. Select the cell or range to which you want to apply the style.

2. Open the Format menu and choose the Style command to display the Style dialog box.

3. Select the name of the style you want to apply in the Style Name list.

4. Click OK. Excel applies the style to the selected cell or range.

Creating and Working with Graphic Objects
Excel makes it easy to enhance your worksheets with graphic objects by providing a full set of drawing tools. You can create objects such as circles, squares, and rectangles and add them to your worksheet.

Creating an Object
To create a graphic object, click the Drawing button in the Standard toolbar to display the Drawing toolbar. Select the Drawing tool that represents the object you want to create.

Position the mouse pointer in the area of the worksheet where you want to start drawing (the mouse pointer changes to a small cross when you position it in the worksheet area). Click and hold down the mouse button, and drag the mouse until the object is the size you want. Then release the mouse button. Excel adds the drawing to the worksheet (see fig. 14.21).
Selecting, Moving, and Resizing Objects

After placing an object in the worksheet, you can move that object to a new location or resize it.

**To Select an Object**

Before you can move or resize an object, first select it by placing the mouse pointer next to the object and clicking the mouse button. The mouse pointer becomes an arrow when positioned on the border of the object. Handles appear around the object, indicating that it is selected (see fig. 14.22).

**To Move an Object**

Select the object you want to move, and then position the mouse pointer on the border of the object. When the mouse pointer becomes an arrow, click and hold down the mouse button, drag the selected object to the desired location, and release the mouse button.

**To Resize an Object**

Select the object you want to resize. Handles appear around the object; these handles enable you to resize the selected object.

Position the mouse pointer on one of the black handles. The mouse pointer changes to a double-headed arrow when properly positioned. To make the object wider or longer, position the mouse pointer on one of the middle handles. To resize the object's height and width simultaneously, position the mouse pointer on one of the corner handles.

---

**Tip**

To resize an object without altering the ratio of height to width, hold down the shift key while resizing from a corner handle.
Click and hold down the mouse button, drag the handle until the object is the size you want (see fig. 14.23), and then release the mouse button.

Fig. 14.22
Handles appear around this object, indicating that it is selected and can be moved or resized.

Fig. 14.23
The rectangular object is resized.
Formatting Objects

As you can with text, you can add color, patterns, and borders to graphic objects in your worksheet.

To format an object, follow these steps:

1. Select the object you want to format.
2. Open the Format menu and choose the Object command, or press \( \text{Alt} + 1 \). The Format Object dialog box appears (see fig. 14.24). If necessary, click the Patterns tab.

3. Select a border style in the Border section of the dialog box. Select a color and pattern in the Fill section of the dialog box. The Sample area in the bottom right corner of the dialog box shows what the formatting will look like.
4. Click OK to close the dialog box and apply the selected formats.

Grouping Objects

In creating a graphic or picture, you might draw several separate objects. If you want to work with multiple objects at the same time—for example, if you want to move the object to another area in the worksheet or want to create a copy of the drawing—you can group the objects to form a single object.

To group objects, first select the objects. (You can use the Drawing Selection button in the Drawing toolbar or hold down the shift key as you click each object.) Open the Format menu, choose Placement, and then choose the Group command from the submenu. Excel groups the objects together. A single set of selection handles appears around the grouped object (see fig. 14.25).
To break a grouped object back into multiple objects, select the grouped object, and then open the Format menu, choose Placement, and then choose Ungroup from the submenu. Individual objects appear, with handles surrounding each object.

**Creating a Text Box**

Excel enables you to create text boxes in your worksheets for adding paragraphs of text.

To create a text box, click the Text Box button and position the mouse pointer in the worksheet (the mouse pointer becomes a small cross). Drag the pointer in the worksheet area. After you release the mouse button, the insertion point appears in the top left corner of the text box, ready to accept the text you type. The text wraps according to the size of the box (see fig. 14.26).

You can format, move, and resize a text box as you can any other object in a worksheet. When you resize a text box, the text automatically wraps to fit the new size of the box. You can apply formats to all the text in the text box or only to individual words. To make the entire text bold, for example, select the text box and click the Bold button in the Formatting toolbar. To make a single word of the text bold, place the mouse pointer inside the text box. The mouse pointer changes to an I-beam. Select the text you want to format by clicking and dragging the I-beam over the text. Then use standard formatting commands, tools, or shortcuts to format the selected text. As long as the
insertion point appears inside the text box, you can use normal formatting and editing procedures. For information on formatting, refer to sections "Formatting Numbers," "Aligning Text Vertically or Horizontally," and "Changing Fonts, Sizes, and Styles," earlier in this chapter.

**Fig. 14.26**
Text wraps within this text box.

To select and move a text box, click the text box, position the mouse pointer (arrow) on the border of the text box and then drag the box to a new location. You can move an unselected text box by dragging it, without first selecting it. Using this method, you do not have to drag from the border.

**From Here...**

For additional information on formatting documents, you may want to review the following chapters:

- Chapter 13, "Editing Worksheets," shows you how to copy and move document formatting.
- Chapter 16, "Creating and Printing Reports and Charts," provides information on printing Excel worksheets.
Chapter 15
Using Formulas and Functions
by Todd Knowlton

The greatest benefit in using an electronic spreadsheet program, such as Excel, is the program's power to calculate formulas based on values in the worksheet. You can, for example, create a formula that calculates the difference between sales figures on a quarterly basis. In addition, you can use Excel's built-in functions to calculate the average of a range of values or the monthly payment on a loan.

In this chapter, you learn to
- Create a formula
- Create a formula by using Excel's built-in functions
- Use the Function Wizard to enter a function
- Copy formulas
- Name cells used in formulas

Creating Formulas
You can create formulas in Excel in two ways: type the entire formula directly in the cell, or click the cells that you want included in the formula.
Creating a Formula by Typing

To create a formula by entering the cell addresses and numeric operators in a cell, follow these steps:

1. Select the cell in which you want to enter a formula.
2. Type = (equal sign) to start the formula.
3. Type the cell addresses containing the values to be computed, entering the appropriate operator. To find the difference between the two values in cells B5 and B11, for example, enter =B5-B11 in cell B14.
4. Press enter on the numeric keypad. Excel displays the result of the formula in the active cell, and the formula appears in the formula bar.

Creating a Formula by Pointing

It's impossible to avoid errors completely when typing cell addresses in a formula. To minimize errors that occur when you use cell addresses in formulas, build a formula by clicking cells rather than by typing the cell addresses.

Clicking Cells with the Mouse

Suppose you want to enter, in cell B14, a formula that subtracts the total in cell B11 from the total in cell B5. To build a formula by clicking cells with the mouse, follow these steps:

1. Select the cell in which you want to enter a formula.
2. Type = (equal sign) to start the formula. For this example, type = in cell B14.
3. Click the cell whose address you want to add to the formula. For this example, click cell B5 to add the cell address in the formula bar.
4. Type – (minus sign).
5. Click the next cell address you want to add to the formula. For this example, click cell B11.
6. Click the enter button in the formula bar or press enter to complete the formula entry. The result appears in the active cell (see fig. 15.1).

**Fig. 15.1**
The result of the formula appears in cell B14. The formula appears in the formula bar.

**Entering Cell References with the Keyboard**
Suppose that you want to build, in cell D9, a formula that finds the difference between the totals in cells B9 and C9. To enter cell references with the keyboard, follow these steps:

1. Select the cell in which you want to enter a formula.

2. Type = (equal sign) to start the formula. For this example, type = in cell D9.

3. Use the arrow keys to highlight the cell that contains the data you want to use. For this example, press → twice to select cell B9. Notice that the marquee is positioned in cell B9. Cell B9 is added to the formula.

4. Type − (minus sign).

5. Use the arrow keys to highlight the next cell you want to use. For this example, press → to select cell C9. Cell C9 is added to the formula.

6. Press enter or click the enter button in the formula bar to complete the entry.
Using Mathematical Operators

In addition to using Excel's built-in functions to perform calculations, you can use mathematical operators to perform a calculation on worksheet data. Following are the mathematical operators used in basic calculations:

<table>
<thead>
<tr>
<th>Operator</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>Addition</td>
</tr>
<tr>
<td>–</td>
<td>Subtraction</td>
</tr>
<tr>
<td>*</td>
<td>Multiplication</td>
</tr>
<tr>
<td>/</td>
<td>Division</td>
</tr>
<tr>
<td>%</td>
<td>Percentage</td>
</tr>
<tr>
<td>^</td>
<td>Exponentiation</td>
</tr>
</tbody>
</table>

Most formula errors occur when the mathematical operators are not entered in the proper order of precedence—the order in which Excel performs mathematical operations. Following is the order of precedence for mathematical operations in a formula:

- Negation (for example: –18)
- Percent
- Exponentiation
- Multiplication, division
- Addition, subtraction

Exponentiation occurs before multiplication or division in a formula, and multiplication and division occur before addition or subtraction. For example, Excel calculates the formula =4+10*2 by first multiplying 10 by 2 and then adding the product to 4, which returns 24. That order remains constant whether the formula is written as =4+10*2 or =10*2+4.

If a formula includes mathematical operators that are at the same level, the calculations are evaluated sequentially from left to right.

You can change the order of precedence by enclosing segments of the formula in parentheses. Excel first performs all operations within the
parentheses and then performs the rest of the operations in the appropriate order. For example, by adding parentheses to the formula \(=4+10*2\) to create \(=(4+10)*2\), you can force Excel first to add 4 and 10 and then multiply the sum by 2 to return 28.

**Note**

Each open parenthesis must be matched by a closed parenthesis, or Excel won’t accept the formula. The program displays a message stating that the parentheses don’t match. When you use parentheses in a formula, compare the total number of open parentheses with the total number of closed parentheses.

In addition to performing mathematical calculations with formulas, you can manipulate text, perform comparisons, and refer to several different ranges in the worksheet with references.

By using text operators, you can concatenate (join) text contained in quotation marks or text in other cells. The text concatenation operator is the **and** sign (\&). For example, entering the formula =“Total Sales: ”&B4 returns Total Sales: 28 when cell B4 contains the value 28.

To compare results, you can create formulas with comparative operators, which return TRUE or FALSE, depending on how the formula evaluates the condition. For example, the formula \(=A4>30\) returns TRUE if the value in cell A4 is greater than 30; otherwise, it returns FALSE. A comparative operator might be used to indicate when a limit has been exceeded or when your checkbook drops below a minimum balance.

Following are the comparative operators you can use in a formula:

<table>
<thead>
<tr>
<th>Operator</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>=</td>
<td>Equal to</td>
</tr>
<tr>
<td>&lt;</td>
<td>Less than</td>
</tr>
<tr>
<td>&gt;</td>
<td>Greater than</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less than or equal to</td>
</tr>
<tr>
<td>&gt;=</td>
<td>Greater than or equal to</td>
</tr>
<tr>
<td>&lt;&gt;</td>
<td>Not equal to</td>
</tr>
</tbody>
</table>
Reference operators enable you to refer to several different ranges in a single formula. For example, entering the formula SUM(A4:A24) uses a range operator (:) to sum the values located in cells A4 through A24. The union operator (,) allows you more flexibility. For example, the formula SUM(A4,A24) sums the values in A4 and A24, but not the values in the cells between them. The final reference operator is the least commonly used. The intersection operator, indicated by a space, references cells at the intersection of other references. For example, SUM(C2:C12 A6:F6) sums the values in the cells common to both of the specified ranges.

**Entering Dates and Times in Formulas**

You also can create formulas to calculate values by using dates and times. When you use a date or time in a formula, you must enter the date or time in a format that Excel recognizes, and you must enclose the entry in double quotation marks. Excel then converts the entry to its appropriate value. To find the number of days that elapsed between two dates, for example, you would enter a formula such as ="3/20/95"-"2/5/95." In this example, Excel returns 43, the number of days between February 5, 1995, and March 20, 1995.

If Excel doesn't recognize a date or time, it stores the entry as text and displays the #VALUE! error value.

**Debugging Formulas**

Several errors can occur when you enter formulas in Excel. In many cases, Excel displays an error value that enables you to debug your formulas based on that value. Following are the error values and their possible causes:

<table>
<thead>
<tr>
<th>Error</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>#DIV/0!</td>
<td>The formula is trying to divide by zero</td>
</tr>
<tr>
<td>#N/A</td>
<td>The formula refers to a value that is not available</td>
</tr>
<tr>
<td>#NAME?</td>
<td>The formula uses a name that Excel does not recognize</td>
</tr>
<tr>
<td>#NULL!</td>
<td>The formula contains a reference that specifies an invalid intersection of cells</td>
</tr>
<tr>
<td>#NUM!</td>
<td>The formula uses a number incorrectly</td>
</tr>
<tr>
<td>#REF!</td>
<td>The formula refers to an invalid cell</td>
</tr>
<tr>
<td>#VALUE!</td>
<td>The formula uses an incorrect argument or operand</td>
</tr>
</tbody>
</table>
You can use Excel Help to guide you when an error occurs. To access Excel's error-values Help screens:

1. Choose the Microsoft Excel Help command from the balloon help menu, as shown in figure 15.2. The MS Excel Help window appears.

![Fig. 15.2](image)
The guide menu is located near the right end of the menu bar.

2. Click the Search button. The Search dialog box appears.

3. Type **error values** in the text box as you key the search.

4. Click Show Topics.

5. From the topic list at the bottom of the dialog box, choose Overview of Error Values.

6. Click Go To. The Help window displays the information, as shown in figure 15.3.

7. Click the close box to close the Help window.

**Tip**
When an error value appears in the worksheet, click the Tip Wizard button to see a description of the error value.
Fig. 15.3
The Help window displays the list of error values and their causes.

**Converting Formulas to Values**
In many cases, after you create the formula, you need only the result rather than the formula itself. After you calculate your monthly mortgage payment, for example, you no longer need the formula. In such a situation, you can convert the formula to its actual value.

To convert a single formula to a value, follow these steps:

1. Select the cell that contains the formula.
2. Press \( \text{Alt} + \text{U} \), or double-click the cell.
3. Press the F9 function key. Excel replaces the formula with the value.

To convert a range of formulas to values, follow these steps:

1. Select the range that contains the formulas you want to convert.
2. Open the Edit menu and choose the Copy command, or click the Copy button on the toolbar. A marquee surrounds the selected range.
3. Open the Edit menu and choose the Paste Special command. The Paste Special dialog box appears (see fig. 15.4).

4. Choose the Values option.

5. Click OK. Excel replaces the formulas in the selected range with values.

### Troubleshooting

*After I enter a formula, Excel displays an alert box, warning that an error exists in the formula.*

When this happens, click the Help button (if one is available). Excel displays a Help window that displays the error message and a possible cause. If, after reading the Help screen, you can’t find the error in the formula, delete the equal sign that appears at the beginning of the formula. When you do, Excel enters the formula in the cell as text. You then can return to the formula later and work on it. To turn the text back into a formula, reenter the equal sign at the beginning of the formula, and press enter.

*After I enter a formula that uses parentheses, Excel displays the error message Parentheses do not match.*

When you use parentheses in formulas, remember that for every open parenthesis, there must be a closed parenthesis. In many cases, Excel highlights matching pairs of parentheses as you move the insertion point through the formula. As you move the insertion point across an open parenthesis, watch for the closed parenthesis to appear highlighted. If the highlighted parenthesis does not enclose the correct term, you have found the term that requires another parenthesis.
Using Built-In Functions

Excel provides more than 200 built-in functions, or predefined formulas, that enable you to create formulas easily for a wide range of applications, including business, scientific, and engineering applications.

Each function consists of the equal sign (=), the function name, and the argument (cells used for carrying out the calculation). The SUM function, for example, adds the numbers in a specified range of cells (see fig. 15.5). The addresses of the specified cells make up the argument portion of the function. The active cell shows the result of the function.

Fig. 15.5
This formula uses the SUM function to total the entries in cells B2, B3, and B4.

Excel comes with a large number of built-in worksheet functions, including mathematical, database, financial, and statistical functions. The program also includes date, time, information, logical, lookup, reference, text, and trigonometric functions.

Entering Functions
To enter a function in the active cell, type = (equal sign), followed by the function name (for example, SUM), followed by an open parenthesis. Then specify the cell or range of cells you want the function to use, followed by a closed parenthesis. When you press enter or click the enter button in the formula bar to enter the function in the cell, Excel displays the result of the formula in the cell.

Tip
If you’re a Lotus 1-2-3 user, you can enter a 1-2-3 function, such as @SUM(A1..A4), and Excel will convert it to the appropriate Excel function.
Using Built-In Functions

Note

You don't need to enter the last parenthesis if you are creating a formula with Excel's built-in functions. Excel automatically adds the last parenthesis when you enter the formula.

Using the AutoSum Button to Sum Ranges

You can use the AutoSum button, located in the Standard toolbar, to sum a range of cells quickly. You can, for example, use the AutoSum button to total the values in adjacent columns or rows. To do so, select a cell adjacent to the range you want to sum, and then click the AutoSum button. Excel inserts the SUM function and selects the cells in the column above the selected cell or in the row to the left of the selected cell.

Note

When you allow AutoSum to select the cells to sum, it will stop at the first empty cell. Also, AutoSum looks to the left and above the selected cell, not below or to the right.

You also can highlight the range of cells you want to sum. To do so, select the range of cells (including blank cells) to the right of or below the range, and then click the AutoSum button. Excel fills in the totals.

Using the Function Wizard

If you're not sure how a particular function works, the Function Wizard can guide you through the process of entering the function.

To display the Function Wizard, open the Insert menu and choose the Function command, or click the Function Wizard button on the Standard toolbar. The Function Wizard dialog box appears (see fig. 15.6).

Fig. 15.6
In the Function Wizard dialog box, select the function you want to use.
The Function Category list displays categories of Excel's built-in functions, and the Function Name list shows an alphabetized list of functions available for the highlighted category. To access the DATE function, for example, select Date & Time in the Function Category list, and then select DATE in the Function Name list. When you select a function, the function appears in the formula bar, and the formula bar is activated.

**Note**

If you know how to use the function, choose the Finish button. The function and its arguments appear in the formula. Type the required arguments, and press enter or click the enter button in the formula bar to enter the function in the cell.

After you select the function you want, choose Next or press enter to display the next Function Wizard dialog box. The Step 2 dialog box prompts you to enter the arguments required for the function (see fig. 15.7). An argument can be a single cell reference, a group of cells, a number, or another function. Some functions require a single argument; others require multiple arguments. Function arguments are enclosed in parentheses, and arguments are separated by commas.

**Fig. 15.7**
Enter the required arguments for the function in the Function Wizard dialog box.

Each of the argument text boxes must contain a cell address or data. If an argument is required, the label to the left of the text box is bold.

To enter the argument data, click the mouse or press tab to position the insertion point in the first argument text box. The Function Wizard displays a description of the argument in the display area above the text boxes. Enter the values to be used for the arguments, use the mouse to select the cell(s) in
the worksheet to be used for the argument, or use the keyboard to enter the cell address(es). The Function Wizard displays the value to the right of the text box (see fig. 15.8).

To enter the first argument for the function, select the cell that contains the data you want to use. To indicate a range of cells, select the range you want to use in the formula. You also can enter the cell addresses from the keyboard. If, for example, you want to sum the numbers in cells B1, B2, and B3, enter B1:B3 or B1,B2,B3 in the argument text box. Each argument appears between the parentheses in the formula bar.

When you finish entering the arguments required by the function, the result of the formula appears in the Value box in the top right corner of the Function Wizard dialog box. Choose Finish to enter the function in the cell. The dialog box disappears, and the result of the formula appears in the cell. In this case, the result is formatted as a date. To see the date as a serialized number, you must format the cell in a Number format. If the formula contains an error, an alert box appears (see fig. 15.9).

Click the Help button in the alert box to find out more about the function error. A help window appears, displaying possible reasons for the error. Click the window's close box to close it. To clear the error message, click OK.

In some cases, Excel highlights the part of the function that contains the error. Edit the function in the formula bar, and when the formula is corrected or complete, click the enter button or press enter on the numeric keypad.
Editing Functions

After entering a function, you can edit it. You can use the Function Wizard to edit a function, or you can edit the formula and function directly in the cell.

To use the Function Wizard to edit a formula, follow these steps:

1. Select the cell that contains the function you want to edit.
2. Open the Insert menu and choose the Function command, or click the Function Wizard button on the Standard toolbar. The Function Wizard appears, displaying the function used in the formula.
3. Change any of the arguments as necessary.
4. Choose Finish when you complete the function. If the formula contains another function, choose Next.
5. Repeat steps 3 and 4 for each function you want to edit.

To edit a function manually, follow these steps:

1. Select the cell that contains the function you want to edit.
2. Double-click the cell or click the formula bar.
3. Select the argument you want to change.
4. Enter the new argument.
5. Press enter or click the enter button in the formula bar.

Getting Help with Functions

As you are using Excel's functions, you can use Excel's help system for assistance. To get help while you are entering a function with the Function Wizard, click the Help button.

To access Excel's on-line help for functions:

1. Choose the Microsoft Excel Help command from the guide menu (the menu with the question mark icon).
2. Click the Search button.
3. Type functions in the text box in the Search dialog box.
4. Choose Functions, Worksheet from the displayed list and click Show Topics.
5. Choose Alphabetical List of Worksheet Functions from the topic list at the bottom of the dialog box and click Go To. Excel displays a Help
window with an alphabetized list of functions (see fig. 15.10). Click any of the function names for help with a specific function. Click the close box of the Help window when you finish viewing it.

Troubleshooting

After I click the AutoSum button, Excel does not produce a total amount.

If you click the AutoSum button and there are no surrounding cells with numbers to add, the SUM function does not recognize a range address to sum. Select the range of cells you want to sum, and the range address appears within the parentheses. Remember that to use the AutoSum button, you must select a cell adjacent to the values you want to sum, or you must select the range of cells (including any blank cells) and then click the AutoSum button.

After I enter a function, Excel displays the error value #NAME? in the cell.

There are two possible causes: you specified a range name that does not exist, or you misspelled the function name. To check, press \( \text{F3} + \text{U} \), and remove the equal sign (=) from the beginning of the formula. Then double-check the spelling of the function. If this spelling is incorrect, correct it, and then enter the equal sign. If the function name is spelled correctly, the next step is to make sure that the range to which you referred exists in the worksheet. To do this, click the arrow at the left end of the formula bar, and check the range names in the drop-down list. If the name does not appear in this list, use the Define command from the Name submenu on the Insert menu to create the range name. When you do, the formula will return the correct result.
Copying Formulas

When you copy a formula that contains cell addresses, the cell addresses adjust to their new location. For example, when you copy the formula =B5-B11 from cell B14 to cell C14, the cell addresses adjust to =C5-C11 (see fig. 15.11). In Excel, these cell addresses are called relative cell references.

Fig. 15.11
When copied, relative cell references adjust to their new locations.

If you want the cell addresses to remain the same when copied, use absolute cell references in the formula. In an absolute cell reference, a dollar sign appears to the left of the column and/or row address—for example, $F$5 (see fig. 15.12).

Create a mixed cell reference when you want either the column or row reference to be absolute and the other reference to be relative. $C9$ is an example of a mixed cell reference. When you copy a formula that contains this type of cell reference, the column reference remains the same, and the row reference changes. Alternatively, when you copy a formula that includes a reference such as C$9, the column reference changes, and the row reference remains the same.
Before you copy the formula that contains the cell reference, make the cell reference absolute. Follow these steps:

1. Select the cell that contains the formula.
2. Press $+U$.
3. Use the left- or right-arrow key or the mouse to position the insertion point to the left of the cell or row reference, and then type a dollar sign ($)$.
4. Press enter, or click the enter button in the formula bar.

**Linking Formulas**

When you use multiple worksheets in Excel, your formulas may need to refer to cells in other worksheets. For example, if each sheet in your worksheet contains sales data for each sales region, you can create a total worksheet and sum the values for each region by linking formulas.

**Creating Linking Formulas**

To link formulas, follow these steps:

1. Enter the formula as you normally would, up to the point where you want to reference the cell.
2. Click the tab of the worksheet that contains the cell you want to reference. The formula displays the worksheet name.

3. Select the cell or range of cells you want to reference.

4. Press enter, or click the enter button in the formula bar. Excel displays the worksheet name and cell references in the formula. For example, cell B20 of figure 15.13 contains a reference to the sheet named Dallas and appears as =Dallas!B14.

Fig. 15.13
This formula contains a reference to another sheet in the workbook.

Creating Formulas That Link Workbooks
In addition to referring to cells in other worksheets, a formula can refer to cells in other workbooks. Before you can link a formula to another workbook, that workbook must be open.

To link to another workbook, follow these steps:

1. Enter the formula up to the point of reference.

2. From the Window menu, choose the workbook that contains the data you want to reference.

3. If necessary, select the worksheet that contains the data you want to reference. Then select the cell that contains the data you want to reference.

4. Press enter, or click the enter button in the formula bar.
Working with Range Names

As you become more proficient in writing formulas, you will find that cell references are sorely lacking in describing the data that is being calculated. If you saw the formula =B9-C9 in a worksheet, it wouldn't be clear which data is being used.

**Note**

To display the cells to which a formula refers, select the formula in the worksheet and choose the Trace Precedents command from the Auditing submenu on the Tools menu. Use the Remove All Arrows command in the same submenu to remove the graphics added by the Trace Precedents command.

By assigning a name to a cell or range of cells, you can describe the data in your worksheets. The formula +Total_Sales-Total_Expenses, for example, instantly tells you what data the formula uses.

When naming a cell or range, keep the following naming rules in mind:

- The first character must be a letter or an underscore (_).
- The other characters can be letters, numbers, periods, or underscores (_).
- You cannot include spaces in the name. You can use an underscore to separate words.
- The name can be up to 255 characters long.
- The name can use uppercase and lowercase letters.

**Creating a Range Name**

To create a range name, follow these steps:

1. Select the cell or range of cells you want to name.
2. Click the Name box located at the left end of the formula bar.
3. Enter the name you want to assign to the selected range.
4. Press enter.
Tip
To move to a range quickly, type the range to which you want to go in the Name box.

To create a range name by using an alternative method, follow these steps:

1. Select the cell or range of cells you want to name.
2. Open the Insert menu, choose Name, and then choose the Define command from the submenu (or choose command+L). The Define Name dialog box appears.
3. Type a name in the Names in Workbook text box.
4. Click OK.

To display a list of range names in the active worksheet, click the arrow next to the Name box in the formula bar. The drop-down list displays all range names in the worksheet (see fig. 15.14).

Fig. 15.14
This drop-down list displays all range names in the worksheet.

Tip
You also can use the Name box to insert a name into a formula. Click the drop-down arrow next to the Name box, and select the range name you want to use.

Inserting Names
After you assign a range name, you can refer to that range name the way you refer to cell addresses.

To insert a name into a formula, follow these steps:

1. To create a formula that uses range names, type = (equal sign) to start the formula.
2. Open the Insert menu, choose Name, and then choose the Paste command from the submenu. The Paste Name dialog box appears.
3. In the Paste Name dialog box, select the name you want to insert.

4. Click OK to close the dialog box.

5. Type the rest of the formula, and press enter or click the enter button in the formula bar when you finish (see fig. 15.15).

Fig. 15.15
This formula refers to two range names in the worksheet.

Deleting Range Names
To delete a range name, follow these steps:

1. Open the Insert menu, choose Name, and then choose the Define command from the submenu. The Define Name dialog box appears (see fig. 15.16).

Fig. 15.16
You can delete range names in the Define Name dialog box.
2. In the Names in Workbook list, select the range name you want to delete.

3. Click the Delete button.

4. Click OK.

**Note**

When you define names in the Define Name dialog box, use the Add and Delete buttons to make multiple changes. Click OK when you finish making changes.

**Creating Range Names from Existing Text**

Excel enables you to create range names by using existing text from a worksheet. You can, for example, use text that heads rows and columns to name the ranges beside or below those heads. For example, figure 15.17 shows a range that has column headers at the top of the range and row headers in the left column of the range. The Create Names dialog box can be used to automatically name the data in the range.

![Fig. 15.17](image)

Names will be created from the text that appears in the first column and the first row of the selected range.

To create a range name using the Create Names command, follow these steps:

1. Select the range of cells that contains the text and the cells to be named, as in figure 15.17.
2. Open the Insert menu, choose Name, and then choose the Create command from the submenu. The Create Names dialog box appears (see fig. 15.18).

3. Select the check box that shows the location of the cells containing the text you want to use for range names. In our example, the correct options are chosen by default.

4. Click OK.

In our example, the range B4:B8 is named Week_1, and the range B5:D5 is named Kaley.

**Troubleshooting**

After I deleted a range name, Excel replaced some of the formulas in the worksheet with the value #NAME?.

When you delete a range name, any formula that refers to the range name returns #NAME?. To correct a formula that refers to a deleted range name, replace the #NAME? reference with the appropriate cell address, or re-create the deleted range name.

(continues)
After I create a formula that uses a name, Excel interprets the formula as a text entry. When you use a range name as the first item in a formula, you must begin the formula with an equal sign (=), as in =SALES*4.05. Otherwise, Excel thinks you are entering a text label.

From Here...

For additional information on using formulas and functions in Excel, see the following chapters:

- Chapter 12, “Creating Worksheets,” introduces basic techniques such as selecting cells and entering data.
- Chapter 13, “Editing Worksheets,” shows you how to edit worksheet data.
- Chapter 14, “Formatting Worksheets,” teaches you how to format numeric entries.
- Chapter 17, “Managing and Analyzing Data,” presents the Excel commands.
Excel provides sophisticated charting capabilities that enable you to display your worksheet data in graphical form. When you create a chart, you can embed the chart in a worksheet alongside the data on which it is based, or you can create a separate chart sheet. When you’re ready to print worksheet data and charts, you can create reports that consist of multiple worksheet areas.

In this chapter, you learn to

- Define the area to be printed
- Define page settings
- Preview and print worksheet data
- Create and print reports
- Create a chart
- Enhance a chart
- Print a chart

**Printing Worksheet Data**

Excel provides many options that enable you to control the printed output of your worksheets and charts. You can use the Print Preview command to
preview worksheet data before printing. The Page Setup command enables you to define margin settings and to create headers and footers.

**Printing a Particular Area**

You can print the entire workbook, a specific worksheet in the workbook, or a selected range of data. By default, Excel automatically selects and prints the current worksheet. You can, however, define a portion of the worksheet to be printed.

**Printing a Specific Range**

To print a specific range in the worksheet, follow these steps:

1. Select the range to be printed, using the mouse or the keyboard.
2. Open the File menu and choose the Print command, or press \( Ctrl + P \). The Print dialog box appears, as shown in figure 16.1.

   ![Print dialog box](image)

3. In the Print section of the dialog box, choose the Selection option.
4. Click OK. Excel prints the selected worksheet range.

**Defining a Print Area**

If you are printing the same range in a worksheet over and over, you can define that range as the print area so that you no longer need to specify the range each time you print the worksheet.

To define the print area, follow these steps:

1. Open the File menu and choose the Page Setup command. The Page Setup dialog box appears.
2. Click the Sheet tab, as shown in figure 16.2.
3. Click the Print Area text box, and define the area to be printed by selecting the range in the worksheet or by typing the range address. A dashed border appears around the defined print area. Excel assigns the name Print_Area to the selected worksheet range.

4. Click OK when you finish.

Removing a Defined Print Area
To remove a defined print area, choose Page Setup from the File menu, and click the Sheet tab, if necessary. Delete the reference in the Print Area text box, and click OK. Alternatively, choose the Name Define command from the Insert menu, select the Print_Area name from the Names in Workbook list, click Delete, and click OK. The name Print_Area will be preceded by the sheet name.

Inserting and Removing Page Breaks
When you define a print area, Excel inserts automatic page breaks into the worksheet. Automatic page breaks, which appear as dashed lines in the worksheet, control the data that appears on each printed page. Excel also inserts automatic page breaks when a selected print range cannot fit on a single page. If you aren’t satisfied with the location of the automatic page breaks, you can insert manual page breaks.

You can insert two types of page breaks: vertical page breaks, which break the print range at the current column, and horizontal page breaks, which break the page at the current row.

Inserting a Vertical Page Break
To insert a vertical page break, follow these steps:
Chapter 16—Creating and Printing Reports and Charts

Tip
You can set a horizontal and vertical page break simultaneously by selecting a single cell below the row and to the right of the column where you want the break to appear, and choosing Page Break from the Insert menu.

1. Click the heading of the column to the right of where the page break should occur.
2. Open the Insert menu and choose the Page Break command. A dashed line appears in the worksheet, indicating the page break.

Inserting a Horizontal Page Break
To insert a horizontal page break, follow these steps:

1. Click the heading of the row below where the page break should occur.
2. Open the Insert menu and choose the Page Break command. Excel adds the page break.

Figure 16.3 shows a horizontal page break added to a worksheet.

Tip
To remove all page breaks from the worksheet, click the Select All button in the top left corner of the worksheet frame, and choose Remove Page Break from the Insert menu.

Removing Page Breaks
To remove a page break, select the cell below or to the right of the page-break intersection, and then choose Remove Page Break from the Insert menu.
Fitting the Print Range to a Single Page
If the specified print range is a few lines too long to print on a single page, you can fit the worksheet to the page. When you use this method, Excel scales the worksheet so that it fits on a single page.

To fit the print range on a single page, follow these steps:

1. Open the File menu and choose the Page Setup command.
2. Click the Page tab.
3. Select the Fit To option. By default, the Fit To option is one page wide by one page tall.
4. Click OK. When you print, Excel scales the worksheet range to a single page.

Modifying the Page Setup
The Page Setup command enables you to define the page settings for the printed output. You can change the orientation of the page, change the margins and text alignment, and set print titles.

Changing the Page Orientation
The default setting for printed output arranges the data in portrait orientation—that is, the data is arranged vertically on the page. You may, however, want the data to print in landscape orientation—arranged horizontally on the page. If the data range is wide, for example, you may want to print it in landscape orientation, across the width of the page.

To change the page orientation, follow these steps:

1. Open the File menu and choose the Page Setup command.
2. Click the Page tab.
3. Select the desired orientation option.
4. Click OK.

Changing Margins
The margins define the distance between the printed output and the edges of the page. Excel enables you to change the top, bottom, left, and right margin settings. In addition, you can specify margins for the headers and footers, as well as center the print range between the margins, either horizontally or vertically.
To change the margins, follow these steps:

1. Open the File menu and choose the Page Setup command.
2. Click the Margins tab.
3. Enter the measurements, in inches, in the appropriate text boxes. You also can click the up and down arrows to change the margin settings by increments. Figure 16.4 shows the margins for the current print range.

4. To indicate the header and footer margins, specify the measurement in the From Edge section of the dialog box.
5. To center the data between the top and bottom margins on the page, select the Vertically option. To center the data between the left and right margins, select the Horizontally option. To center the text both horizontally and vertically on the page, select both options.
6. Click OK.

**Setting and Removing Print Titles**

When you print large worksheets, you can set print titles so that information, such as worksheet titles, column headings, and row headings, appears on each page in the printout.

To create print titles, follow these steps:

1. Open the File menu and choose the Page Setup command.
2. Click the Sheet tab.
3. If you want to define titles across the top of each page, select the Rows to Repeat at Top box. If you want to define titles down the left side of each page, select the Columns to Repeat at Left box (see fig. 16.5).
4. If you are defining titles to appear across the top of each page, select the row headings containing the data you want to use as titles, or enter the row addresses.

If you are defining titles to appear down the left side of the page, select the column headings containing the data you want to use as titles, or enter the column addresses.

**Note**

When you print a worksheet that contains print titles, don't select the range containing the titles when you define the print area. Otherwise, the titles will appear twice on the first page of the printout.

5. Click OK.

To remove print titles, follow these steps:

1. Open the File menu and choose the Page Setup command.

2. Click the Sheet tab, if necessary.

3. Delete the cell references in the Print Titles section of the dialog box.

4. Click OK.

**Setting Other Print Options**

You can define additional print settings in the Page Setup dialog box. You can include the worksheet grid lines in the printout; print notes that have been added to cells; print the data in black and white, even if color has been applied to the worksheet; and include the row and column headings.
Open the File menu, choose Page Setup, and then click the Sheet tab. In the Print section of the dialog box, select or deselect the check box adjacent to the appropriate print option.

**Creating Headers and Footers**

Headers and footers enable you to add text—such as the current date, page number, and file name—to the top and bottom of the printed page. Excel provides default header and footer information (the name of the current sheet is centered in the header, and the current page number is centered in the footer). You also can select additional options, and define your own header and footer information.

**Using Predefined Headers and Footers**

To select one of Excel's predefined header and footer options, follow these steps:

1. Open the File menu and choose the Page Setup command.
2. Click the Header/Footer tab. Figure 16.6 shows the predefined header and footer options.

![Page Setup dialog box](image)

**Fig. 16.6**
Select the text you want to use in the header and footer area of the printed page.

3. Click the arrow next to the Header box, and select a header from the drop-down list.
4. Select the data you want to use as a footer from the Footer list.
5. Click OK.

**Note**

To remove a header or footer, select None from the appropriate list.
Creating Custom Headers and Footers

Instead of using a predefined header and footer, you can define your own custom header and footer. Follow these steps:

1. Open the File menu and choose the Page Setup command.
2. Click the Header/Footer tab.
3. If appropriate, select an existing header or footer that resembles the header or footer you want to create.
4. Select the Custom Header or Custom Footer option to display a new dialog box. Figure 16.7 shows the Custom Header dialog box.

![Fig. 16.7](image)

Create custom headers and footers by using text boxes and buttons that appear in this dialog box.

Each text box that appears in the dialog box controls the alignment of the text in the header or footer. Data can be left-aligned, centered, or right-aligned. Excel uses codes to create certain types of text in the headers and footers. The Page Number code, for example, is used to insert page numbering. The buttons that appear above the text boxes are used to insert the codes. Table 16.1, which follows these steps, describes the code buttons you can use in the header and footer.

5. Select one of the three text boxes, and then type the header or footer text, or click a button to enter a header or footer code. To apply text formatting to the header or footer information, click the Font button to display the Font dialog box, and select the appropriate options.
6. Click OK.
### Table 16.1 Header and Footer Codes

<table>
<thead>
<tr>
<th>Button</th>
<th>Name</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Font</td>
<td>None</td>
<td>Displays the Font dialog box</td>
</tr>
<tr>
<td></td>
<td>Page Number</td>
<td>&amp;[Page]</td>
<td>Inserts the page number</td>
</tr>
<tr>
<td></td>
<td>Total Pages</td>
<td>&amp;[Pages]</td>
<td>Inserts the total number of pages</td>
</tr>
<tr>
<td></td>
<td>Date</td>
<td>&amp;[Date]</td>
<td>Inserts the current date</td>
</tr>
<tr>
<td></td>
<td>Time</td>
<td>&amp;[Time]</td>
<td>Inserts the current time</td>
</tr>
<tr>
<td></td>
<td>Filename</td>
<td>&amp;[File]</td>
<td>Inserts the file name</td>
</tr>
<tr>
<td></td>
<td>Sheet Name</td>
<td>&amp;[Tab]</td>
<td>Inserts the name of the active sheet</td>
</tr>
</tbody>
</table>

### Previewing a Worksheet

You can preview the data before you print the worksheet to make sure that the data appears the way you want. You also can change the margin settings and column widths, if necessary.

To preview the data, follow these steps:

1. Open the File menu and choose the Print Preview command, or click the Print Preview button on the Standard toolbar. Excel switches to Print Preview and displays the print range, as shown in figure 16.8.

2. Click the Next and Previous buttons to move from page to page. Notice that these buttons appear dimmed if the data you are previewing fits on a single page.

### Zooming In and Out

For a closer look at data, you can zoom in and view an enlarged display; when you want to see more of the data, you can zoom out.

To zoom in on the worksheet, click the Zoom button, or position the mouse pointer over the section you want to view, and click. The mouse pointer changes to a magnifying glass when positioned over the page. To view other areas of the page, use the vertical and horizontal scroll bars. To zoom out, click the Zoom button again, or click anywhere on the displayed page.
Changing Margins and Other Settings in Print Preview
If, while previewing the worksheet, you find that the current margins or column widths are not adequate, you can change them in Print Preview. When you click the Margins button, light-gray boundaries appear around the page, indicating the margins. Black handles also appear, indicating the top, bottom, left, and right margins. Square handles appear along the top of the page, with lines indicating the width of each column. Figure 16.9 shows margin and column markers in print preview.

Fig. 16.8
Print Preview shows what the worksheet will look like when printed.

Fig. 16.9
You can change margins and column widths by dragging the markers.
To adjust the margins, position the mouse pointer over the handle that represents the margin you want to change. When you do, the mouse pointer changes to a crossbar. Press and hold the mouse button. The status bar shows the actual margin setting. Drag the handle to the appropriate location. When you release the mouse button, the margin adjusts, and the data is repositioned on the page.

To change a column width, click the square handle that indicates the column width you want to change. The status bar displays the current column width. Drag the marker to increase or decrease the column width. When you release the mouse button, the column width and data adjust to fit the new size.

When you’re satisfied with the way the data appears, click the Print button to print the worksheet. To return to the worksheet, click the Close button.

<table>
<thead>
<tr>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes made to column widths while in Print Preview will be applied in the worksheet and will remain changed after printing.</td>
</tr>
</tbody>
</table>

**Printing the Worksheet**

After you define the print settings and preview the data, you’re ready to print the worksheet. The File Print command enables you to specify the number of copies you want to print, as well as the number of pages (if the print range spans multiple pages). You also can specify the data you want to print, if you have not already defined a print area.

To print the worksheet, follow these steps:

1. Open the File menu and choose the Print command, or press Ctrl+P. The Print dialog box appears. The Print dialog box will vary slightly, depending on your printer type and the driver you are using.

2. If you have not defined a print area, you can specify the data you want to print by selecting options in the Print section of the dialog box (see fig. 16.10).

3. Choose the Selection option to print the selected range of cells; choose the Selected Sheets option to print the selected worksheets in the workbook; or choose the Entire Workbook option to print every worksheet in the current workbook.

4. To specify the number of copies to be printed, enter the amount in the Copies box.
5. To specify a specific range of pages to be printed, enter the range in the Pages section of the dialog box.

6. When you're ready to print the worksheet, click Print.

**Note**

The Print dialog box also includes buttons that enable you to access the Page Setup command and Print Preview.

**Troubleshooting**

*While attempting to remove a page break, I pulled down the Insert menu, but the Remove Page Break command was not displayed in the menu.*

To remove a manual page break, you first must select the cell that contains the manual page-break setting. When the highlighted cell is correctly positioned, the Remove Page Break command appears in the Insert menu. To minimize the chance for error, select a range of cells surrounding the page break. When you open the Insert menu, the Remove Page Break command should appear.

*After selecting the entire worksheet, I chose the Remove Page Break command, but Excel removed only some of the page breaks.*

A print area must be defined for the worksheet. When you define a print area, Excel automatically inserts page breaks into the worksheet. Although these page breaks appear similar to the manual page breaks that you insert into the document, you can't use the Remove Page Break command to delete them; instead, you must delete the defined print area.

To delete a defined print area, choose Page Setup from the File menu, and click the Sheet tab. Delete the range address in the Print Area text box, and click OK. When you return to the worksheet, the page breaks no longer appear.

**Fig. 16.10**
The Print dialog box contains options that enable you to specify what you want to print.

**Tip**
Click the Print button in the Standard toolbar to bypass the Print dialog box and send the output directly to the printer with the default print settings.
Using Views and Reports

Excel provides two add-ins that enable you to create and generate printed reports: the View add-in lets you assign names to worksheet ranges and to include the print settings and display options for the ranges; the Report Manager add-in enables you to create a report consisting of named views and scenarios.

Installing the View and Report Manager Add-Ins

Before you can define a named view or create a report, you must install the View Manager and Report Manager add-ins.

To install the add-ins, follow these steps:

1. Open the Tools menu and choose the Add-Ins command. The Add-Ins dialog box appears (see fig. 16.11).

2. Select the Report Manager add-in and the View Manager add-in from the Add-Ins Available list. If an add-in is not listed, you will need to run Excel Setup to install it on your hard disk.

3. Click OK. The Print Report command is added to the File menu; the View Manager command is added to the View menu.

Creating a View

With the View Manager command, you can define multiple print ranges with different display and page-setup characteristics in a single worksheet. Normally, every print area of a worksheet must contain the same display characteristics. By using named views, however, you can print multiple ranges with different print settings at the same time.
To create a view, follow these steps:

1. Select the range of cells you want to define as a view.
2. Open the View menu and choose the View Manager command. The View Manager dialog box appears (see fig. 16.12).

![View Manager dialog box]

3. Click the Add button. The Add View dialog box appears (see fig. 16.13).
4. Enter a name for the view in the Name text box.
5. Click OK.

![Add View dialog box]

### Creating a Report

If your worksheet consists of multiple views of your worksheet, or scenarios of data, you can print those different views and scenarios as a report. Scenarios are used to analyze data in worksheets.

To create a report, follow these steps:

1. Open the File menu and choose the Print Report command. The Print Report dialog box appears (see fig. 16.14).
2. Click the Add button to create the report. The Add Report dialog box appears (see fig. 16.15).

![Print Report dialog box]

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Fig. 16.12
Create multiple views of worksheet data in the View Manager dialog box.

Fig. 16.13
Enter a name for the view in the Add View dialog box.

See “Performing What-If Analysis with Scenarios,” p. 385
3. Enter a name for the report in the Report Name text box.

4. Select the view you want to add to the report from the View drop-down list, and then choose Add. The view you added appears in the Sections in this Report list.

5. Select the scenario you want to add to the report from the Scenario drop-down list, and then choose Add. The scenario you added appears in the Sections in this Report list.

6. To change the order of the views and scenarios in the Sections in this Report list, select a view or scenario, and then click the Move Up or Move Down button to rearrange the order.

7. Repeat steps 4–6 until you finish adding views and scenarios to the report.

8. Select Use Continuous Page Numbers to number the pages consecutively.

9. Click OK. You return to the Print Report dialog box.

10. Click Print to print the report, or click Close to close the dialog box without printing the report.
Editing and Printing a Report

If you want to change the contents of a report or print a report, you can use the Print Report command to do so.

To edit a report, follow these steps:

1. Open the File menu and choose the Print Report command. The Print Report dialog box appears.
2. Select the name of the report you want to edit from the Reports list, and then choose Edit.
3. Change the views and scenarios, as outlined in the preceding section.
4. Click OK.

To print a report, follow these steps:

1. Open the File menu and choose the Print Report command. The Print Report dialog box appears.
2. Select the report you want to print from the Reports list.
3. Click the Print button. The Print dialog box appears.
4. Specify the number of copies to be printed.
5. Click OK to print the report.

Troubleshooting

I want to create a report, but the Print Report command does not appear in the File menu.

When the Print Report command does not appear in the File menu, it means that the Report Manager add-in has not been installed. To install the Report Manager add-in, choose the Add-Ins command from the Tools menu. In the Add-Ins Available list, check marks appear next to the names of the add-ins that are currently installed. Select Report Manager to add a check mark to the left of the name, and click OK. The Print Report command now appears in the File menu.

When I print a report, Excel numbers each page in the report as page 1.

To use consecutive page numbers in the report, choose the Print Report command from the File menu, select the name of the report from the Reports list, and click Edit. Select the Use Continuous Page Numbers option, and click OK. The next time you print the report, Excel will number the pages consecutively.
Using Charts

By using a chart, you can present worksheet data in graphical form. When you create a chart, the worksheet data used to create the chart is linked to it. When the worksheet data changes, the chart is updated to reflect those changes. In Excel, you can create an embedded chart, which is added directly to a worksheet. You also can create a chart in a chart sheet, which is a separate sheet in the workbook. After creating a chart, you can add titles and grid lines. Use autoformats to change the format of a chart and to edit the data used in the chart.

Creating a Chart with the ChartWizard

To create an embedded chart with the ChartWizard, follow these steps:

1. Select the data you want to chart.

2. Click the ChartWizard button. The mouse pointer changes to a chart with a plus sign.

3. Position the mouse pointer in the worksheet where you want the chart to appear; then click and drag the mouse to draw the boundaries.

4. Release the mouse button when the chart is the size you want. The Step 1 ChartWizard dialog box appears (see fig. 16.16).

5. If the selected range address that appears in the Range text box is correct, choose Next. Otherwise, select the range of cells in the worksheet that you want to chart or enter the range address; then choose Next. The Step 2 dialog box appears.

**Note**

The chart is linked to the cells you indicate in the Step 1 ChartWizard dialog box. When the data in the selected range changes, the chart is updated to reflect the changes.

**Tip**

To create a square chart area, hold down the shift key while you drag the mouse.
6. Select a chart type (see fig. 16.17).

Fig. 16.17
Select the chart type in this dialog box.

7. Choose Next. The Step 3 dialog box appears.

8. Select a chart format (see fig. 16.18).

Fig. 16.18
Select the chart format in this dialog box.

9. Choose Next. The Step 4 dialog box appears, displaying a sample of the chart in the Sample Chart area (see fig. 16.19).

Fig. 16.19
A sample of the chart appears in this dialog box.
10. If the sample chart is incorrect, select other options, and then choose Next. The Step 5 ChartWizard dialog box appears.

11. If you want to add titles to the chart, enter them in the Chart Title and Axis Titles text boxes (see fig. 16.20).

Fig. 16.20
Enter titles for the chart in this dialog box.

12. Click the Finish button. The chart appears in the worksheet (see fig. 16.21).

Fig. 16.21
The completed chart is added to the worksheet.

Note
If you need to return to the preceding ChartWizard dialog box, click Back. You can close the ChartWizard during any step by choosing Finish. When you click Finish, the ChartWizard makes the selections for you.
To create a chart sheet, follow these steps:

1. Select the cells that contain the data you want to chart.

2. Open the Insert menu, choose Chart, and then choose the As New Sheet command from the submenu; or press F11. The Step 1 ChartWizard dialog box appears. (Refer to the preceding section for instructions on how to use the ChartWizard.)

3. Click Finish. Excel bypasses the ChartWizard and creates a chart based on the default chart settings (see fig. 16.22).

### Moving and Sizing a Chart Object

If the chart you create is added to a worksheet, you can resize the chart or move it to another location. Before you can move or resize a chart, you must select the chart.

To select a chart that is on a worksheet, position the mouse pointer in the chart area and click. Small black squares called handles appear on the boundaries of the chart, indicating that it is selected (see fig. 16.23).
Fig. 16.23
Handles appear on the chart boundaries when a chart is selected.

Fig. 16.24
Drag one of the handles to resize the chart.

To resize a chart, follow these steps:

1. Select the chart.

2. Drag a handle until the chart reaches the desired size (see fig 16.24).

To size the object horizontally and vertically at the same time, drag one of the corner handles. To increase or decrease the chart either horizontally or vertically, drag one of the middle handles.
To move a chart, simply select the chart and drag the chart to a new location.

**Changing the Chart Type**

You can change the type and format of a chart at any time. When you change a chart type, Excel redraws the chart to reflect the new type.

To change the chart type, follow these steps:

1. Double-click the chart whose type you want to change. A dashed border outlines the chart (see fig. 16.25).

![Fig. 16.25](image)

2. Open the Format menu and choose the Chart Type command. The Chart Type dialog box appears (see fig. 16.26).

3. Select the type of chart you want to use.

4. Click OK. Excel displays the chart in the new chart type (see fig. 16.27).
You also can change the chart type using the Chart toolbar. Click the down arrow next to the Chart Type button and choose a chart type from the icons that appear.

**Enhancing a Chart**

Excel provides many commands that enable you to enhance your charts. You can, for example, add data labels to a chart to annotate the chart elements. You also can add grid lines and titles to a chart.

To add data labels to a chart, follow these steps:

1. Double-click the chart you want to enhance, or activate the chart sheet.
2. Open the Insert menu and choose the Data Labels command. The Data Labels dialog box appears (see fig. 16.28).

![Data Labels dialog box](image)

3. Select the type of data labels you want to display.

4. Click OK. Excel adds the data labels to each data series in the chart (see fig. 16.29).

![Chart with data labels](image)

To add grid lines to a chart, follow these steps:

1. Double-click the chart you want to enhance, or activate the chart sheet.

2. Open the Insert menu and choose the Gridlines command. The Gridlines dialog box appears (see fig. 16.30).
Fig. 16.30
Use this dialog box to add major and minor grid lines to a chart.

3. Select the type of grid lines you want to display.

4. Click OK. Excel adds the grid lines to the chart (see fig. 16.31).

Fig. 16.31
In this figure, major grid lines have been added to the x-axis.

To add titles to a chart, follow these steps:

1. Double-click the chart to which you want to add titles, or activate the chart sheet.

2. Open the Insert menu and choose the Titles command. The Titles dialog box appears (see fig. 16.32).

3. Select the type of titles you want to add, and then click OK. The dialog box closes, and you return to the chart, in which the title objects now appear.

4. Type the text for the selected title, and press return.

5. If you added any other titles, click them and type text for them as well. The titles appear in the chart (see fig. 16.33).
To apply an autoformat to a chart, follow these steps:

1. Double-click the chart you want to format.

2. Open the Format menu and choose the AutoFormat command. The AutoFormat dialog box appears (see fig. 16.34).

Fig. 16.32
Use the Titles dialog box to select titles.

Fig. 16.33
In this figure, titles have been added to the chart.

Fig. 16.34
Select a built-in autoformat to apply to a chart.
To create a custom chart format, follow these steps:

1. Double-click the chart that contains the formats you want to define as a custom chart format, or activate the chart sheet.
2. Open the Format menu and choose the AutoFormat command. The AutoFormat dialog box appears.
3. Select the User-Defined option. After you select that option, the buttons in the dialog box change.
4. Click the Customize button. The User-Defined AutoFormats dialog box appears (see fig. 16.35).
5. Click the Add button. The Add Custom AutoFormat dialog box appears (see fig. 16.36).
6. Enter a name for the autoformat in the Format Name text box and a description in the Description text box.

7. Click OK. You return to the User-Defined AutoFormats dialog box, where the custom autoformat now appears in the Formats list (see fig. 16.37).

8. Click Close.

To apply a custom autoformat, follow these steps:

1. Double-click the chart you want to format, or activate the chart sheet.

2. Open the Format menu and choose the AutoFormat command. The AutoFormat dialog box appears.

3. Choose the User-Defined option.

4. Select the format you want to use from the Formats list.

5. Click OK.

**Editing a Chart**

When you use the ChartWizard to create charts, Excel plots the data according to the selected worksheet range. You can use several commands to edit an existing chart. For example, you can delete a data series from a chart, add a new data series to a chart, and change the order in which the data series appears.

To delete a data series from a chart, select the data series you want to remove, press the delete key, and click outside the chart. Excel removes the data series and redraws the chart to reflect the deletion.

**Tip**

To remove an autoformat and return to the default chart format, click the Default Chart button.
To add a data series, follow these steps:

1. Double-click the chart to which you want to add new data, or switch to the chart sheet that contains the chart.

2. Open the Insert menu and choose the New Data command. The Add Data dialog box appears (see fig. 16.38).

3. Enter the range in the worksheet that contains the data you want to add.

4. Click OK. Excel adds the data series to the chart.

To change the order of the data series, follow these steps:

1. Double-click the chart you want to modify, or switch to the chart sheet.

2. Open the Format menu and choose the Chart Type command. The Chart Type dialog box appears.

3. Click the Options button.

4. Select the Series Order tab.

5. Select the series you want to change, and then click the Move Up or Move Down button until the series are listed in the order you want (see fig. 16.39).

6. Click OK.
**Printing Charts**

Printing charts in Excel is no different than printing any worksheet range. You can specify print options for charts in much the same way that you do for data that appears in the worksheet. You can, for example, specify the size of the chart and the printing quality, and preview the chart before printing.

Before you print a chart, you need to specify the chart print settings. Follow these steps:

1. Double-click the chart you want to print, or move to the chart sheet that contains the chart you want to print.

2. Open the File menu and choose the Page Setup command.

3. Click the Chart tab. Figure 16.40 shows the printing options that are available for a chart.

4. Select the appropriate chart size in the Printed Chart Size area of the dialog box.

5. To print the chart in black and white, select the Print in Black and White option in the Printing Quality area.

6. When you finish specifying the print settings, you can print the chart. Click the Print button in the Page Setup dialog box. The Print dialog box appears.

7. Click Print to accept the print settings and begin printing the chart.

---

**Tip**

To print the chart with the default print settings, click the Print button in the Standard toolbar.

**Fig. 16.40**

The Chart tab of the Page Setup dialog box includes options for printing charts.
Troubleshooting

I want to access the chart commands when I embed a chart in my worksheet.

To access the chart commands for an embedded chart, you must double-click the chart you want to edit. When you do, Excel changes the menu commands in the Format and Insert menus to reflect commands for editing charts. When you create a chart in a separate chart sheet, the Insert and Format menus automatically contain these commands.

When I use the AutoFormat command to change the chart type, I lose some of the formats from my chart.

When you use the AutoFormat command in a chart that has already been custom formatted, you lose some or all of the chart's formatting. To change the chart type of an existing chart, yet retain the custom formatting, choose the Chart Type command from the Format menu, or select a chart type from the Chart Type list on the Chart toolbar.

My chart has only one data series, so I don't want to display the legend with the chart.

To remove the legend box from a chart, select the chart and then click the Legend button in the Chart toolbar. Excel removes the legend box from the chart.

I want to print a chart that is embedded in a worksheet. But when I select the chart and choose Print from the File menu, Excel prints the entire worksheet.

To print an embedded chart, first double-click the chart to select it, and then choose Print from the File menu. Excel will print only the selected chart. To print an embedded chart along with a selected range of cells, you must highlight the range of worksheet cells that contain the data and the chart.

From Here...

In this chapter, you learned the basic techniques for printing data and charts in your worksheets. You may want to explore the following chapters for additional information:

- Chapter 17, "Managing and Analyzing Data," shows you how to use the Scenario Manager and other features to analyze worksheet data.
- Chapter 25, "Creating Charts," teaches you how to create graphs with Microsoft PowerPoint.
- Chapter 29, "Sharing Data between Applications with Linking and Embedding," shows you how to link a chart to a Word document.
- Chapter 31, "Using Mail with Other Microsoft Office Products," explains how to distribute worksheet information electronically.

- Chapter 34, "Using Office Applications To Create a Presentation," shows you how to create a presentation with charts created in Excel.
With Excel, you can manage data by creating a list. A list is a simple database. After information is organized into a list format, you can find and extract data that meets certain criteria. You also can sort information in a list to put data into a specific order, and you can extract, summarize, and compare data. You also can create a Pivot Table to summarize information in an Excel list.

Excel 5.0 provides many tools that enable you to analyze and perform more complex calculations than the typical worksheet formula allows. The Goal Seeker command and Solver add-in enable you to calculate an answer based on one or more calculations. When you need to generate different answers for what-if analysis, the Scenario Manager enables you to do just that. Annotating worksheet cells helps both you and others who use your spreadsheet to understand formulas and logic.

In this chapter, you learn to

- Create a list
- Use a data form to enter and edit records
- Sort and filter data in a list
- Generate subtotals and grand totals
- Create pivot tables
- Use the Goal Seeker to calculate a defined result
- Find answers to problems using the Solver
- Annotate formulas with notes
Creating and Editing a List

A list is information in worksheet cells that contain similar sets of data. A list is a simple database. If you have ever used Microsoft Works, you've probably seen databases similar to what Excel calls a list. When information is organized in a list, you can sort, filter, and summarize data with subtotals. Each column in a list represents a category (called a field) and determines the type of information required for each entry in the list. Each row in a list forms a record.

For example, figure 17.1 shows a sample list. The columns labeled Store, Last Name, First Name, Position, Start Date, and Sales Points are the fields for the list.

To create a list, enter a column heading in each column in the section of the worksheet where you want to start the list. You can create a list in any area of the worksheet. Just make sure that the area below the list is clear of any data so that the list can expand without interfering with other data in the worksheet.

You enter data in the rows immediately following the column heading to form a record. Every record must have the same fields, but you don't have to enter data into all fields.
To facilitate entering and editing records in a list, Excel provides a data form that presents an organized view of the data and makes data entry easier and more accurate. The form displays field names, text boxes for data entry, and buttons for adding, deleting, and finding records. You can enter new records, edit existing records, find records, and delete records using the data form.

**Adding Records with the Data Form**

The data form provides text boxes, using the column headings or the field names from your list. You enter the data for each field in each text box on the form.

To add a record and enter data using the data form, follow these steps:

1. Select any cell in your list and the column headings.
2. Open the Data menu and choose the Form command. The Data Form dialog box appears, as shown in figure 17.2.

3. To add a new record to the list, click the New button. A new blank form appears.
4. Enter the appropriate data in each text box on the form.
   
   Press tab to move forward to the next text box. Press shift+tab to move to the previous text box.
5. When you have finished entering data for the record, press return to add the new record to the list. Another blank form appears, enabling you to enter another new record.

6. Click the Close button to return to the worksheet.

**Viewing Records with the Data Form**

You can use the data form to view records in your list. Click a cell in your list, and choose the Form command from the Data menu. The Data Form appears with the first record displayed.

Use the following procedures to view records in a list:

<table>
<thead>
<tr>
<th>To</th>
<th>Do this</th>
</tr>
</thead>
<tbody>
<tr>
<td>View the next record</td>
<td>Click Find Next or press down arrow</td>
</tr>
<tr>
<td>View the previous record</td>
<td>Click Find Prev or press up arrow</td>
</tr>
<tr>
<td>Move to a new record form</td>
<td>Press Control+page down</td>
</tr>
<tr>
<td>View the first record</td>
<td>Press Control+page up</td>
</tr>
</tbody>
</table>

You also can use the scroll bars to view each record in your list.

If you click the Find Next button to view the next record in the list and Excel beeps, you are viewing the last record in the database. As you view each record in the list, the data form displays the current record number in the top right corner of the dialog box, as shown in figure 17.3.

![Fig. 17.3](image)
Deleting Records with the Data Form
The data form also can be used to delete records from your list. When you use
the form to delete records, you can delete only one record at a time.

To delete a record with the data form, follow these steps:

1. Select any cell in your list.

2. Open the Data menu and choose the Form command. The data form
   appears.

3. Click the Find Next or Find Prev button, use the scroll bar, or press the
   up or down arrow to move to the record you want to delete.

4. When the record you want to delete appears in the form, click the
   Delete button to delete the record.

   The records below the deleted record will be renumbered to account for
   the deleted record. Excel prompts you with the dialog box shown in
   figure 17.4 to verify that you want to delete the record.

   Fig. 17.4
   A message box
   appears reminding
   you that the record
   will be perma-
   nently deleted.

5. Click OK or press return to delete the record, or click Cancel to keep the
   record.

6. Click the Close button to return to the worksheet.

Finding Records with the Data Form
You can use the data form to find particular records in your database. When
you use the data form, you can view only one found record at a time.

To find records from the data form, follow these steps:

1. Select a cell in the list.

2. Open the Data menu and choose the Form command.

3. Click the Criteria button.

4. Select a text box and enter the criteria or pattern for which you want to
   search, as shown in figure 17.5.
5. Click the Find Next button or press the down arrow after you have entered the criteria. If no matches exist, you hear a beep. Click the Find Prev button or press the up arrow if you want to search backward through the database to find a match. Click Find Next again to see if more than one match exists.

6. Click the Close button to close the dialog box.

**Fig. 17.5**
In this example, the search criterion is a Sales Points greater than 18.

---

**Note**
You can use multiple criteria when searching for records. To do so, enter the criteria values in the appropriate text boxes.

---

**Troubleshooting**

After I choose the Form command from the Data menu, Excel displays an error message stating that no list was found.

Select any cell within the list on your worksheet, and choose the Form command again. In order to use the Form command to manage information in your list, you must first select the list you want to modify before you choose the command.

When I choose New to add a new record to the list in the data form, Excel displays the message Cannot extend list or database, and I can't enter a new record.

The data form will not allow you to add new records to the list if there aren't enough blank rows below the current list range. Click OK to close the dialog box, and then click Close to close the data form. If any data is below the list range, use the Cut and Paste commands from the Edit menu to move the data to a new location. When you create a list, remember to select a location in the worksheet with enough room to expand the list.
Sorting and Filtering Data in a List

An Excel list provides you with flexibility so that you can organize data to meet your needs. You can sort the list to display data in a certain order. You also can filter the list so that it only displays certain records.

Sorting Data in a List
Excel sorts lists based on fields. Any field name you have created in the list can be used as a sort field for reorganizing the list.

To sort a list, follow these steps:

1. Select a cell in the list you want to sort. Or, if you want to sort only selected records in a list, highlight the records you want to sort.

2. Open the Data menu and choose the Sort command. The Sort dialog box appears, as shown in figure 17.6.

3. To prevent the column labels from being sorted with the rest of the list, select Header Row in the My List Has section of the dialog box.

4. The Sort By text box is selected. Use the drop-down list box to replace the field name in this text box with the field name by which you want to sort. Select the Ascending or Descending option for the order in which you want to sort the selected records.

5. To sort records using additional fields, press tab or select the Then By text box and specify the field. Select the Then By text box if you want to sort by a third field.

6. Click OK or press return. Excel sorts the data in the list, as shown in figure 17.7.

**Fig. 17.6**
You can sort a list based on multiple field names.

**Tip**
To quickly sort a list, select a cell in the column by which you want to sort, then click the Sort Ascending or the Sort Descending button.
Filtering Data in a List

When you need to work with a subset of data within the list, you can filter the list so that only certain records appear. After you have filtered a list, you can modify the records; generate subtotals and grand totals; and copy the data to another area of the worksheet.

When you filter a list, Excel displays only those records that meet the criteria, while hiding the other records from view. Two methods are available for filtering the records in a list. You can use the AutoFilter command to quickly filter data in a list. To filter data using additional criteria, you can use a custom AutoFilter.

Using AutoFilter to Filter Records

To filter a list with the AutoFilter command, follow these steps:

1. Select a cell in the list you want to filter.
2. Open the Data menu, choose Filter, and then choose the AutoFilter command from the submenu. Excel inserts drop-down arrows next to each column heading in your list, as illustrated in figure 17.8.
3. Click the drop-down arrow in the column that contains the data you want to display. Excel displays a menu listing all the unique items in the column, as shown in figure 17.9.

4. Select the item you want to display. Select Blanks to display empty cells or NonBlanks to display cells that have value.

---

**Fig. 17.8**
Drop-down arrows appear next to each column label.

**Fig. 17.9**
Select the item you want to display from the drop-down list.
5. Repeat steps 3 and 4 for each additional column you want to filter.

Excel displays only those records that meet the filter criteria. Excel displays the row headings of records that match in a different color.

To return the list to its original state, select All from the drop-down menu of each column.

Creating a Custom AutoFilter
You can define a custom AutoFilter when the data you want to filter must meet specified criteria.

To create a custom AutoFilter, follow these steps:

1. Select a cell in the list you want to filter.

2. Open the Data menu, choose Filter, and then choose the AutoFilter command from the submenu.

3. Click the drop-down arrow in the column that contains the data you want to filter, and choose Custom. Excel displays the Custom AutoFilter dialog box, shown in figure 17.10.

4. Click the arrow in the drop-down list of comparative operators, and select the comparative operator with which you want to compare the data. Enter the data you want to compare in the text box, or click the arrow to display a list of items and select an item.

5. To add a second set of criteria, select And to indicate that the records must meet both sets of criteria. Select Or to indicate that the records must match either set of criteria. Define the second set of criteria.

6. Click OK or press return.

Excel filters the list and displays those records that match the criteria (see fig. 17.11).
Troubleshooting

After sorting the database, Excel sorts the column headings along with the data in the list.

To prevent the column headings from being sorted with the rest of the list, select Header Row in the My List Has section of the Sort dialog box.

I selected multiple filters, but my list doesn’t display any records.

Select All from the AutoFilter drop-down menu to redisplay the records. When you use multiple filters, each record in the list must contain each of the specified criteria. If a record contains one of the specified criteria but not the other, that record will not be displayed. To remove the AutoFilter drop-downs from the list, choose the AutoFilter command from the Filter submenu on the Data menu.

Adding and Removing Subtotals

When you sort data in a list, Excel allows you to summarize the data with subtotals. When you summarize a list, Excel calculates subtotals based on subsets of the data and also calculates a grand total.
Creating Subtotals
To add subtotals to a list, follow these steps:

1. Sort the data according to the order in which you want to create subtotals. To generate subtotals based on store, for example, first sort the list by store.

2. Select a cell in the list you want to summarize.

3. Open the Data menu and choose the Subtotals command. The Subtotal dialog box appears, as shown in figure 17.12.

4. Select the group to define the subtotals. To generate automatic subtotals by store, for example, select the Store field from the At Each Change In drop-down list.

5. Select the Subtotal function from the Use Function drop-down list. To create subtotals, make sure that Sum is selected.

6. Choose the data you want to subtotal in the Add Subtotal To box. To subtotal the data found in the Sales Points field, for example, select Sales Points.

7. Click OK or press return to add the subtotals to your list, as shown in figure 17.13.

Note
If your list is not sorted prior to selecting the Subtotal command, Excel creates a subtotal for each entry in the list. To prevent this from occurring, sort the list before you choose the command.
Hiding and Displaying Data in a Subtotaled List

When you add automatic subtotals to a list, Excel displays the list in Outline view. You can expand and contract the level of detail in the list to display only the subtotals and grand totals of data.

Figure 17.13 shows the list displayed in Outline view. The icons that appear along the left edge of the worksheet window enable you to expand and contract the level of detail.

To hide detail level, click the Hide Detail Level button of the subtotal for which you want to hide the detail. Excel contracts the list to display the subtotal detail only. Figure 17.14 shows the list with the detail of every subtotal hidden.

To display a detail level, click the Show Detail Level button that corresponds to the subtotal for which you want to show the detail. Excel expands the list to show the detail Level.
Removing Subtotals from a List
To remove subtotal data from a list, select a cell in the subtotaled list and choose the Subtotals command from the Data menu. Choose the Remove All button from the Subtotals dialog box.

Summarizing Data with Pivot Tables
Excel 5.0 includes a new capability called the pivot table that enables you to quickly and easily summarize and compare data found within a list. When you want to summarize your data in another way, you only need to drag and drop fields to create a whole new report, without changing the structure of the data in your worksheets.

You use the automated PivotTable Wizard to create pivot tables in Excel. The PivotTable Wizard guides you step by step through the process of creating a pivot table. The PivotTable Wizard prompts you to define the pivot table information, using the fields defined in a list.

Creating a Pivot Table with the PivotTable Wizard
When you create a pivot table from a list, the column headings in the list are used as Row, Column, and Page fields. The data in the columns become items in the pivot table. When the data in your list contains numeric items, Excel automatically uses the Sum function to calculate the values in the pivot table.
If the data in your list contains text items, Excel uses the Count function to calculate a count of the source items in the pivot table.

To create a pivot table from a list in your worksheet, follow these steps:

1. Open the Data menu and choose the PivotTable command. Step 1 of the PivotTable Wizard appears, as shown in figure 17.15.

2. Specify the data you will be using in the Pivot Table. Select Microsoft Excel List or Database, and click the Next button. Step 2 of the PivotTable Wizard appears, as shown in figure 17.16.

3. Specify the location of the list in the Range text box (by typing the range address or by highlighting the range with the mouse), and then click Next. Step 3 of the PivotTable Wizard appears, as shown in figure 17.17.

4. Define the layout of the pivot table by dragging the field names displayed on the right side of the dialog box to the Row, Column, or Page area. Fields placed in the Row area appear in each row in the pivot table. Fields placed in the Column area appear in each column of the pivot table. Fields placed in the Page area filter the data shown in the pivot table.

Fig. 17.15
Specify the data to use for the pivot table in Step 1 of the PivotTable Wizard.

Fig. 17.16
Specify the range of data in Step 2 of the PivotTable Wizard.

Tip
Don't spend too much time deciding where to place the fields. You can always rearrange the fields after you have added the pivot table to your worksheet.
**Fig. 17.17**
Define the pivot table layout in Step 3 of the PivotTable Wizard.

5. Click Next to display the final step in the PivotTable Wizard (see fig. 17.18).

**Fig. 17.18**
Specify the location of the pivot table in Step 4 of the PivotTable Wizard.

6. Enter a cell address in the PivotTable Starting Cell text box. If you leave this text box empty, Excel creates a new worksheet and adds the pivot table to it. Click Finish. The PivotTable Wizard displays the results in a table on the worksheet (see fig. 17.19).

When you add a pivot table to the worksheet, Excel automatically displays the Query and Pivot toolbar. The toolbar contains buttons for the most frequently used pivot table commands, as shown in figure 17.19.
Editing and Updating a Pivot Table

After you have added a pivot table to your worksheet, you can quickly re-arrange the fields in the pivot table to display an entirely different view of your data. Each field in the list is represented by a shaded cell in the pivot table. Figure 17.19 shows the fields. You change the view of the data by dragging the fields to other areas in the pivot table.

The field dragged to the data section will be the field from which data is displayed in the intersection of your rows and columns. The field dragged to the page section allows you to filter the data appearing from the fields you dragged to your rows and columns sections.

Rearranging a Pivot Table

To change the data displayed on the current page, click the drop-down arrow displayed in the Page area of the pivot table. A list of items for the current field appears. Select an item from the list to filter the data in the pivot table to display data for that item only (see fig. 17.20).
Fig. 17.20
The pivot table displays sales points for sales representatives only.

To change the data displayed in the columns of the pivot table, drag a row or page field to the column area of the pivot table. When you do, the pivot table displays a columnar view of the data (see fig. 17.21).

Fig. 17.21
The columns in the pivot table show sales points by Store and Position.
To change the data displayed in the rows of the pivot table, drag a page or column field to the row area of the pivot table. The pivot table displays data in a row field in each row (see fig. 17.22).

Fig. 17.22
The rows in the pivot table show sales points by Position and Last Name.

Adding and Removing Fields in a Pivot Table
You can change the data used in a pivot table by adding new fields to the pivot table or by removing fields from the pivot table that you no longer need. When you add a new field to the pivot table or delete an existing field, Excel automatically updates the pivot table.

Note
When you add and remove data from a pivot table, the action has no effect on the source data in the list.

To add a field to the pivot table, follow these steps:

1. Select a cell in the pivot table.
2. Click the PivotTable Wizard button on the Query and Pivot toolbar, or choose PivotTable from the Data menu.
3. Add the field using the PivotTable Wizard.
Modifying a Pivot Table

Excel provides special formatting commands for modifying the appearance of a pivot table. When you use these commands, Excel retains the format, even when you reorganize and recalculate the data in the pivot table.

You can change the numeric format of the data displayed in the data area, format an entire pivot table, and rename fields and items in the table.

Tip
You can remove a pivot table field directly from the pivot table in the worksheet. To remove a field, drag it outside the pivot table area. When you have moved outside the table area, the mouse pointer will appear with an X on it. Excel then removes the data from the table.

Note
When you update a pivot table, Excel recalculates and reformats the data in the table. Because of this, you should avoid manually formatting the table.

Applying a Numeric Format
To change the numeric formatting in the data area of the pivot table, follow these steps:

1. Select a cell in the pivot table.
2. Open the Data menu and choose the PivotTable Field command, or click the PivotTable Field button on the Query and Pivot toolbar. The PivotTable Field dialog box appears (see fig. 17.23).

Fig. 17.23
The PivotTable Field dialog box.
3. Click the Number button in the PivotTable Field dialog box. The Format Cells dialog box then appears (see fig. 17.24).

![Format Cells dialog box](image)

4. Select the numeric format you want to apply to the data area.

5. Click OK twice to return to the worksheet.

**Formatting the Pivot Table**

When you create a pivot table and select the AutoFormat Table check box in the PivotTable Wizard, Excel automatically formats the table for you. To use another format, select a cell in the pivot table and choose AutoFormat from the Format menu. Select the format you want to use from the AutoFormat dialog box, and click OK (see fig. 17.25).

![Pivot Table with AutoFormat](image)

**Fig. 17.24**

Change the numeric format of cells in the Format Cells dialog box.

**Fig. 17.25**

The pivot table has been formatted with the Classic 2 AutoFormat.
Changing the Calculation Used in a Pivot Table
When the items displayed in the data area of a pivot table are numeric, Excel automatically uses the Sum function to summarize the data in the list. When the items are text, the Count function is used to summarize the text items. You can change the summary function used by a data field, for example, to calculate an average or maximum value. You also can change the calculation type used in the data area.

Changing the Summary Function
To change the summary function used by the pivot table, follow these steps:

1. Select a cell in the field you want to change in the data area of the pivot table.
2. Open the Data menu and choose the PivotTable Field command, or click the PivotTable Field button on the Query and Pivot toolbar.
3. In the Summarize By list box, select the function you want to use to summarize the data.
4. Click OK or press return.

Changing the Summary Type
Excel can calculate values used in the data area based on the values of other cells. You can calculate the difference between items in a field, for example, or calculate the items as percentages of the total.

To change the summary type used by the data field in the pivot table, follow these steps:

1. Select a cell in the field you want to change in the data area of the pivot table.
2. Open the Data menu and choose the PivotTable Field command, or click the PivotTable Field button on the Query and Pivot toolbar.
3. Click the Options button in the PivotTable field dialog box (see fig. 17.26).
4. Click the arrow in the Show Data as text box to display the calculation types available (see fig. 17.27).
5. Select the calculation type you want to use from the Summarize By list box, and then select the fields and items you want to use.

6. Click OK or press return.

**Refreshing Data in a Pivot Table**

When you update the data in the source list in your worksheet, you must refresh the pivot table to include the new information. To refresh data in the pivot table, select any cell in the pivot table and choose the Refresh Data command from the Data menu or click the Refresh Data button from the Query and Pivot toolbar.
If you add new records to your source list, you must redefine the source range used to create the pivot table, using the PivotTable Wizard.

To extend the source range to include additional records in the pivot table, select a cell in the pivot table and choose the PivotTable command from the Data menu, or click the PivotTable Wizard button from the Query and Pivot toolbar.

Excel displays Step 3 of the PivotTable Wizard. Click Back to display Step 2. Respecify the source data range, and click Finish. You can specify the source data range while the PivotTable Wizard dialog box is on-screen by selecting the cells behind the dialog box. Excel adds the new records to the pivot table.

**Forecasting with the Goal Seeker**

Excel’s Goal Seek command enables you to perform simple forecasting in your worksheets. You can find a specific value for a defined result by adjusting the value of other cells in the worksheet. For example, you can find out how many houses need to be sold to generate a total sales figure of $1,600,000. The benefit of using the Goal Seek command is that Excel uses the data known—in this case, the total sales amount and the amount per product—and performs the calculation instantaneously, without your having to try many inputs, to come up with the answer.

To use the Goal Seeker, begin by setting up the problem and entering the known variable in the worksheet. The worksheet shown in figure 17.28 contains the data variable for a sales forecasting worksheet.

To use the Goal Seeker, the variable you want to adjust must be a formula, and the formula must refer to the other cells in the worksheet. You specify the cell containing the formula as the Set Cell. Then the cell to adjust must be referred to by the formula in the set cell. In the worksheet in figure 17.28, the Total Sales cell contains the formula =B4*B5. In this case, we know the average price of a house is $150,000. So, we want to see how many houses must be sold.
To forecast with Goal Seek, follow these steps:

1. Open the Tools menu and choose the Goal Seek command. The Goal Seek dialog box appears, as illustrated in figure 17.29.

2. Specify the cell containing the formula as the Set Cell.

3. In the To Value text box, enter the value the cell must reach.

4. Specify the cell to adjust in the By changing cell text box.

5. Click OK or press return when you have specified the cells. Figure 17.30 shows the Goal Seek Status dialog box that informs you of the status of the operation.
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Fig. 17.30
The Goal Seek Status dialog box shows the status of the problem.

6. Click OK or press return. Excel displays the results in the worksheet cells (see fig. 17.31).

Fig. 17.31
The Goal Seek returns the result, indicating that 11 houses must be sold to reach a value of 1.6 million in sales.

Finding the Best Solution with Solver

The Goal Seek command enables you to generate values based on a single input cell. By contrast, the Solver add-in enables you to calculate the values needed to reach a particular result by adjusting the value of one or more cells. Furthermore, you can define constraints, which Solver must meet when generating the optimum solution.

In the case of the real estate agency determining the number of houses that must be sold in order to meet its annual sales forecast, for example, you must take other considerations into account besides the average price of the house and the goal that must be met.
Loading the Solver Add-In

Before you can use the Solver, you must first load the Solver add-in into memory. When you installed Excel, you were given the option of installing the add-ins that ship with Excel. If you chose to install the add-ins, you can use the Add-Ins command from the Tools menu to load Solver into memory. If you did not install the add-ins, you must do so before you can use Solver.

To load Solver into memory, follow these steps:

1. Open the Tools menu and choose the Add-Ins command. Figure 17.32 shows the currently installed Add-ins.

2. From the list of installed add-ins, select Solver Add-In.

3. Click OK or press return. The Solver command appears in the Tools menu.

Setting Up the Problem

To use the Solver in your worksheets, you must first define the problem that you need to solve. With Solver, each of the constraint cells is based on formulas. The changing values are the values to which each of the constraint cells refers. Therefore, to set up the problem, determine which of the cells will be used as the constraints and make sure that they contain formulas. The worksheet shown in figure 17.33 illustrates a problem that the Solver will help solve.
Fig. 17.33
Solver will adjust the data in the range BS:DS until the total commission in cell E9 equals $96,000.

Running Solver
After you have set up the worksheet and located the cells to use, follow these steps to run Solver:

1. Open the Tools menu and choose the Solver command to start the Solver add-in. Figure 17.34 displays the Solver Parameters dialog box.

Fig. 17.34
Use the Solver Parameters dialog box to define the target cell, the cells to adjust, and the constraints.

2. Indicate the cell that contains the formula you want to solve for in the Set Target Cell text box. In our example, the cell E9 is the target cell, because that is where the total commission is calculated.
3. Use the Equal To section of the dialog box to indicate the optimum value for the cell: either the Maximum value, Minimum value, or a specific value. To meet a specific value, select the Value of option and then enter the value in the text box. In our example, we want the value to be equal to $96,000.

4. In the By Changing Cells text box, indicate the cell or range of cells that the Solver will need to adjust to reach the optimum value. In our example, cells (B5:D5) are the cells to change because they hold the values for the number of condos, houses, and plots sold.

5. To specify constraints, click the Add button to add each constraint to the problem. Figure 17.34 has three constraints already entered. These constraints make sure that the number of condos, houses, and plots of land are integers. You can’t sell half of a house. Figure 17.35 shows the Add Constraint dialog box.

![Solver Parameters Dialog Box](image)

6. To create a constraint, specify the cell containing the formula on which the constraint is based in the Cell Reference text box. Click the dropdown arrow to display the list of constraint operators, and select the appropriate operator. In the final text box, enter the value the constraint must meet. In figure 17.35, the constraint requires that at least $20,000 of our commissions come from house sales. Click the Add button to add the current constraint to the problem and create another, or click OK to add the constraint and return to the Solver Parameters dialog box.

7. The constraints you have defined appear in the Subject to the Constraints list box. Click Solve to start the Solver. The Solver begins calculating the optimal solutions. When Solver finds a solution, the Solver Results dialog box appears, as shown in figure 17.36.
Fig. 17.36
The Solver Results dialog box gives you options for using the solution that has been found.

8. Excel adds the solutions to the worksheet. Select Keep Solver Solution to use the offered solutions. Select Restore Original Values to return to the original worksheet values. Figure 17.37 shows the worksheet after the Solver has found the solutions for the problem.

Fig. 17.37
The results produced by Solver show that 8 condos, 16 houses, and 5 plots of land must be sold to generate $96,000 in commissions.

Creating Solver Reports
Solver enables you to generate reports summarizing the results of its solutions. You can create three types of reports: Answer, Sensitivity, and Limit. An answer report shows the original and final values for the target cell and the adjustable cells, as well as the status of each constraint. The sensitivity report shows the sensitivity of each element of the solution to changes in input cells or constraints. A limit report shows the upper and lower values of the adjustable cells within the specified constraints.
Performing What-If Analysis with Scenarios

For most spreadsheet users, a large portion of analysis involves performing what-if analysis. What effect does changing the average price of home sales have on my forecast? If I sell more condos than houses, will that have a negative impact on total sales?

The solution to each of these questions requires that input values in the worksheet change. When these values change, however, the original results are also changed, making it difficult to compare one outcome with another. To account for these changing variables, many users construct multiple data tables to test the outcome of each variable. This allows them to compare the original result to the new result.

One of the pitfalls in creating various solution tables is that it becomes increasingly difficult to monitor the difference between the tables. When the worksheet is used by multiple people, keeping track of the ranges proves to be an exercise in frustration. Finally, as each additional table is created to test a scenario, the worksheet grows larger and more unwieldy.

Excel 5.0 provides a tool that enables you to track these scenarios with ease. The Scenario Manager feature provides a mechanism that saves each iteration of a problem and then enables you to view one solution at a time.

Creating a Scenario

Before you create a scenario, you must first identify the worksheet range that contains the data, as well as the input cells that will change for each scenario. The worksheet shown in figure 17.38 illustrates a sales worksheet that enables you to track the change in Total Sales and Total Commission, based on the number of properties sold.
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Fig. 17.38
The Sales worksheet lets you perform what-if analysis using the # Sold cells.

![Sales worksheet](image)

After you have identified the data, follow these steps to create a scenario:

1. Open the Tools menu and choose the Scenarios command. The Scenario Manager dialog box appears, as shown in figure 17.39.

Fig. 17.39
The Scenario Manager dialog box is used to create scenarios.

![Scenario Manager](image)

2. Click the Add button to display the Add Scenario dialog box, as shown in figure 17.40.
3. Enter a name for the scenario in the Scenario Name text box.

4. In the Changing Cells text box, indicate the cell or range of cells that will change for each scenario.

5. In the Comment field, Excel has automatically entered your name and the date the scenario was created. Enter additional information in the text box as necessary.

6. To prevent changes from being made to the cells in the worksheet, select the Prevent Changes option in the Protection section of the dialog box. To hide the cell data from view, select the Hide option.

7. Click OK when you have finished defining the Scenario. Figure 17.41 shows the Scenario Values dialog box, in which you enter the data for each of the cells in the scenario.

**Fig. 17.40**
The Add Scenario dialog box enables you to name the scenario and define the cells that will change.

**Fig. 17.41**
Enter the data for each of the cells in the Scenario Values dialog box.

**Note**
When creating scenarios, use the Define command in the Name submenu on the Insert menu to assign a name to each of the cells in the scenario. When you do, Excel uses those names in the Scenario Values dialog box and in scenario reports.
Each of the displayed text boxes relates to each of the specified cells for the scenario. The cell address of each cell is displayed for reference.

8. Enter the data that represents the data to be used for the scenario.

9. When you're finished, click OK or press return. The Scenario Manager dialog box reappears, as shown in figure 17.42.

The name of the newly defined scenario appears in the Scenarios list box. When you select a scenario from the list, the Changing Cells field displays the cell addresses of the scenario. The Comments field displays the comments you entered to describe or annotate the scenario.

10. To view the scenario, select the scenario name from the list and click the Show button. Excel displays the values in each of the cells in the worksheet. If the dialog box prevents you from seeing the data, click and drag the title bar of the dialog box to move it out of the way.

11. At this point, you can click the Add button to define a new range of values as a scenario, or you can click the Edit button to edit the values used by the current scenario.

12. To return to the worksheet, click the Close button. Excel displays the values defined by the scenario in the worksheet.
Performing What-If Analysis with Scenarios

Note

Use the Scenario button found in the Workgroup toolbar to quickly switch between scenarios in the worksheet. To display the Workgroup toolbar, choose the Toolbars command from the View menu, select Workgroup from the Toolbars list, and click OK. To display a scenario, click the drop-down arrow in the Scenarios button, and select the scenario you want to view.

Editing and Deleting Scenarios

You can edit an existing scenario or delete a scenario altogether. When you edit a scenario, you can rename the scenario, specify other worksheet cells as the changing cells, and edit the comment. Furthermore, you can change the values defined by the scenario.

To edit a scenario, follow these steps:

1. Open the Tools menu and choose Scenarios to display the Scenario Manager dialog box. Select the scenario you want to edit from the Scenarios list box, and click the Edit button. Excel displays the Edit Scenario dialog box, as shown in figure 17.43.

Fig. 17.43
Excel automatically adds the modification date to the Comment field.

2. Make any modifications necessary to the data shown in the text boxes, and click OK. The Scenario Values dialog box is displayed.

3. Enter the new values, and click OK.
To delete a scenario, select the scenario you want to delete and click the Delete button. Excel removes the scenario from the Scenario listing.

**Summarizing Scenarios with Reports**
Excel provides two methods of displaying scenarios in a concise report. The Scenario Summary creates a simple report in table form, showing the data for each of the changing cells and their effect on the results of formulas in a range. You also can generate a Pivot Table Summary from a multiple scenario set.

**Creating a Summary Report**
To create a summary report, follow these steps:

1. Open the Tools menu and choose the Scenarios command.
2. Click the Summary button to display the Scenario Summary dialog box, as shown in figure 17.44.
3. Choose Scenario Summary, if it isn’t already selected, from the Report Type area of the dialog box.
4. In the Result Cells text box, indicate the range of cells that contain formulas based on the input cells.
5. Click OK. Excel displays a new sheet with a summary table of the scenario inputs and results, as illustrated in figure 17.45.
Creating a Scenario PivotTable Report

To create a pivot table from the scenarios in your worksheet, follow these steps:

1. Open the Tools menu and choose the Scenarios command.

2. Click the Summary button.

3. In the Scenario Summary dialog box, choose the Scenario PivotTable option.

4. In the Result Cells text box, indicate the range of cells that contain formulas based on the input cells.

5. Click OK. Excel displays a new sheet with a pivot table of the scenario inputs and results, as illustrated in figure 17.46.

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**Performing What-If Analysis with Scenarios**

**Fig. 17.45**

A summary report showing the best case and worst case scenarios, and the results.
You can manipulate the pivot table summary report as you would any pivot table. If you change a scenario, however, the pivot table is not updated. You must create a new pivot table to account for the changes.

**Annotating Worksheets**

When you use many formulas and functions for analysis in your worksheets, it can become difficult to remember exactly what each formula is calculating and what data it is using in its calculations. Excel enables you to annotate cells with notes so that you can enter descriptive data about a formula. When you share your worksheets with other users, the notes provide a handy mechanism for describing the contents of a cell or for additional information.

**Adding a Note**

To annotate a cell, follow these steps:

1. Select the cell, and choose the Note command from the Insert menu. The Cell Note dialog box appears, as shown in figure 17.47.
2. Enter the cell address (or point to it with the mouse) of the cell you want to annotate in the Cell text box.

3. Type the data of the note in the Text Note text box.

4. Click the Add button to add the note to the worksheet. The Notes in Sheet list box displays the cell address, as well as the first few words of the note.

5. Click OK to return to the worksheet.

**Viewing a Note**

When a cell in the worksheet has a note attached to it, a small red box appears in the upper-right corner of the cell. To display the contents of the note, select the cell and choose the Note command from the Insert menu. The text of the note appears in the Text Note text box. Click OK when you have finished viewing the note.

**Tip**

You also can view a note's contents by double-clicking the cell. First turn off in-cell editing. Choose Options from the Tools menu, select the Edit tab, uncheck Edit directly in cell, and click OK.

**Removing a Note**

To remove a note from a worksheet cell, select the cell, and then open the Edit menu, choose Clear, and choose the Notes command from the submenu.
From Here...

This chapter showed you how to work with lists to organize and summarize data in your worksheets. You also learned how to use Excel commands to analyze the data in your worksheets. You may want to read the following chapters for additional information, as well as to learn how to use list information with other applications in Microsoft Office:

- Chapter 15, "Using Formulas and Functions," discusses how to create formulas and use Excel's built-in functions to perform calculations, using data in the worksheet.

- Chapter 16, "Creating and Printing Reports and Charts," explains how to print worksheet data.

- Chapter 28, "Working with Wizards, Multiple Documents, and Cut, Copy, and Paste," discusses how to use information from a list in Excel to generate form letters in Microsoft Word.

- Chapter 33, "Sending a Mass Mailing," provides information on creating mailings and using Excel data in Microsoft Word.
A key feature of any serious application today is the capability to help users automate repetitive tasks. Since the introduction of macros (originally termed the "typing alternative") more than 10 years ago, users have pushed macro languages farther than ever imagined. Vendors responded by enhancing their macro languages, adding more and more features usually only found in higher-level programming languages, such as BASIC, FORTRAN, and C. Macros have evolved into complex programs that create and display custom menus, prompt users for input, and perform complex analysis of data.

Excel provides the power of an advanced macro language without requiring you to learn a complex programming language. Using the macro recorder, you can record your keystrokes and mouse clicks in macros. Then, when you need to repeat that process, just run the macro and let Excel do the work for you!

In this chapter, you learn to

- Record a macro
- Run a macro
- Change macro options
- Attach a macro to a toolbar button
- Attach a macro to the Tools menu
- Use the Personal Macro Workbook
Recording a Macro

When you find that you are repeating the same set of keystrokes and mouse clicks over and over again, it’s time to automate the process by recording a macro. A macro is a list of instructions that you want Excel to run. The macro recorder captures your keystrokes and mouse clicks, translates them into the macro language instructions that Excel understands, and writes them on a module sheet in your workbook. You then can run the macro instead of pressing the same keys and mouse buttons over and over again.

The macro recorder can record the process of selecting ranges, menu commands, or dialog-box options. Some common tasks to record include the following:

- Setting up a new worksheet
- Importing or exporting data
- Applying a common set of formats to a specified range
- Changing data in a specified column
- Setting up for a certain printer and printing a specified range
- Opening workbooks and selecting a certain view
- Performing a query
- Selecting cells and playing sound notes

Note

Excel Version 5.0 is the first Microsoft Office product to implement the common macro language called Visual Basic, Applications Edition (VBA). Microsoft plans to incorporate this powerful application language across Microsoft Office products so there is only one programming language to learn.

The old Excel macro language of Excel Version 4.0 can be used in Excel Version 5.0. In fact, you can choose to record a macro in Excel Version 4.0 language. However, Microsoft does not plan to make many future enhancements to the Excel Version 4.0 macro language.

In this chapter, macros will be recorded in VBA format. This chapter covers the basics of recording and playing a macro, along with some tips on using macros. Chapter 37, “Using Visual Basic for Applications,” introduces you to the language of Visual Basic, Applications Edition.
Planning the Macro

Before starting to record a macro, you should take some time to plan the task that you want to record. Although you can edit recorded macros, it is always easier to do it right the first time. Verify that all files you need in your macro are where they should be. Walk through the process a few times manually, so that your recording session produces the desired result. Consider other methods to accomplish the same task. Wherever possible, make macros generic so that they can be used on other worksheets or in other areas of the same worksheet.

Starting the Macro Recorder

To start the macro recorder, follow these steps:

1. Click the Record Macro button on the Visual Basic toolbar; or open the Tools menu, choose Record Macro, and then choose the Record New Macro command from the submenu. Excel displays the Record New Macro dialog box (see fig. 18.1).

2. Enter a name for the macro in the Macro Name text box. When naming your macro, keep these guidelines in mind:
   - Begin the macro name with a letter.
   - The name can contain letters, numbers, or underscores.
   - Do not include spaces or punctuation marks.
   - Names can be up to 255 characters long.

3. (Optional) Enter a description for the macro in the Description text box.

4. Click OK. Excel opens a Stop Macro button in its own toolbar, returns to the worksheet, and displays Recording in the status bar (see fig. 18.2).
5. Perform the actions you need to record.

6. When you finish recording, click the Stop Macro button; or open the Tools menu, choose Record Macro, and then choose the Stop Recording command from the submenu.

Using the Macro Recorder to Automate a Task

Suppose that each week you receive an income statement as a DIF file. Each week you need to do the following:

1. Open the file in Excel.
2. Set column widths.
3. Add a report title.
4. Print the income statement.
5. Save the file in Excel format.

Rather than baby-sit the computer each week, you could record a macro and let Excel handle the entire task for you. Figures 18.3 through 18.7 illustrate the recording of this process as a macro named Import_Weekly_IS. Note that dialog box selections, mouse drags, and file-save settings are recorded.
Fig. 18.3
Recording the opening of a DIF file.

Fig. 18.4
Recording can also capture the dragging of a column divider line to record a new column width.

Resizing column
**Fig. 18.5**
The macro can insert a row to make room for a title.

**Fig. 18.6**
You can automate the process of changing format settings, such as fonts, and entering data, such as a report header.
Troubleshooting

When I recorded the macro, I chose some incorrect menu commands and painted the wrong area. The macro works, but each time it runs, the mistakes are repeated.

You can edit the mistakes out. Excel records the macros on the Module pages of your workbook. You can view and edit the macros on these pages. See Chapter 38, "Using Visual Basic for Applications," for more information on how to safely edit your recorded macro.

I need to record more steps in an existing macro.

To record new steps in an existing macro, choose Tools Macro, select the desired macro, and click Edit. Excel displays the macro module page. Place the insertion point where you want to start recording. Open the Tools menu, choose the Record Macro command, and then choose Mark Position for Recording from the submenu. Go to the sheet where the macro is applied. Choose Tools Record Macro, and then choose the Record at Mark command from the submenu to begin recording new steps.

While recording my macro, I pressed the undo key. Now each time the macro runs, the data changes are discarded.

You need to remove the undo command from your recorded macro. See Chapter 37, "Using Visual Basic for Applications," for more information on how to safely edit your recorded macro.
Running a Macro

After you have recorded a macro, the next step is to test it. Before testing the macro, make backups of any worksheets on which the macro operates.

To run a macro, follow these steps:

1. Open the Tools menu and choose the Macro command, or click the Run Macro button on the Visual Basic toolbar. Excel opens the Macro dialog box (see fig. 18.8).

2. Select or type the name of the macro you want to run.

3. Click Run. Excel runs the macro.

Press esc to stop running a macro at any time, or click Pause or Stop on the Visual Basic toolbar. Pressing esc will produce a message alerting you that the macro has been interrupted.

After you run the Import_Weekly_1S macro, the worksheet looks like figure 18.9. The macro runs uninterrupted, except for one pause to ask for confirmation on saving the file, since the file name previously existed. The final step in the macro prints the worksheet.
Changing Macro Options

When you record a new macro, you can set various macro options by using the Options button in the Record New Macro dialog box (see fig. 18.10). Following is a description of the options available:

- **Assign to Menu Item on Tools Menu.** Select this box and enter a macro name to be listed on the Tools menu (see fig. 18.11).

- **Assign to Keyboard Shortcut.** Select this box to assign a shortcut key of option+;+ a letter that you designate. Note that this keyboard shortcut will not appear on the Tools menu unless you add it to the name to be listed on the menu.

- **Store in Personal Macro Workbook.** Select this radio button to save the macro to the Personal Macro Workbook. For more information, see “Using the Personal Macro Workbook” later in this chapter.

- **Store in This Workbook.** Select this radio button to save the macro in the current workbook.
■ Store in New Workbook. Select this radio button to save the macro in another workbook.

■ Language Visual Basic. Select this radio button to record the macro using Visual Basic for Applications (VBA).

■ Language MS Excel 4.0 Macro. Select this radio button to record the macro using the old macro language in Microsoft Excel Version 4.0.

**Fig. 18.10**
The Options button allows you to determine where the macro is stored, assign a macro to the Tools menu, assign a keyboard shortcut, and select the macro language in which to record.

**Fig. 18.11**
You can add the macros you use most often to the Tools menu.

For existing macros, use the Options button in the Macro dialog box to access different options. Now the Macro Options dialog box contains a Help Information section, instead of the Store In and Language sections (see fig. 18.12). The Help Information section includes the following options:

■ Status Bar Text. Enter text to display in the status bar when the macro runs.

■ Help Context ID. Enter the text ID (number) to make the help context-sensitive.
- **Function Category.** Select the function category.

- **Help File Name.** Enter the name of the file that contains the Help Information.

![Macro Options Dialog Box](image)

**Fig. 18.12**
For an existing macro, the Macro Options dialog box allows you to assign the macro to the Tools menu, assign a keyboard shortcut, and provide Help text.

**Troubleshooting**

*I assigned a keyboard shortcut to my macro, but it doesn’t work.*

Check to make sure that the workbook containing the macro is open. Then choose the Macro command from the Tools menu, select the macro name, and click the Options button. Verify the keyboard shortcut assigned. Finally, check to see if another macro is using the same shortcut key. Excel will run the first macro that has that shortcut key.

*I get a Macro Error dialog box when I run my macro.*

The worksheet that the macro operates on must be active for the macro to run.

*The macro I recorded is on a worksheet tab called Macro1, and the commands all start with an equal sign.*

You have recorded an Excel 4.0 macro. If you meant to record a Visual Basic macro, click the Options button in the Record New Macro dialog box and select the Visual Basic language option. Then record the macro again.
Adding Macros to Sheet Buttons and Toolbars

In the last section, you learned how to add a macro to the Tools menu to make a macro more accessible. You also can assign macros to a button object on your sheet or to a toolbar to make them even more accessible.

To assign a macro to a sheet button, follow these steps:

1. Display the Drawing toolbar by clicking the Drawing button on the toolbar.
2. Click the Create Button button on the Drawing toolbar.
3. Position the mouse pointer where you want to create the button, and drag until the button is the desired size.
4. Excel displays the Assign Macro dialog box (see fig. 18.13).
5. Select an existing macro and click OK, or click Record to create a new macro that will automatically be assigned to the button.
6. With the button still selected, click the label and type an appropriate name for the button.
7. Click anywhere on the sheet to deselect the button.
8. Test the button.

To assign a macro to a button on a toolbar, follow these steps:

1. Choose View Toolbars. Then click the Customize button. Excel displays the Customize dialog box (see fig. 18.14).
Using the Personal Macro Workbook

Sometimes you need to use the same macro in different workbooks. Excel provides a special workbook, called the Personal Macro Workbook, which stores macros that can be used by many workbooks. Excel automatically creates the Personal Macro Workbook the first time you record a macro and

2. At this point, all displayed toolbars are inactive. If the desired Excel toolbar and button are visible on-screen, select the button and choose Tools Assign Macro.

3. If the desired dialog box button is not visible, select the appropriate category from the Categories list box (see fig. 18.15) and drag the button to a toolbar. Excel opens the Assign Macro dialog box.

4. Select or record the desired macro to assign to the toolbar button. Click OK.

5. Close the Customize dialog box.

Using the Personal Macro Workbook

Fig. 18.14
Use the Customize dialog box to select a button to which to assign a macro.

Fig. 18.15
The Custom category provides many buttons you can use to create a custom toolbar. Just drag the desired button to a toolbar.
select the macro recorder option, *Store in Personal Macro Workbook* (see fig. 18.16). You can show the Personal Macro Workbook by choosing the Unhide command from the Window menu and selecting the Personal Macro Workbook. Figure 18.17 shows a macro recorded in the Personal Macro Workbook (note that recorded macros are automatically translated into Visual Basic commands).

**Fig. 18.16**
To create global macros, record them in the Personal Macro Workbook.

**Fig. 18.17**
To display the Personal Macro Workbook, choose the Window Unhide command.

See “Examining the Procedure,” p. 748
See “Understanding the Procedure,” p. 750
See “Understanding Functions and Procedures,” p. 759

The ability to record and store global macros allows you to create a toolbox of handy macros. You also can use global macros and the Personal Macro Workbook to help standardize spreadsheet development in your organization. By providing everyone with the same macro toolbox, you will enhance productivity and efficiency for everyone using Excel.
Now that you are familiar with working with Excel, you are ready to use Excel with some of the other Microsoft Office applications. To learn more about using Excel with other Microsoft Office applications, refer to the following chapters:

- Chapters 27 to 35 in Part V, "Working Together with Microsoft Office Applications," provide real life business scenarios that illustrate how to use the Microsoft Office programs together to accomplish various business tasks.

- Chapter 36, "Changing Toolbars and Menus," shows how to customize toolbars and menus.

- Chapter 37, "Using Visual Basic for Applications," teaches you the Visual Basic for Applications (VBA) language in Excel 5.0.
Part IV

Using PowerPoint

19 Getting Acquainted with PowerPoint
20 Creating, Saving, and Opening Presentations
21 Entering Slide Content
22 Working with Objects
23 Drawing Shapes, Curves, and Lines
24 Enhancing a Presentation
25 Creating Charts
26 Creating Output
PowerPoint is the component of Microsoft Office that helps you create professional-quality overhead, paper, 35mm slide, photoprint, and on-screen presentations. Before working with PowerPoint, you need to familiarize yourself with the PowerPoint window and understand the theory and process behind presentations created by PowerPoint.

In this chapter, you will learn the following:

- Starting and exiting PowerPoint
- Looking at PowerPoint window elements
- Examining components of PowerPoint presentations
- Understanding templates, masters, objects, and layouts
- Adding visuals to PowerPoint slides

**Starting and Exiting PowerPoint**

You start and exit PowerPoint just like you start and exit any of the applications in Microsoft Office. Click the PowerPoint button in the Microsoft toolbar or double-click the PowerPoint icon in the Microsoft Office program group. After a few seconds, the PowerPoint window appears. Like other Microsoft Office applications, PowerPoint displays the Tip of the Day dialog box, which contains a new tip each time you start PowerPoint. If you don't want to see the Tip of the Day each time you start PowerPoint, go to the Tip
414  Chapter 19—Getting Acquainted with PowerPoint

**Tip**
If you don't see the Microsoft toolbar on-screen, return to the Finder and double-click the PowerPoint icon in the Microsoft Office group.

of the Day dialog box and remove the X in the Show Tips at Startup check box by selecting it, then click OK. (You can display tips at any time by choosing the Help Tip of the Day command.)

When you finish using PowerPoint, choose the Quit command on the File menu. If the current file is unsaved, PowerPoint displays a dialog box asking if you want to save the changes you made to the current file. Choose Yes if you want to save, No if you don’t want to save, or Cancel to return to your file without saving.

**Getting Familiar with the PowerPoint Window**

After you close the Tip of the Day, PowerPoint automatically displays the dialog box shown in figure 19.1. This dialog box lets you choose how you want to create a presentation. PowerPoint offers a variety of methods for creating presentations, which you learn about in Chapter 20, “Creating, Saving, and Opening Presentations.”

**Fig. 19.1**
The opening window in PowerPoint.

**Tip**
If the slide is not full-screen, click the size box in the upper right corner of the slide window or click and drag it to resize the window in the lower right corner.

Figure 19.2 shows what a typical PowerPoint presentation screen might look like after you begin working. The relocatable Microsoft toolbar appears at the upper left corner of the window. PowerPoint's standard toolbar and menu bar are shown at the top of the screen. A drawing toolbar is displayed down the left side of the window. Surrounded by a gray border, the first slide in the presentation is represented by the white area in the middle of the screen (slides are the individual pages in a presentation that become overheads,
Getting Familiar with the PowerPoint Window

35mm slides, or on-screen slide shows). At the left end of the horizontal scroll bar are view tools used for displaying different views of your presentation. You learn about displaying different views in PowerPoint in Chapter 20, “Creating, Saving, and Opening Presentations.”

Window Elements
The menus in PowerPoint are similar to the menus in other Microsoft Office applications. Table 19.1 describes each PowerPoint menu and the types of commands that you find on each.

<table>
<thead>
<tr>
<th>Table 19.1 PowerPoint Menus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Menu</strong></td>
</tr>
<tr>
<td>File</td>
</tr>
<tr>
<td>Edit</td>
</tr>
</tbody>
</table>
Table 19.1 Continued

<table>
<thead>
<tr>
<th>Menu</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>View</td>
<td>Use this menu to choose the presentation view you want to display on your screen or to display masters. This menu also contains commands for activating the display of toolbars, rulers, and guides (you learn about rulers and guides in the &quot;Displaying Rulers and Guides&quot; section of this chapter). Use this menu to control the zoom percentage used in a particular view.</td>
</tr>
<tr>
<td>Insert</td>
<td>This menu contains commands that let you insert a variety of elements in a presentation, from a simple date or time to ClipArt, graphs, or other objects.</td>
</tr>
<tr>
<td>Format</td>
<td>This contains commands for changing all aspects (font, alignment, spacing, color, and shadow) of text and objects in a presentation. This also contains commands for selecting templates, wizards, and layouts, which are described in this chapter and Chapter 20.</td>
</tr>
<tr>
<td>Tools</td>
<td>This menu contains typical Microsoft Office tools, such as Spelling, as well as tools that are unique to PowerPoint. Use the commands on this menu to create transitions between slides, hide slides, or recolor or crop a picture. You also find commands for customizing toolbars and setting PowerPoint options.</td>
</tr>
<tr>
<td>Draw</td>
<td>Use the commands on this menu to manipulate drawn objects in a presentation. For example, you can group several objects as one, rearrange the stacking order or layers of objects, and rotate, flip, and change the scale of objects.</td>
</tr>
<tr>
<td>Window</td>
<td>This is a standard Window menu.</td>
</tr>
</tbody>
</table>

Along the lower edge of the PowerPoint window is the status bar, which displays the number of the current slide, Slide Master, Outline Master, Handout Master, or Notes Master at the left end. The right end contains three buttons:

- The New Slide button makes it easy for you to add a new slide to your presentation without choosing New Slide from the Insert menu (or ++M).

- When you click the Layout button, the Slide Layout dialog box appears, from which you can choose a specially designed slide layout.

- The Template button is used to display the Presentation Template dialog box. You can choose a new template for your presentation at any time by clicking this button. Layouts and templates are described in detail in the sections “Understanding Masters and Templates” and “Understanding Objects and Layouts,” later in this chapter.
Above the status bar at the bottom of the screen is the horizontal scroll bar (see fig. 19.2). At the left end are four view buttons. Each button displays a different view of the current presentation. The four buttons are described in the section, “Components of a PowerPoint Presentation,” later in this chapter.

**PowerPoint’s Standard Toolbar**

Table 19.2 describes each button on PowerPoint’s Standard toolbar. Each button represents a PowerPoint menu command. You learn how to use most of these buttons in subsequent chapters. Refer to Chapter 23, “Drawing Shapes, Curves, and Lines,” for an explanation of the tools on the Drawing toolbar.

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="New Presentation" /></td>
<td>Displays the New Presentation dialog box.</td>
</tr>
<tr>
<td><img src="image" alt="Open" /></td>
<td>Displays the Open dialog box, from which you can choose a presentation file to open.</td>
</tr>
<tr>
<td><img src="image" alt="Save" /></td>
<td>Saves the current presentation under the current name and file type. If the presentation has not yet been saved, displays the Save As dialog box.</td>
</tr>
<tr>
<td><img src="image" alt="Print" /></td>
<td>Displays the Print dialog box.</td>
</tr>
<tr>
<td><img src="image" alt="Spelling" /></td>
<td>Checks the spelling in the current presentation. Displays the Spelling dialog box if errors are found.</td>
</tr>
<tr>
<td><img src="image" alt="Remove" /></td>
<td>Removes the selected text or object from the slide and places it on the Clipboard.</td>
</tr>
<tr>
<td><img src="image" alt="Copy" /></td>
<td>Places a copy of the selected text or object on the Clipboard, leaving the original text or object unchanged.</td>
</tr>
<tr>
<td><img src="image" alt="Paste" /></td>
<td>Pastes the contents of the Clipboard into the current slide.</td>
</tr>
<tr>
<td><img src="image" alt="Attributes" /></td>
<td>Records all attributes (such as color, font, shadow, and pattern) of the selected object so you can copy all attributes to another object.</td>
</tr>
</tbody>
</table>

(continues)
<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Undo]</td>
<td>Undoes the most recent action taken. Note that not all actions (commands) can be reversed.</td>
</tr>
<tr>
<td>![Table]</td>
<td>Embeds a Microsoft Word table in your presentation, using the data (number of rows and columns) you specify.</td>
</tr>
<tr>
<td>![Excel]</td>
<td>Embeds an Excel worksheet in your presentation, using the data you specify.</td>
</tr>
<tr>
<td>![Graph]</td>
<td>Embeds a graph in your presentation, using the data you specify.</td>
</tr>
<tr>
<td>![Chart]</td>
<td>Embeds an organization chart in your presentation.</td>
</tr>
<tr>
<td>![Clip Art]</td>
<td>Allows you to insert clip art from Microsoft's ClipArt Gallery.</td>
</tr>
<tr>
<td>![Pick a Look]</td>
<td>Starts the Pick a Look Wizard, used for creating a presentation for which you define the style or look.</td>
</tr>
<tr>
<td>![RTF]</td>
<td>Creates an RTF (Rich Text Format) file in Word using the content of the current presentation.</td>
</tr>
<tr>
<td>![Font Size]</td>
<td>Increases font size of selected text to the next available size.</td>
</tr>
<tr>
<td>![Font Size]</td>
<td>Decreases font size of selected text to the previous available size.</td>
</tr>
<tr>
<td>![Zoom]</td>
<td>The mouse pointer changes to a question mark, which you can use to click any PowerPoint menu command, button, or toolbar for help.</td>
</tr>
<tr>
<td>![Zoom]</td>
<td>Lets you zoom in and out of your presentation.</td>
</tr>
<tr>
<td>![Font List]</td>
<td>Displays a list of available font sizes.</td>
</tr>
<tr>
<td>![Font Select]</td>
<td>Displays a pop-up list of available fonts.</td>
</tr>
</tbody>
</table>
Displaying Rulers and Guides

When you work with text documents in Word, it’s helpful to display horizontal and vertical rulers in the Word window. Because presentation slides primarily contain only text, rulers can be useful in PowerPoint as well. Rulers give you a reference point within a slide so that you can see where (in inches)
a text or drawn object appears. They also help you utilize and organize space on a slide and ensure that all slide elements fall within reasonable ruler and border limits.

**Tip**
To quickly turn rulers and guides on and off, go to View and choose Rulers and/or Guides. You can also press ` alt + G for Guides.

**Fig. 19.3**
Rulers and guides provide you with reference points on a slide.

When you need to precisely position slide elements or align certain elements vertically or horizontally, go to View and choose Guides. This displays dotted lines vertically and horizontally through the center point of a slide. Use guides to help you visually align elements on a slide. Guides, shown in figure 19.3, don't appear on printed copies of your slide. They only appear on-screen while you're working in PowerPoint.
Components of a PowerPoint Presentation

At first you may think PowerPoint is an application that only lets you create slides for a presentation, but PowerPoint offers much more. It helps you plan, create, and deliver a presentation in a practical way. Think about how speakers give presentations: They may plan the presentation by first creating the outline, then completing the style and content of the slides, then finally printing them. While they speak, they may refer to printed copies of the slides that contain their own handwritten notes. They may also provide copies of their slides to the audience so the audience can follow along or take notes.

Key components of a PowerPoint presentation include the following:

- Slides
- Outlines
- Notes
- Audience Handouts

Creating each of these components without the proper tools could take a great deal of time, but PowerPoint makes it easy for you by automatically creating each feature. You can use just one component or any combination of the four, depending on your specific needs.

You can view any of the four components on-screen or you can print copies. PowerPoint displays slides by default (see fig. 19.2). Outline pages look like a typical outline, with main headings aligned at the left margin and lower-level headings indented (see fig. 19.4). A speaker's notes pages contain a reduced version of the slide at the top of the page with space at the bottom of the page for the speaker's notes (see fig. 19.5). Audience handouts can contain two or six slides per printed page, as shown in figure 19.6. Notice that when you view audience handouts on-screen, PowerPoint doesn't display the actual slides. Instead, you see dotted frames that outline the location of the slides on the page.

To view slides, the outline, or notes, go to View and choose View Slides, View Outline, or View Notes Pages. Master slides are available from a hierarchy menu within View. After you choose a view, the status bar indicates the selected view. See Outline in figure 19.4, Notes 1 in figure 19.5, and Handout Master in figure 19.6.
Fig. 19.4
A presentation shown in View Outline.

Fig. 19.5
A presentation shown in speaker's notes view.
Understanding Masters and Templates

For every presentation you create, PowerPoint creates a set of masters: a Slide Master, Outline Master, Notes Master, and Handout Master. Masters correspond directly to the slides, outline, speaker's notes, and handout components of a presentation. Masters contain the elements (text or pictures) that you want to appear on each component page. If, for example, you want your...
company logo to appear on each of your slides, you don’t need to insert the logo on individual slides. Add the logo to the Slide Master and it automatically appears on each slide. Other elements you may add to a master include pictures or clip art, page numbers, the date, the title of the presentation, or reminders such as “Company Confidential.”

To display a master, choose View Master in the View Master hierarchy menu. Notice that the left end of the status bar indicates the master currently displayed (Slide Master). The Slide Master shown in figure 19.7 includes a company name, slide number, and date.

A template is a saved presentation file that contains predefined text formatting, color, and graphic elements. Templates are designed by professional graphic artists who understand the use of color, space, and design. Each template is designed to convey a certain look, feel, or attitude. Figure 19.8 shows how the EMBOSSDC.PPT template looks.

**Fig. 19.7**
A Slide Master contains all the elements that you want to appear on each slide.
Understanding Masters and Templates 425

**Note**

You can quickly display a master by using the view buttons at the left end of the horizontal scroll bar. Press and hold the Shift key, then click the slide view (for Slide Master), outline view (for Outline Master), slide sorter view (for Handout Master), or notes view (for Notes Master). To return to slide, outline, slide sorter, or notes view, choose the appropriate item from the View menu or click the View button at the lower left corner of the window.

Because a template is a saved presentation file, it contains a Slide Master, in which all the formatting, color, and graphic elements are defined. You select a template based on the look you want for your presentation, then apply the template to your new or existing presentation file. The template applies to all slides in the presentation, and you can apply a new template to a presentation at any time. If you want selected slides in a presentation to look different than the template, you can change any aspect of a slide on an individual basis.

PowerPoint contains template files for black-and-white overheads, color overheads, and on-screen slide shows. Each contains templates of the same style, but the colors are different depending upon the output you’ll be using.

**Fig. 19.8**
The EMBOSSDC.PPT template conveys a formal image.

See “Creating a New Presentation,” p. 431
For example, templates designed for black-and-white overheads use several shades of gray. Templates designed for color overheads use a wide variety of colors, but they seldom use dark backgrounds for a slide. Templates for on-screen slide shows make the most dramatic use of color, often using dark backgrounds and high-contrast colors for text. Templates are located in the PowerPoint folder in the template subfolder, under the names B & W Overheads, Color Overheads, and On Screen & 35mm Slides.

When you create a new presentation, you use PowerPoint's default template DEFAULT.PPT (refer to fig. 19.3). It doesn’t appear to be a template at all because it contains no color (except black and white), no graphic elements, and no stylistic formatting. Use the default template if you want complete control over your presentation's design, color scheme, and graphic elements—the template enables you to start as much from scratch as possible. You can, however, modify aspects of any template, not just the DEFAULT.PPT template.

Understanding Objects and Layouts

PowerPoint slides are comprised of objects, which are the key elements in any slide. Any time you add text, a graph, a drawing, an organization chart, clip art, a Word table, an Excel spreadsheet, or any other inserted element into a slide, it becomes an object. To work with an object, select it and either change its content or size, move it, copy it, or delete it. You also can change attributes of an object, such as its color, shadow, and border.

If you don’t feel confident positioning or arranging objects on a slide, you can use AutoLayouts, which lets PowerPoint do the work for you. AutoLayouts saves you the time and trouble involved with creating, arranging, positioning, and aligning new objects for a new slide. Each AutoLayout contains placeholders for various types of objects (such as text, clip art, and organization charts). Placeholders look like faint dotted lines on the slide and contain identifying text, such as Double click to add clip art or Click to add text (see fig. 19.9).

Each AutoLayout contains different object placeholders in different arrangements. For example, AutoLayout's presentation title page contains two text placeholders: one for a slide title and one for a subtitle. AutoLayout's title page is shown earlier in figure 19.3. The AutoLayout in figure 19.9, however, shows three placeholders: one for a slide title, one for text, and one for clip art.
Whenever you add a new slide to a presentation, PowerPoint automatically displays the New Slide dialog box (see fig. 19.10).

Fig. 19.9
AutoLayout takes the busywork out of arranging objects on a slide.

Fig. 19.10
The New Slide dialog box displays a variety of AutoLayouts.
Visually You Can Add to PowerPoint Slides

There is no reason for a PowerPoint presentation to contain dull slides full of only text. PowerPoint enables you to add several types of objects to your slides to grab an audience’s attention, add interest or humor, or illustrate a particular point. You can create some objects from within PowerPoint; others can be imported from other applications. To insert an object in a PowerPoint slide, choose an option within the Insert menu or use one of the buttons on the Standard toolbar. Table 19.3 summarizes options available on the Insert menu. See Chapter 21, “Entering Slide Content,” for more information about inserting objects in a presentation.

<table>
<thead>
<tr>
<th>Object Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ClipArt</td>
<td>The ClipArt Gallery is a collection of prepared illustrations that depict a wide variety of items and topics. ClipArt is an excellent choice if you’re not confident with your drawing abilities.</td>
</tr>
<tr>
<td>Picture</td>
<td>If you have access to other prepared artwork, such as a bitmap file, you can insert it in a PowerPoint slide. (PowerPoint recognizes 19 picture file formats, including QuickTime.)</td>
</tr>
<tr>
<td>Microsoft Word Table</td>
<td>Because Microsoft Word is part of Microsoft Office, you have quick and easy access to Word if you want to insert a table in a slide. The Word table can contain up to 15 columns and up to 4 rows.</td>
</tr>
<tr>
<td>Microsoft Graph</td>
<td>Microsoft Graph is an embedded application that enables you to create a chart or graph from spreadsheet data. You create the graph similar to the way you create a graph from spreadsheet data in Excel.</td>
</tr>
<tr>
<td>Object</td>
<td>The Object option on the Insert menu provides you with access to a wide variety of object types such as Microsoft Excel spreadsheets and charts, Microsoft Equation, Word documents, Paintbrush pictures, Microsoft WordArt, NoteIt, and OrgCharts. You can even add sound as an object.</td>
</tr>
</tbody>
</table>
From Here...

This chapter has provided you with a brief overview of PowerPoint, its design, and its capabilities. For in-depth discussions of specific topics, refer to the following chapters:

- Chapter 20, “Creating, Saving, and Opening Presentations,” describes the various methods for creating a new presentation file and describes how to switch your view of a presentation. You also learn how to save, close, and open a PowerPoint presentation file.

- Chapter 21, “Entering Slide Content,” describes the basics of entering the content of a presentation and labeling objects. This chapter also describes how to create a Word table, an Excel spreadsheet, and an organization chart in a PowerPoint presentation. You also learn how to insert objects from sources outside PowerPoint.

- Chapter 22, “Working with Objects,” describes objects, how to select and group them, and how to move, copy, resize, align, rotate, flip, and stack objects.

- Chapter 23, “Drawing Shapes, Curves, and Lines,” describes how to use PowerPoint’s drawing tools to add objects to your slides.

- Chapter 24, “Enhancing a Presentation,” describes how to add color, borders, shadows, and other enhancements to your presentation.

- Chapter 25, “Creating Charts,” teaches you how to use Microsoft Graph, an embedded application that lets you create a wide variety of graph types from spreadsheet data.

- Chapter 26, “Creating Output,” describes how to print all the components of a presentation and explains how to create an on-screen slide show.
Chapter 20
Creating, Saving, and Opening Presentations

by T. Kelley Boylan

To work with PowerPoint, you need to understand how to create a new presentation, save a presentation, and open an existing presentation.

In this chapter, you learn to

- Create a new presentation, using a variety of methods
- Change your view of a presentation
- Add, insert, and delete slides
- Save and close a presentation
- Open an existing presentation

Creating a New Presentation

To provide you with flexibility, PowerPoint offers a variety of ways to create a new presentation. You can create a blank presentation that contains no color or style enhancements. You can copy the appearance of an existing presentation. Or you can get step-by-step help in creating a presentation by using a wizard (wizards are described in the following section of this chapter).

The options for creating a presentation appear in the New Presentation dialog box (see fig. 20.1). This dialog box is displayed by choosing New from the File menu or by pressing \( \text{Ctrl+N} \).
The first time you start PowerPoint, the dialog box shown in figure 20.1 has a PowerPoint title. After you begin working with PowerPoint, the name of the dialog box changes to New Presentation.

The following sections describe each method of creating a new presentation.

**Creating a Presentation Using a Wizard**

A *wizard* is a guided, on-line script that asks you to respond to questions related to the task you’re performing—in this case, creating the framework for a new presentation. Through a series of dialog boxes, enter your responses to specific questions related to the task. Then the wizard uses the information you supply to create the new presentation file. Wizards are designed to help you perform unfamiliar tasks and tasks with which you may need help. In PowerPoint, a wizard creates a presentation when you want to define all aspects of the presentation at the time you create it. The wizard ensures you don’t forget any steps in the process.

**Using the AutoContent Wizard**

The AutoContent Wizard suggests the content and outline of your presentation based on the type of presentation you’re creating. For example, if your
Creating a New Presentation

A presentation is designed to introduce or sell a new product, the AutoContent Wizard suggests that you include the following:

- Objective
- Customer Requirements
- Features
- Competitive Strengths
- Key Benefits
- Next Steps

You can use the topics exactly as suggested or modify them to suit your needs. The presentation selections include the following (see fig. 20.2):

- Recommending a Strategy
- Selling a Product, Service, or Idea
- Training
- Reporting Progress
- Communicating Bad News
- General

If you’re unsure of your presentation type, use the General option, which suggests generic contents such as the topic of discussion, main ideas, examples, and summary.

**Fig. 20.2**
This dialog box lists presentation types and shows suggested topics.
To use the AutoContent Wizard, follow these steps:

1. Choose New from the File menu or press \( \text{Ctrl} + \text{N} \). PowerPoint displays the New Presentation dialog box.

2. Choose the AutoContent Wizard option and click OK. The AutoContent Wizard dialog box appears (see fig. 20.3). Notice that the title bar reads Step 1 of 4.

3. Read the information in the Step 1 dialog box and then click Next. The AutoContent Wizard - Step 2 of 4 dialog box appears (see fig. 20.4).

4. Type the information for creating a title slide and click Next. The AutoContent Wizard - Step 3 of 4 dialog box appears (refer to fig. 20.2).

5. Choose the type of presentation you're going to give and click Next. The AutoContent Wizard - Step 4 of 4 dialog box appears.

6. Click Finish to exit the wizard and create your presentation.

When you complete the steps, PowerPoint displays the presentation in outline view. You can use outline view to enter the content of the slides or, if
you prefer, you can switch to slide view (for information about outline view and slide view, see “Viewing a Presentation,” later in this chapter). The presentation contains a title page and a slide for each of the suggested topics.

**Using the Pick A Look Wizard**

The second wizard you can use to create a presentation is the Pick a Look Wizard, which enables you to specify the look of the presentation. You choose the type of output you want for your presentation (black-and-white slides, color slides, on-screen presentation, or 35mm slides) and a template design. Then you determine the information you want to add to the presentation masters (slide master, speaker's notes master, handout master, and outline master).

To choose a template, go to the Format menu and choose Presentation Template.

Templates are stored in the Templates folder and are divided into subcategories. The B & W Overheads folder contains templates for black-and-white overheads. The Color Overheads folder contains templates designed for color overheads. The On Screen & 35 mm Slides folder contains templates designed for on-screen slide shows. When you select a template, a preview of the template appears on the left side of the dialog box.

To use the Pick a Look Wizard, follow these steps:

1. Choose New from the File menu or press \+N. The New Presentation dialog box appears.
2. Choose the Pick a Look Wizard option and click OK. The Pick a Look Wizard dialog box appears. Notice that the title bar reads Pick a Look Wizard Step 1 of 9.
3. Read the information in the Step 1 dialog box and click Next. The Step 2 of 9 dialog box appears.
4. Choose the type of output you want for your presentation (Black and White Overheads, Color Overheads, or On-Screen Presentation/35mm Slides) and Click Next. The Step 3 of 9 dialog box appears.
5. Choose one of the four template designs that appear in the dialog box or click More. When you click More, PowerPoint displays an Open dialog box that contains more templates.
6. Open a template folder and choose a template. To use the selected template, click Apply. When the Step 3 dialog box reappears, click Next and the Step 4 of 9 dialog box appears.

**Tip**

To preview a template, highlight the File Name list and use the up- and down-arrow keys to scroll through the different templates. A sample of the highlighted template appears on the left side of the selection box.
7. Choose the printed output options you want (Full-Page Slides, Speaker’s Notes, Audience Handout Pages, or Outline Pages) and click Next.

8. The remaining dialog boxes that appear are determined by the printed output options you selected in Step 7. For each option, PowerPoint displays a separate dialog box that enables you to add text, the date, and page numbers to masters. When you finish with each dialog box, click Next. The Step 9 of 9 dialog box is the final step.

9. In the Step 9 of 9 dialog box, click Finish to exit the wizard and create your presentation.

When you complete the steps, PowerPoint displays the presentation in slide view. When you enter the content of your presentation, you can remain in slide view or switch to another view. Unlike a presentation created with the AutoContent Wizard, a presentation created with the Pick a Look Wizard contains only the first slide and Cue Cards are not automatically displayed.

Creating a Presentation Using a Template
As pointed out in the preceding sections, a wizard helps you establish the specific aspects of your presentation when you want to select a template, specify options for the masters, and use the suggested topics for a presentation. Sometimes, however, you want to apply only a template to a presentation. In this case, choose the Template option in the New Presentation dialog box.

To use a template to create a presentation, follow these steps:

1. Choose New from the File menu or press Ctrl+N. The New Presentation dialog box appears.

2. Choose the Template option and click OK. The Presentation Template dialog box appears.

3. Choose a template folder and choose a template. To apply the highlighted template, click Apply. Slide 1 of the new presentation in slide view appears.

Creating a Blank Presentation
When you create a blank presentation, PowerPoint uses the DEFAULT.PPT template. The default template uses no color (black and white only) and includes no stylistic enhancements. Creating a blank presentation puts you in complete control of the your slides’ color scheme, layout, and style characteristics. You can leave the presentation blank or you can add a template, colors,
and other enhancements selectively at any time by using menu or toolbar commands. Use the blank-presentation method when you want the maximum degree of flexibility.

When you select the Blank Presentation option in the New Presentation dialog box, the New Slide dialog box appears (see fig. 20.5). Use this dialog box to choose the layout you want for the first slide in the new presentation. PowerPoint automatically highlights the first layout, which is used for the title page. You can accept this layout or select another.

To create a blank presentation, follow these steps:

1. Choose New from the File menu or press $\mathbb{H}+\mathbb{N}$. The New Presentation dialog box appears.

2. Choose the Blank Presentation option and click OK. The New Slide dialog box appears (refer to fig. 20.5).

3. Choose the layout you want to use for the first slide and click OK. The first slide in your new presentation appears, using the layout you specified.

**Creating a Presentation Using the Current Presentation Format**

In subsequent chapters, you learn how to refine your presentations by formatting and aligning text, inserting objects, and adding special enhancements such as color, shadows, and patterns. Sometimes you've worked hard to develop a special design for a presentation and you want to use the same design for a new presentation. You can do this simply by copying the style of the existing presentation to a new presentation. PowerPoint uses the template, colors, and features of the presentation masters for the existing presentation and applies them to the new presentation.

![Fig. 20.5](image-url)

Choose a layout for your slide in the New Slide dialog box.
To create a new presentation based on an existing presentation, you first must open the existing presentation and follow these steps:

1. To open the existing presentation, Choose Open from the File menu or press ⌘+O.

2. Choose New from the File menu or press ⌘+N. The New Presentation dialog box appears.

3. Choose the Current Presentation Format option and click OK. The New Slide dialog box appears (see fig. 20.5).

4. Choose the layout you want to use for the first slide and click OK. The first slide in your new presentation appears, using the layout you specified. All other aspects of the presentation are identical to those of the presentation you copied.

The original presentation file remains open, but the new presentation is the active file. After creating the file, you can change any aspect of the new presentation.

**Troubleshooting**

The template I chose for my presentation has a background that is much too dark for my overhead slides. I want to use the same template style, but with a lighter background.

B&W Overheads, Color Overheads, and On Screen & 35 mm Slides are directories that contain templates. Templates in the On Screen & 35 mm Slides folder generally have dark backgrounds, so you may have mistakenly selected a template in this folder. Look for the corresponding template name in B&W Overheads and Color Overheads. Templates in these folders generally have lighter backgrounds.

You also may consider changing only the background color of the template you chose. See Chapter 24, "Enhancing a Presentation," for details about working with color.

I used a wizard to create a presentation, but I selected the wrong template by mistake. How can I change it?

If you have not yet exited the wizard when you discover the error, click Back to return to the Presentation Template dialog box and correct the error. If you have already exited the wizard, choose Presentation Template from the Format menu and choose the correct template in the Presentation Template dialog box.
Moving Through a Presentation

When a presentation contains more than one slide, you must be able to dis­play the slide you want easily. The left end of the status bar displays the num­ber of the current slide. To move from one slide to another in slide view or notes pages view, use the vertical scroll bar. To display the preceding slide, click the Previous Slide button (it contains two up arrows). Click the Next Slide button (it contains two down arrows) to display the slide that follows. You also can use the page-up and page-down keys to move from one slide to another.

When a presentation contains several slides, the Previous Slide and Next Slide buttons are not efficient for making large jumps (for example, moving from slide 3 to slide 28). You can quickly move to a specific slide by dragging the scroll box in the vertical scroll bar. As you drag the box up or down, a slide number appears near the scroll bar. When you see the number of the slide you want, release the mouse button. PowerPoint moves directly to the slide you specify.

Another useful way to move quickly from slide to slide is to switch to Slide Sorter view and double-click the slide you want to view. PowerPoint automatically switches back to slide view and displays the slide you select.

Adding, Inserting, and Deleting Slides

After you create your presentation file, you can add, insert, or delete slides whenever necessary. To add a slide after the last slide in a presentation, display the last slide and then click the Insert New Slide button on the toolbar or the New Slide button at the right end of the status bar. You also can add a new slide by choosing the Insert New Slide command or by pressing \( \text{Ctrl} + \text{M} \). When you want to insert a new slide between two existing slides, use the same method. Before you insert the new slide, be sure to display the slide that you want to precede it.

As you work on refining a presentation, you may find that you don't need a slide you created. You can delete a slide at any time by displaying the slide and choosing Delete Slide from the Edit menu.
Tip
If you’re using slide sorter view or outline view, you can delete more than one slide at a time by highlighting all slides you want to delete and choosing Edit Delete Slide.

Troubleshooting

Can I insert or add slides in outline, slide sorter, or notes pages view?
Yes. Click the New Slide button at the right end of the status bar, or choose New Slide from the Insert menu, or press +M. In outline and notes pages views, PowerPoint inserts a new slide after the selected slide. In slide sorter view, PowerPoint also inserts a new slide after the selected slide—unless you click the mouse button between slides before you insert a new slide. For more information about working in different views, see “Viewing a Presentation,” later in this chapter.

I accidentally deleted a slide from my presentation. How can I retrieve it?
In any of the views (slide, outline, slide sorter, and notes pages), you can click the Undo button in the toolbar, or choose Undo from the Edit menu, or press +Z. Remember that you must use Undo immediately after deleting the slide. If you execute any other actions first, the slide cannot be restored.

I inserted a new slide in the wrong location in my presentation. Can I move it?
Yes. It’s best to use slide sorter view to rearrange slides in a presentation. For specific instructions, see “Using Slide Sorter View,” later in this chapter.

Viewing a Presentation

PowerPoint offers several ways to view your presentation. Each view has a particular purpose and advantage. The four views are summarized in table 20.1 and described in detail in the sections that follow.

<table>
<thead>
<tr>
<th>Table 20.1 PowerPoint Views</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>View</strong></td>
</tr>
<tr>
<td>Slide</td>
</tr>
<tr>
<td>Outline</td>
</tr>
<tr>
<td>Slide sorter</td>
</tr>
<tr>
<td>Notes pages</td>
</tr>
</tbody>
</table>
Viewing a Presentation

<table>
<thead>
<tr>
<th>View</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slide show</td>
<td>Displays slides as they would appear during an on-screen slide show by using the entire screen area. Press page down and page up or click the mouse to move from slide to slide. Press esc to end slide show view.</td>
</tr>
</tbody>
</table>

To switch from one view to another, you can use the items listed in the View menu. The quickest way, however, is to click the view buttons in the bottom-left corner of the PowerPoint window. From left to right, the buttons are Slide View, Outline View, Slide Sorter View, Notes Pages View, and Slide Show View (see fig. 20.6). Simply click the button for the view you want to use. Each time you click a view button, PowerPoint changes your view of the current presentation.

![View buttons](image)

**Fig. 20.6** View buttons appear in the bottom left corner of the PowerPoint window.

By holding down the shift key when you click a view button, you display the master that corresponds to the selected view. If, for example, you hold down the shift key and click the Slide View button, Slide Master appears. When you hold down the shift key and click the Outline View button, Outline Master...
appears. Because Slide Sorter has no corresponding master, holding down the
shift key and clicking the Slide Sorter button displays Handout Master. To
display masters by using a menu command, choose Master from the View
menu and choose the appropriate master from the submenu that appears.

**Zooming In and Out**

Regardless of the view you choose, your presentation appears at a preset per­
centage of its full size (such as 60 percent). The display percentage is the
zoom setting that PowerPoint uses depending on the screen resolution you
use and the size of your monitor. If you choose Zoom from the View menu,
the percentage appears in the Zoom dialog box. Other predefined percentages
appear as options in the dialog box. The current zoom percentage also ap­
ppears in the standard PowerPoint toolbar.

PowerPoint uses a different zoom percentage in each view. The default per­
centages are designed to provide an optimal view within the window. If you
zoom in closer by setting a higher zoom percentage, you see only a portion of
the displayed page.

To change the zoom percentage in any view, select an option from the Zoom
Control pop-up list in the toolbar or type a new percentage in the Zoom
Percentage box. To change the percentage by using a menu command,
choose Zoom from the View menu to display the Zoom dialog box, select a
zoom option or type a custom percentage in the Percent box, and click OK.

**Using Slide View**

Slide view shows individual slides in the current PowerPoint window (see fig.
20.7). This view provides a detailed picture of each slide. Slide view also is
useful when you’re entering or changing slide content. To switch from one
slide to another, press the page-up and page-down keys or use the scroll bar,
as described in “Moving Through a Presentation” earlier in this chapter.

**Using Outline View**

When you’re concerned only about the text in a presentation, outline view is
the best view to use because it shows only the text of a presentation—without
pictures or other objects. Outline view shows the content of multiple slides,
each in outline form (see fig. 20.8). A numbered slide icon appears to the left
of each slide’s title. When a slide contains no pictures or graphical objects,
the slide icon is empty except for a narrow line near the top indicating the
title. When a slide contains a picture or other object, the slide icon also con­
tains a graphical representation. This difference helps you quickly identify
the slides that contain objects and the slides that contain only text.
Short-term vision - Long-term vision

El Goats and Objectives
- Easily-measured goals
- Procedures to be used

Historical Perspective
- Other companies
- Success stories
- Our position

Outline view in PowerPoint is derived from outline view in Microsoft Word. If you’ve worked with outline view in Word, you already know how to use outline view in PowerPoint.
Using Slide Sorter View

Slide sorter view gives you an overall perspective of your presentation by displaying a miniature version of each slide on a single screen (see fig. 20.9). The number of slides you can view at one time depends on your monitor (as well as on the zoom percentage used). The lower the zoom percentage, the more slides you can view.

Fig. 20.9
Slide sorter view displays miniature versions of multiple slides.

In slide sorter view, the slide number appears near the bottom right corner of each slide. When your presentation output is intended to be a slide show, the amount of time each slide is displayed during the slide show appears near the bottom left corner of each slide.

You cannot edit slides in slide sorter view; you must return to slide view or outline view to change the content of slides. You can, however, change the order of slides and copy slides in slide sorter view. First, you must select a slide.
To select a slide in slide sorter view, use the arrow keys to move to the slide or click the slide you want to select. A bold outline surrounds the selected slide (refer to fig. 20.9). To select multiple slides, hold down the shift key while clicking on all of the slides you want to select. You also can select multiple slides by holding down the mouse button as you drag an outline around the slides you want to include. To cancel any selection, click any blank area of the slide sorter view window.

In slide sorter view, rearranging slides is as simple as selecting a slide and dragging it to a new location. As you drag the mouse, the mouse pointer changes to a miniature slide with a down arrow. When you move the pointer between two slides, a vertical bar appears to mark the location where the slide will be inserted if you release the mouse button. You can move multiple slides using this method as well. Suppose you want to move slides 3 and 4 to the end of your presentation. Select slides 3 and 4, drag them to the right of the last slide in the presentation, and release the mouse button. PowerPoint automatically renumbers rearranged slides.

Slide sorter view is the best view to use when copying slides. Just select the slide (or slides) you want to copy and hold down the option key as you drag the slide to the copy location. The mouse pointer changes to a miniature slide with a plus symbol (+) and a vertical bar appears between slides to mark the location where the slide will be inserted. When you release the mouse button, a copy of the selected slide is inserted in the new location.

**Using Notes View**

When giving a presentation, many people prefer to work from prepared speaker's notes. PowerPoint provides a special page on which you can type speaker's notes. The top half of the page displays a reduced version of the slide; the bottom portion of the page contains a text object in which you can type the text of your notes (see fig. 20.10).

At PowerPoint's default zoom percentage, notes view displays an entire page on-screen. When you're typing or editing speaker's notes, however, it's difficult to read the text at the default percentage. If you use a larger percentage (such as 66 or 75), the text you type is more readable and you still can view part of the slide content as you type.
Fig. 20.10
Use notes view to enter and display speaker's notes.

Using Slide Show View
Slide show view enables you see each slide in your presentation at maximum size. When you use this view, the PowerPoint window isn't visible; each slide occupies the complete screen area (see fig. 20.11). If your final output is intended to be an on-screen slide show, slide show view is useful for previewing your slides to see how they will look during the actual slide show.

To move from one slide to another, press the page-up and page-down keys or click the left mouse button to move forward and the right mouse button to move backward. You can also use the right- or down-arrow key to move forward and the left- or up-arrow key to move backward. To exit slide show view and return to the last view you used, press esc.

**Note**
Slide show view displays your slides starting with the slide that was displayed before you switched views. If you want the slide show to begin at slide 1, be sure to select slide 1 before switching to slide show view. You can also press home to move to the first slide and end to move to the last slide in a presentation.
Saving a Presentation

When you save a presentation, PowerPoint saves all components of the presentation (slides, outline, speaker's notes, and handout pages) in one file.

You save a file in PowerPoint the same as you save a file in any other Microsoft Office application. The first time you save a file, the Save As dialog box appears (see fig. 20.12) whether you choose Save or File Save As from the File menu. Choose File Save As when you want to save an existing file under a different name, on a different disk or folder, or as a different file type.

Fig. 20.11
In slide show view, each slide uses the entire screen area.

Fig. 20.12
The Save As dialog box enables you to select a drive, folder, and file type.

Tip
Save a file frequently so you don't lose data in case of a power interruption or equipment failure.
Opening an Existing Presentation

Open a PowerPoint presentation with the same method you use to open any file in any of the Microsoft Office Applications. For specific information about opening files, refer to Chapter 3, "Managing Files and Work Areas."

As in many applications, you can open several presentations at the same time. The active presentation appears on top of the others, and its title bar is highlighted. As with all Windows applications, the names of all open presentation files are listed in the menu.

Closing a Presentation

To close an existing presentation, choose Close from the File menu or click the presentation window's close box in the upper left corner. If you have made changes in the file since you last saved it, PowerPoint asks whether you want to save those changes. Choose Yes to save the changes, No to ignore the changes, or Cancel to return to the presentation without saving the file.

From Here...

In this chapter, you learned how to create, save, and open PowerPoint presentations. For information about related topics and topics referenced in this chapter, see the following chapters:

- Chapter 21, "Entering Slide Content," describes how to insert clip art, pictures, tables, spreadsheets, graphs, organization charts, and many other types of objects into your slides.

- Chapter 24, "Enhancing a Presentation," describes how to add color, borders, shadows, and other enhancements to objects.

- Chapter 26, "Creating Output," describes how to print all the components of a presentation and how to create an on-screen slide show.
Chapter 21

Entering Slide Content

by T. Kelley Boylan

PowerPoint slides can contain much more than just text. You can insert clip art, pictures, tables, worksheets, graphs, organization charts, and many other types of objects. This chapter begins by teaching you how to choose a slide layout and how to enter and edit slide text. You also learn the steps required for entering information other than text (such as pictures, tables, and graphs).

In this chapter, you learn the following:

- How to work with AutoLayout
- How to enter and edit text
- How to insert clip art, tables, and worksheets
- How to insert graphs, organization charts, and other objects

Reviewing AutoLayout

In Chapter 19, “Getting Acquainted with PowerPoint,” you were briefly introduced to AutoLayout, a PowerPoint feature that includes 21 prepared slide layouts with different object placeholders and arrangements. Using AutoLayout, you can choose a slide layout that contains the object placeholders you need for your current slide. A title slide, for example, contains two text-object placeholders—one for a title and one for a subtitle. After you select a slide layout, you insert the actual content of your presentation—text, pictures, and graphs—into the placeholders in the slides.
Whenever you add a new slide to a presentation, PowerPoint automatically displays the Slide Layout/New Slide dialog box (see Note), which contains the 21 AutoLayouts (see fig. 21.1). To add a new slide, simply click the New Slide button at the bottom of your screen.

**Note**

The dialog box shown in figure 21.1 is entitled Slide Layout or New Slide, depending on the method you use to display it. The contents of the dialog box are always the same regardless of the name shown in the title bar. To avoid confusion, this chapter refers to the dialog box as the Slide Layout/New Slide dialog box.

---

**Fig. 21.1**

Use the Slide Layout/New Slide dialog box to choose a layout for a new or existing slide.

Scan the dialog box to see how objects are arranged in each layout. Use the arrow keys to highlight a layout or click a layout. A description of the highlighted layout appears in the bottom right corner of the dialog box. This description shows the types of objects included in the layout.

The solid gray line at the top of each slide layout represents the slide title. Other text in a slide layout is represented by faint gray lines. Text nearly always is formatted with bullets. The placeholders that contain vertical bars represent graphs, and those with pictures represent clip art or pictures. The empty boxes represent placeholders for other objects that usually are imported from other applications, such as Excel.

Highlight the layout you want to use for your new slide and click OK or double-click the layout you want to use. PowerPoint automatically applies the selected layout to the new slide. After you choose a layout, replace the sample text in each placeholder with actual text or another object, such as a graph or table.
Note

Notice that the last slide layout in the Slide Layout/New Slide dialog box is blank; it contains no placeholder. Use this layout when you want complete control of the objects in a slide.

If you select the wrong layout or change your mind about the layout you want to use for the current slide, you can display the Slide Layout/New Slide dialog box at any time by clicking the Layout button at the bottom of the PowerPoint window or by choosing Format Slide Layout.

After you enter information in a placeholder, be careful about changing the slide layout. The objects that contain information remain in the slide while the placeholders for the new layout are added. PowerPoint tries to rearrange objects so that all of them will fit, but this isn't always possible. The slide can become cluttered with overlapping objects and placeholders, as shown in figure 21.2.

Fig. 21.2
Objects and placeholders can overlap if you change the slide layout after entering information.
Entering and Editing Text

In any slide presentation, text is the most important component. Virtually every slide contains text of some kind, even if it's just a title. The following sections describe how to enter the text content of your slides and how to edit the text when necessary.

Typing the Content for Your Slides
Whenever you choose a slide layout (other than the blank layout), you'll replace the sample text in a placeholder with real text. The slide shown in figure 21.3, for example, includes two placeholders for text: one that contains a sample title and one that contains a bulleted list. The third placeholder is for clip art. A faint dotted line appears around each placeholder.

Fig. 21.3
This slide layout contains two placeholders for text and one placeholder for clip art.

To select a text placeholder, click anywhere within that placeholder. The faint outline is replaced by a wide-hashed border, as shown in figure 21.4. This line indicates that the current placeholder is selected. The sample text disappears, and an I-beam insertion point appears inside the placeholder, indicating that you now can enter text. In a title or subtitle placeholder, the insertion point is centered because titles nearly always are centered. In a bulleted-list placeholder, the sample text disappears and the bullet remains, with the insertion point positioned where the text begins.
Type the actual text for your slide inside the selected placeholder. In the case of titles and subtitles, press return only when you want to begin a new centered line of text. With bullets, press return only when you want to begin a new bulleted item. If your bulleted text is too long to fit on one line, PowerPoint automatically wraps the text to the next line and aligns the text appropriately.

When you finish entering text, deselect the object by clicking a blank area of the slide or the gray border around the slide. Notice that the object no longer is defined by the faint dotted line (see fig. 21.5). The absence of the dotted line provides you with a better representation of the slide’s appearance. (You can, however, add a border to any object in a slide. See Chapter 24, “Enhancing a Presentation.”)

**Creating New Text Objects**
Sometimes you want to add text to a slide. Suppose that your slide contains a title and a bulleted list like the one shown in figure 21.6. You decide to add a note below the bulleted list. To do this, you need to make the note a separate object. Otherwise PowerPoint formats the note text as a bulleted-list item.
Fig. 21.5
When an object contains actual text, it's no longer defined by a dotted line.

Fig. 21.6
Add a note as a separate object below the bulleted list.
To add a note at the bottom of the slide in figure 21.6, create a new object by using the Text button in the Drawing toolbar (see fig. 21.6). When you click Text and move the mouse pointer into the slide area, the pointer changes to a vertical bar with a cross at the bottom. (Be sure that the text object with the bullets isn’t selected.) Drag this pointer to draw the text box you want. As you drag the mouse, PowerPoint draws an outline for your text box. It’s important to make the text box the correct width, but the depth of the box isn’t important. Regardless of the depth you draw, PowerPoint shrinks it to one line of text and expands the depth of the box only if you type additional lines of text.

To draw a text box, follow these steps:

1. Click the Text button in the Drawing toolbar.
2. Position the pointer (now a vertical bar) where you want to begin the top left corner of the text box.
3. Click and drag the mouse diagonally (down and to the right) to form a box of the appropriate width.
4. Release the mouse button. Your text box is bordered by wide-hashed lines, indicating the box is selected. The I-beam insertion point appears inside the box, ready for you to enter new text.

Figure 21.7 shows how the slide in figure 21.6 looks with a text object.

**Tip**

If you aren’t certain what text you want to enter in a new text box, type at least a few characters. Otherwise, the text box is deleted.

**Fig. 21.7**
The slide in figure 21.6 now contains a text object below the bulleted list.
Labeling Objects
Suppose that your slide contains a clip-art drawing that you want to label. You don’t need a large text object, as you might for a note. Your label is likely to contain fewer than 50 characters.

You can quickly create a text box that expands to the required width as you type. The steps are similar to those for creating a larger text box, but with this method, you don’t specify the dimensions of the box. Follow these steps:

1. Click the Text button in the Drawing toolbar.
2. Place the mouse pointer where you want to begin typing and click and release the mouse button. PowerPoint displays a text box large enough for one character. The text box is selected, as indicated by the wide-hashed border.
3. Begin typing the label. With each character you type, the text box expands to the left. To type text on a new line, press return and continue typing.
4. When you finish, deselect the box by clicking a blank area of the slide or the gray border surrounding the slide.

Changing Text and Correcting Errors
After you enter text into a text box, you probably will want to change the text or correct errors. Making changes in a text box is as easy as clicking and retyping. Use standard editing conventions to change text, as summarized in table 21.1. If you’re familiar with Microsoft Word, you already know these conventions. See Part II, “Using Word,” for more information.

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrow keys</td>
<td>Moves the insertion point right, left, up, and down within the text</td>
</tr>
<tr>
<td>Backspace or del</td>
<td>Erases characters (to the left and right, respectively) of the insertion point</td>
</tr>
</tbody>
</table>
### Entering and Editing Text

<table>
<thead>
<tr>
<th>Action</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Click and drag the mouse</td>
<td>Selects a string of characters</td>
</tr>
<tr>
<td>Double-click a word</td>
<td>Selects the entire word</td>
</tr>
<tr>
<td>Triple-click a word</td>
<td>Selects the entire line</td>
</tr>
<tr>
<td><code>Ctrl</code>+A</td>
<td>Selects all text in a text object</td>
</tr>
<tr>
<td>Del</td>
<td>Clears selected text from the object without placing it in the Clipboard</td>
</tr>
<tr>
<td><code>Ctrl</code>+X</td>
<td>Cuts selected text and places it in the Clipboard</td>
</tr>
<tr>
<td><code>Ctrl</code>+C</td>
<td>Copies selected text to the Clipboard</td>
</tr>
<tr>
<td><code>Ctrl</code>+V</td>
<td>Pastes text from the Clipboard</td>
</tr>
</tbody>
</table>

In addition to the keyboard shortcuts listed in table 21.1, you can edit text by using the Cut, Copy, Paste, Clear, and Select All commands in the Edit menu.

When you finish editing text in a text box, be sure to deselect the text box by clicking any blank area of the slide or the gray area surrounding the slide.

### Checking Your Spelling
Because presentations primarily contain text, and because slides are highly visible, remember to check your spelling before you print or produce slides for your presentation.

The spell checker in PowerPoint compares all the words in your document with an on-line dictionary file. When the spell checker finds a word that's not in the dictionary file, it highlights the word in your slide and displays the word in the Spelling dialog box (see fig. 21.8).

### Note
The spell checker checks text in all objects in a presentation file except those that contain text imported from other applications.
The spell checker moves through your presentation one slide at a time, and then checks the speaker's notes (if any) before closing the Spelling dialog box. (If slide 1 isn't displayed when you choose the Spelling command, the spell checker checks all previous slides after the last slide is checked.) You can stop using the spell checker at any time by clicking the Close button in the Spelling dialog box.

**Note**

A highlighted word isn't necessarily misspelled—it just isn't included in the on-line dictionary. For this reason, the spell checker occasionally questions correctly spelled words simply because it doesn't recognize them. This situation occurs frequently with technical terms and industry-specific jargon. One of your options is to add these words to the dictionary file so that the spell checker recognizes them in the future.

When checking the spelling in a presentation, you have several options for dealing with words that the spelling checker questions. Table 21.2 describes the functions of the command buttons in the Spelling dialog box.
### Table 21.2  Spelling Command Buttons

<table>
<thead>
<tr>
<th>Button</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignore</td>
<td>Skips the highlighted word without changing it.</td>
</tr>
<tr>
<td>Ignore All</td>
<td>Skips all instances in which the highlighted word appears throughout the presentation without changing the word.</td>
</tr>
<tr>
<td>Change</td>
<td>Changes the highlighted word to the word shown in the Change To box.</td>
</tr>
<tr>
<td>Change All</td>
<td>Changes all instances in which the highlighted word appears throughout the presentation to the word shown in the Change To box.</td>
</tr>
<tr>
<td>Add</td>
<td>Adds the highlighted word to the on-line dictionary file.</td>
</tr>
<tr>
<td>Suggest</td>
<td>Shows a suggested replacement word in the Suggestions box. By default, PowerPoint always displays words in the Suggestions box. If you don’t want PowerPoint to automatically display suggested words, choose Tools Options, remove the X from the Always Suggest box, and click OK.</td>
</tr>
<tr>
<td>Close</td>
<td>Closes the Spelling dialog box without checking the remainder of the file.</td>
</tr>
</tbody>
</table>

**Tip**  
If a word is misspelled and the spell checker offers no suggested replacement words, you must look up the word in a dictionary, type the correct spelling in the Change To box, and click the Change, Change All, or Add button.

To check the spelling in a presentation file, follow these steps:

1. Choose Spelling from the Tools menu or press F7, and the Spelling dialog box appears. The spell checker highlights the first unrecognized word in the presentation file and shows the word in the Not in Dictionary box.

2. Click the appropriate command button (Ignore, Ignore All, Change, Change All, or Add). If you want the spell checker to suggest a replacement word, click Suggest and click Ignore, Ignore All, Change, Change All, or Add. The spell checker takes the appropriate action and then highlights the next unrecognized word.
3. Repeat step 2 until the spelling checker displays a message saying that the entire presentation has been checked.

4. Click OK.

## Troubleshooting

*I selected an AutoLayout that contains bullets, but I've decided not to use bullets.*

Select all the bulleted text and click the Bullet toggle button on the right end of the toolbar. Or go to Format, choose Bullet, deselect the Use a Bullet check box, and click OK. (You also can use this dialog box to change the bullet style.)

*I don’t understand the difference between drawing a text object and simply creating a label.*

A text object has a definite width that PowerPoint uses to automatically wrap text to the next line when your text exceeds that width. A label has no definite width; it expands with each character you type. You can type beyond the boundary of the slide border and PowerPoint won’t automatically wrap the text. To begin a new line in a label, press return.

## Inserting Clip Art Pictures

One of the best ways to spice up a slide show is to insert a clip art drawing. Clip art drawings are especially appreciated by users who don’t feel confident drawing their own pictures. The ClipArt Gallery contains more than 1,000 drawings that cover a wide range of topics.

You can insert clip art into a slide in several ways. In “Reviewing AutoLayout” earlier in this chapter, you learned that some slide layouts include placeholders for clip art. When you use one of these slide layouts, simply double-click the placeholder to choose a clip art file to insert. The first time you do this, PowerPoint asks if you want to add clip-art files from Microsoft Office. A Yes response makes the clip art files available for you to insert into your slides.

You also can insert clip art by choosing Insert Clip Art. Regardless of the method you use, the next step involves choosing a file in the ClipArt Gallery dialog box.
A list of categories appears at the top of the ClipArt Gallery dialog box. The box below the category list shows a sample of each clip-art file in the current category. Use the scroll bar, page up/page down, or the arrow keys to see each picture in a category. If you prefer to scroll through the entire selection of clip-art files, choose the All Categories option in the category list box.

To add a clip-art drawing to your slide, follow these steps:

1. Display the slide into which you want to insert clip art.

2. Choose Clip Art from the Insert menu. Or if your slide contains a clip art placeholder, double-click it. The Microsoft ClipArt Gallery dialog box appears.

3. Choose a category in the category list.

4. Choose a picture and click OK. PowerPoint closes the ClipArt Gallery dialog box and inserts the picture into your slide.

**Troubleshooting**

*I want to change the colors in a clip art picture.*

You can change the colors and other attributes of the object such as the line width, fill or line color, shading, and pattern. First convert the clip art picture to a group of PowerPoint objects. Highlight the clip art picture and choose Ungroup from the Draw menu. When PowerPoint asks if you want to convert the picture to PowerPoint objects, click OK. PowerPoint shows the resize handles of every object that makes up the picture. Highlight the object you want to change and choose the appropriate command to change the object’s attributes. To learn how to change object attributes such as colors, patterns, shading, shadows, and line styles, see Chapter 24, "Enhancing a Presentation."

*I want to add clip art files from other programs to the ClipArt Gallery dialog box in PowerPoint.*

Click the Options button in the ClipArt Gallery dialog box. Click Add in the Options dialog box. The Add Clipart dialog box appears. Choose the drive and folder in which the file is located. In the Picture name list, choose the file name and click OK. The Add Clipart dialog box changes, asking you to select a category for the new picture (you also can add a short description if you want). To add the picture, click Add.
Inserting a Word Table or Excel Worksheet

In a slide, a table or worksheet can convey useful information as long as it's simple and large enough to read. When you use PowerPoint's text-editing tools, however, you don't have the resources to create a table or worksheet, so PowerPoint enables you to use Word and Excel tools.

To create a table or worksheet, click the Insert Microsoft Word Table button in the Standard toolbar. A drop-down grid of cells appears. This grid enables you to define the size of your table or worksheet (see fig. 21.9). Click and drag the mouse pointer across the cells in the grid to indicate how many rows or columns you want in your table or worksheet. The cells you select are highlighted and the dimensions are listed below the grid. (You can select up to 5 columns and up to 9 rows.)

Fig. 21.9
Use the pop-up grid to specify the number of rows and columns in an inserted Word table.
When you release the mouse button, a window like the one shown in figure 21.10 appears. Notice that PowerPoint's Standard toolbar and menu bar are temporarily replaced by the Word menus; all Word features and commands are available to you while you create your table. In effect, you're using Word inside a PowerPoint window.

To create the content of your table, click the area in which you want to add text or press the tab key to move the insertion point from left to right across the cells in the table. Press the up- and down-arrow keys to move the insertion point from one row to another. Use standard editing conventions to enter and edit text in the table (some of these conventions are listed in table 21.1).

If you need to adjust the width of rows or columns, add rows or columns, or perform more complex tasks while working with the table, see Chapter 10, "Working with Tables, Charts, and Graphics."

Fig. 21.10
A Word table inserted into a PowerPoint slide.

- See "Editing Text," p. 94
- See "Formatting Text," p. 108
- See "Modifying a Table," p. 198

Tip
If you prefer, you can choose Microsoft Word Table from the Insert menu to create a Word table. In the Insert Word Table dialog box, specify the number of columns and rows for the table.
When your table is complete, deselect it by clicking any blank area outside the table or the gray area that surrounds the slide. When the table no longer is the selected object, the PowerPoint menus and toolbar return. You can make changes in the table at any time by double-clicking inside the table. When the table is selected again, the Word menus and toolbar automatically return.

The same principles that govern Word tables hold true for Excel worksheets. When you click the Insert Excel Worksheet button in the PowerPoint toolbar, a drop-down grid appears. Click and drag the mouse pointer across the cells in the grid to indicate the number of rows and columns for your worksheet. PowerPoint inserts a special worksheet object into your slide and PowerPoint's standard menus and toolbar are replaced by the Excel menus and toolbar (see fig. 21.11). Notice that column width and row height in figure 21.11 are enlarged to a size consistent with other slide content.

**Fig. 21.11**
You can insert an Excel worksheet into a PowerPoint slide.

Use Excel's commands and tools to create and edit your worksheet. When the worksheet is complete, deselect it by clicking any blank area of the slide or the border of the slide; the standard PowerPoint menus and toolbar return. If you aren't familiar with Excel, see Chapter 12, "Creating Worksheets," Chapter 13, "Editing Worksheets," and Chapter 14, "Formatting Worksheets."
Inserting a Graph

Graphs, or *charts*, are graphic representations of data in worksheets. In a presentation, a bar, pie, or area chart often can depict data much more clearly than words. In PowerPoint, you can insert a graph into a slide by using an application called Microsoft Graph. Because Microsoft Graph is an application in itself, Chapter 25, “Creating Charts,” is devoted to this subject. Refer to this chapter for instructions on creating data for your graph, charting the data, and enhancing the graph before you insert it into your PowerPoint slide.

Inserting an Organization Chart

Organization charts commonly are included in slide presentations. An organization chart can convey information about new management, a group or department reorganization, or people to contact for specific types of information.

You may have discovered how difficult it is to create an organization chart in a word processing program or a drawing application such as Microsoft Draw. Word processing programs may not provide the flexibility you need to draw and connect the boxes uniformly, and drawing applications often have limited text and text-formatting features. Neither is ideally suited to the task. To solve this problem, Microsoft created an application called Microsoft Organization Chart, which is specifically designed to create organization charts.

To insert an organization chart into a PowerPoint slide, you can use a slide layout that includes a placeholder for an organization chart. You also can choose Object from the Insert menu and select Microsoft Organization Chart 1.0. To use the slide-layout method, choose Slide Layout from the Format menu or click the Layout button at the bottom of the PowerPoint window to display the Slide Layout/New Slide dialog box (see fig. 21.12).

In the dialog box, highlight the layout that includes the organization chart and click OK. PowerPoint applies the layout to the current slide, inserting an organization-chart placeholder. To access Microsoft Organization Chart, double-click the placeholder. After a few seconds, the Microsoft Organization Chart window appears. Figure 21.13 shows a sample organization chart.
Enter the appropriate information in the sample organization chart, using Microsoft Organization Chart commands. Because Microsoft Organization Chart is a separate application, it contains its own help files.

When the organization chart is complete and you're ready to return to your PowerPoint presentation, choose Quit from the File menu or click the close box in the upper left corner of the window or Return to [File name] command from the Microsoft Organization Chart File menu. The organization chart is inserted into the current slide. To deselect the organization chart, click any blank area of the slide or the gray area surrounding the slide.
Inserting Other Objects

In this chapter, you have learned how to insert clip art, a Word table, an Excel worksheet, and an organization chart into a PowerPoint slide. You can insert many other types of objects by choosing Object from the Insert menu. This command opens another application on top of your PowerPoint window, enabling you to create a new file or open an existing file within that application. When you're ready to return to PowerPoint, choose the Quit command from the other application's File menu. When you choose this command, the open application closes and the object you created is inserted into your PowerPoint presentation slide.

After you return to PowerPoint, you can change the object you inserted by double-clicking it to redisplay the appropriate application window. If, for example, you inserted a chart that you created in Microsoft Works and want to change it, double-click the chart to start the Microsoft Works application. To return to PowerPoint after changing the chart, choose the Exit and Return command from the File menu in Microsoft Works. Microsoft Works closes, and the chart is updated in your PowerPoint presentation.

To show the types of objects you can insert, choose Object from the Insert menu in PowerPoint and the Insert Object dialog box appears (see fig. 21.14). The Object Type list shows all the types of files you can insert into a PowerPoint slide.

![Insert Object](image)

**Fig. 21.14**
The Insert Object dialog box lists several types of objects that you can insert into a PowerPoint slide.
Because the Insert Object feature of PowerPoint works by opening another application, you must have that application installed on your computer. If, for example, Microsoft Works is installed on your computer, you can choose any of the Works options listed in the Insert Object dialog box and then create a new file or insert an existing one. If you don’t have Works installed on your computer, you cannot open Works and create or insert a file from that application.

Before selecting the type of object to be inserted, choose Create New or Create from the File menu. The Create New button enables you to create a new file of the object type you selected; the Create from File button enables you to insert an existing file that was created with the application you selected in the Object Type list. The Result area at the bottom of the dialog box tells you what will be inserted into your PowerPoint slide when you select an item in the Object Type list.

The Display As Icon check box (located below the command buttons in the Insert Object dialog box) enables you to display the inserted object in the form of an icon rather than as a full-size object. This feature is most useful when your presentation is a slide show, enabling you to conserve space in a slide or hide the inserted object until you’re ready to reveal its contents. You also can use this feature to make backup data for an on-screen presentation readily available.

To insert a new file from another application, follow these steps:

1. Display the PowerPoint slide into which you want to insert an object.

2. Choose Object from the Insert menu. The Insert Object dialog box appears.

3. Click the Create New button.

4. This step is optional: choose the Display As Icon option if you want to display the object as an icon.

5. In the Object Type list, choose the object you want to insert, and click OK. The Insert Object dialog box closes and the window for the appropriate application opens on top of the PowerPoint window.

6. Use the application as you normally would. Create a new file if necessary or simply choose an item (such as an equation or a clip-art file). If you choose an item, PowerPoint inserts the item and closes the application. If you create a new file, return to PowerPoint by choosing Quit.
from the open application's File menu. The application window closes, and the file you created is inserted into the current PowerPoint slide.

7. Click any blank area of the slide or the gray area surrounding the slide to deselect the object.

When you insert an existing file from another application, the file is automatically inserted into the PowerPoint slide. PowerPoint doesn't open the application that you used to create the file. If you want to modify the file, you must open the application by double-clicking the object after it is inserted into your PowerPoint slide.

When you choose the Create From File option in the Insert Object dialog box, PowerPoint shows a standard Open dialog box (see fig. 21.15).

To insert an existing file from another application, follow these steps:

1. Display the PowerPoint slide into which you want to insert an object.
2. Choose Object from the Insert menu. The Insert Object dialog box appears.
3. This step is optional: choose the Display As Icon option if you want to display the object as an icon.
4. Choose an item in the Object Type box.
5. Click the Create from File button. PowerPoint modifies the Insert Object dialog box to match the one shown in figure 21.15.
6. Choose the correct file name and click OK. After you're through and you've chosen an item, return to the Insert Object dialog box, where the file name you selected now appears above the Browse button. If you want to expand your search, click Browse.
7. Click OK in the Insert Object dialog box. The file you specified is inserted into your PowerPoint slide without opening the application you used to create the file.

8. Click any blank area of the slide or the gray area surrounding the slide to deselect the inserted object.

From Here...

Refer to the following chapters for information related to entering slide content:

- Chapter 22, "Working with Objects," describes how to manipulate objects, including moving, copying, deleting, resizing, grouping, and ungrouping.

- Chapter 23, "Drawing Shapes, Curves, and Lines," describes how to use PowerPoint's drawing tools to add drawn objects to your slides.

- Chapter 24, "Enhancing a Presentation," describes how to add color, borders, shadows, and other enhancements to objects.

- Chapter 25, "Creating Charts," describes how to use Microsoft Graph, an embedded application that enables you to create a wide variety of chart types from worksheet data.
You were introduced to objects in Chapter 19, "Getting Acquainted with PowerPoint," and you learned more about entering content in objects in Chapter 21, "Entering Slide Content." Objects are the building blocks of slides that contain primarily text, graphics, or pictures but also can contain other elements such as tables, spreadsheets, or organization charts. You need to understand how to work with objects because they are the key components of a PowerPoint slide.

In this chapter, you learn to

- Select and group objects
- Move, copy, resize, and delete objects
- Align objects
- Use the grid
- Rotate and flip objects
- Stack objects

**Selecting and Grouping Objects**

Before you can make any kind of a change to an object—add color, change its size, move, or delete it—you must select the object. Selecting a single object is as simple as clicking it. When you click an object such as a chart, ClipArt drawing, or organization chart, resize handles surround the object in a rectangular shape (see fig. 22.1). Resize handles are small boxes that appear at the four corners and on each of the four sides of the rectangle. When you see
the resize handles, you know an object is selected. In the section “Resizing and Scaling Objects” later in this chapter, you learn how to use these handles to change the size of an object.

**Fig. 22.1**
An object is selected when its resize handles are visible.

---

**Selecting Multiple Objects**
In PowerPoint, you generally select an object to move, copy, or resize it, or to change one or more of its attributes. An attribute is any characteristic that is applied to an object, such as color, border, fill, and shadow. Sometimes you may want to select more than one object at a time. Selecting multiple objects can save you the time of applying the same attribute to several objects individually. When you select multiple objects, any attribute you change is applied to *all* selected objects. To change the color of several objects to blue, for instance, select all objects and then apply the blue fill color.

To select multiple objects at once, press and hold the Shift key and then click each object you want to include in the selection. The resize handles appear around each object you select (see fig. 22.2). If you select an object by mistake and want to remove it from your selection, continue holding the Shift key while you click the object again. PowerPoint removes that object from the selection. Release the Shift key when you have selected all objects.
Another way to select multiple objects at once is to use the Selection tool on the Drawing toolbar (the first button, shaped like a mouse pointer arrow, on the toolbar). Click the Selection tool, and drag the mouse across all objects you want to include in the selection. As you drag the mouse, PowerPoint draws a dashed rectangle that encloses all selected objects. When you release the mouse button, the rectangle disappears and the resize handles of each object in the selection are visible.

**Note**

You must fully enclose all objects within the selection rectangle you draw. If a portion of any object is not enclosed within the rectangle, that object is excluded from the selection. You can add an object to any selection by holding the Shift key and clicking the object.

To quickly select *every* object on a slide, choose the Select All from the Edit menu or press the keyboard shortcut, Ctrl+A. PowerPoint immediately displays the selection handles of all objects on the slide.
Tip
To cancel any multiple selection, click anywhere in a blank area of the slide. To remove one or more objects from a multiple selection, press and hold down the Shift key and then click the object you want to remove.

<table>
<thead>
<tr>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>When I draw a selection box around several objects, some objects are not selected.</em></td>
</tr>
<tr>
<td>Remember that you must fully enclose all objects you want to select in the selection box. If a portion of an object falls outside the selection box, it isn't selected.</td>
</tr>
<tr>
<td><em>Can I select objects on multiple slides at once?</em></td>
</tr>
<tr>
<td>No. The only way to view multiple slides at once is to use slide sorter view, and you cannot select objects in this view.</td>
</tr>
<tr>
<td><em>I try to select the company logo on my slide, but nothing happens. Why?</em></td>
</tr>
<tr>
<td>The logo probably was inserted into the slide master rather than the individual slide. To select the logo, switch to slide master view (choose Master Slide from the View menu or press $\text{Ctrl}$ and click the Slide Master button in the lower-left corner of the window), and then select the object. Any changes you make will affect the object on all slides.</td>
</tr>
</tbody>
</table>

**Grouping Objects**

Grouping objects enables you to treat several objects as a single object. Suppose, for example, you used PowerPoint's drawing tools to handle several objects at once. Without grouping the objects that compose the group (see fig. 22.3), moving or resizing the group as a whole is difficult. You could inadvertently move or delete a component of the group or change one of its attributes by mistake. But when you select and group all the objects that make up the group, the objects are treated as a single item. Any attributes you choose are applied to the entire object as a whole; the object can be moved, copied, resized, scaled, rotated, or flipped as a whole.

To group several objects, select the objects by using one of the methods you just learned (using the Shift key, the Selection tool, or the Edit Select All command). The resize handles for each object are displayed. Now choose Group from the Draw menu. The object is now surrounded by an invisible rectangle, indicated by resize handles at the four corners and along each side of the rectangle. When you select the object in the future, it will appear as a single object with one set of resize handles (see fig. 22.4).
Sometimes you only want to group multiple objects temporarily. Suppose that you have moved or resized your group drawing, and now you want to apply different attributes to the various components of the group. To separate
objects that are grouped, select the grouped object, then choose Ungroup from the Draw menu. PowerPoint separates the objects, and each object's selection handles are visible once again on the slide, as they appeared earlier in figure 22.3.

Moving and Copying Objects

Occasionally, you need to move or copy objects in a presentation. Moving an object within a slide is as simple as clicking and dragging the object to a new location. As you drag the mouse to a new location, the original object stays in its current location on the slide while a "ghost" image (a dotted-line silhouette) of the object follows your mouse movements around the screen. Release the mouse button when the silhouette of the object is positioned correctly. PowerPoint then moves the object to its new location.

To move an object from one slide to another or from one presentation to another, use the Edit Cut and Edit Paste commands or the keyboard shortcuts Ctrl+X and Ctrl+V, respectively. Follow these steps:

1. If you are moving an object from one presentation to another, open both presentations, making the active presentation the one that contains the object to be moved.

2. Select the object to be moved.

3. Choose Cut from the Edit menu, or press Ctrl+X. The selected object is removed from the current slide and placed on the Clipboard.

4. If you are moving the object to another slide in the same presentation, display that slide. If you are moving the object to another presentation, make it the active presentation and display the correct slide.

5. Choose Paste from the Edit menu, or press Ctrl+V. PowerPoint pastes the object on the current slide.

6. Reposition the object appropriately on the current slide by clicking and dragging the object to the correct position.

7. Click any blank area of the slide to deselect the object, or press esc.

The steps for copying an object are similar to those for moving an object except that you use Copy from the Edit menu rather than Cut (the keyboard shortcut for the Copy command is Ctrl+C). As when moving an object, you can also copy an object within a slide, within a presentation, or to another presentation.
To copy an object, follow these steps:

1. If you are copying an object from one presentation to another, open both presentations, making the active presentation the one that contains the object to be copied.

2. Select the object to be copied.

3. Choose Copy from the Edit menu, or press \( \text{Ctrl} + C \). The selected object remains unchanged on the current slide and a copy is placed on the Clipboard.

4. If you are copying the object to another slide in the same presentation, display that slide. If you are copying the object to another presentation, make it the active presentation and display the correct slide.

5. Choose Paste from the Edit menu, or press \( \text{Ctrl} + V \). PowerPoint pastes the object on the current slide.

6. Reposition the object appropriately on the current slide by clicking and dragging the object to the correct position.

7. Click any blank area of the slide to deselect the object, or press esc.

**Resizing and Scaling Objects**

Throughout this chapter you have already seen several examples of the resize handles that become visible when you select an object. To resize an object, you first click the object to select it, and then drag any resize handle to a new position.

The resize handles that appear on the sides of the selection box resize in one dimension only. For instance, if you click the resize handle at the top of the selection box, you can stretch or shrink the height of an object on its top only; the bottom remains anchored. If you click the right resize handle, you can stretch or shrink the width of an object on its right side only; the left side remains anchored. Release the mouse button when the object is the size you want.

The resize handles that appear at the corners of an object enable you to resize an object in two dimensions at once. If you click the resize handle in the upper-right corner of an object, for instance, you can change the height or width of the object by dragging the handle in any direction. Whenever you drag a corner handle, the handle in the opposite corner remains anchored while you expand or contract the object's height and width.
When you resize in two dimensions at once, you may want to maintain an object's height-to-width ratio. To do so, hold the Shift key as you drag any corner resize handle. The handle in the opposite corner remains anchored while you resize the object. Or you might want to resize in two dimensions at once, from the center of the object outward. To do so, hold down the Option key as you drag any corner handle. By holding both the Shift and Option keys as you drag a corner handle, you can maintain an object's height-to-width ratio and resize from the center outward, all in one step.

Another way to resize an object is to scale it. Scaling enables you to specify an object's size by percentage. If you want an object to be half its current size, for example, you scale it by 50 percent. To scale an object, choose Scale from the Draw menu, which displays the Scale dialog box shown in figure 22.5.

To scale an object, follow these steps:

1. Select the object.
2. Choose Scale from the Draw menu. The Scale dialog box appears.
3. In the % box, enter a number greater than 100 to enlarge the object; type a number smaller than 100 to reduce the object. You can either type a number or click the up or down arrows to change the setting.
4. (Optional) To preview the object, choose the Preview button. If necessary, repeat step 3 to resize the object.
5. Click OK.

As an alternative to the preceding steps, you can have PowerPoint determine a scale for you by selecting the Best Scale for Slide Show option in the Scale dialog box. This option automatically chooses the best scale for an object to ensure optimal viewing during an on-screen slide show.
Troubleshooting

My object is a rectangle 1 inch wide by 2 inches high. How can I use the resize handles to add approximately 1/2 inch to the top and bottom of the object uniformly?

Hold down the Option key as you drag either the top or bottom resize handle. You also can use the Option key with a side resize handle to add or subtract width uniformly. When used with a corner resize handle, the Option key enables you to resize in two dimensions from the center of the object outward.

I entered 100% in the Scale dialog box to restore an imported picture to its original size, but the picture is still the wrong size and its dimensions are not correct.

When the original dimensions of an imported picture have been altered, choosing 100% scale will not restore them. You must select the Relative to Original Picture Size option as well. This option restores the picture’s original height-to-width ratio to the scale you specify (use 100% for the original picture size). If, for example, you select the Relative to Original Picture Size option and enter 200% for the scale, the original dimensions are restored and the object is twice its original size.

Aligning Objects

Sometimes you may want to align objects in a slide to give the slide a neater, more polished appearance. PowerPoint takes the guesswork out of aligning objects by offering a variety of automatic alignment options. You can use the traditional left-, center-, or right-alignment styles, or you can align the tops, bottoms, or middles of objects. Each of these alignment options is illustrated in the slide sorter view shown in figure 22.6. In the figure, slide 1 shows the objects aligned to the left, slide 2 is center-aligned, and slide 3 is right-aligned. Slides 4, 5, and 6 show how the objects are aligned at the top, vertical mid-point, and bottom of the slide.

To use any of PowerPoint’s alignment options, follow these steps:

1. Select the objects you want to align.

2. Choose Align from the Draw menu. (You must select two or more objects on the current slide to enable the Draw Align command.) The Align cascading menu shown in figure 22.7 appears.

Tip
You can add any of the six alignment buttons to your toolbar by choosing View Toolbars. Just select which toolbars you want from the ensuing dialog box.
3. From the cascading menu, choose an alignment option. PowerPoint realigns the selected objects.

Using the Grid

To help you align and position objects on a slide, PowerPoint includes three tools—guides, rulers, and the grid—which can be toggled on and off with a simple menu command. Guides and rulers are visible markers that appear on a slide to give you a visual reference point. Using guides and rulers is discussed in Chapter 19, “Getting Acquainted with PowerPoint.”
Unlike visible guides and rulers, the grid is an invisible set of lines that run horizontally and vertically on a slide. The lines (approximately every 1/8 inch) form a grid similar to that of a very fine graph paper. When the grid is turned on, objects that you draw or move “snap” into alignment at the nearest intersection of the grid. Using the grid helps to make alignment of objects an easier task. Use the grid when you don’t need to align objects more precisely than approximately 1/8 inch.

To turn the grid on and off, choose Snap to Grid in the Draw menu. When the grid is turned on, a check mark appears next to the Snap to Grid command on the menu (no indicators appear in the PowerPoint window). You also can turn the grid on and off temporarily by holding the ~ key as you drag an object to a new location on a slide. If you experiment with pressing the ~ key on and off as you drag an object, you can see how the grid works as you watch the object track smoothly across the screen or “snap” into place.

**Rotating and Flipping Objects**

One way to add visual interest to your slides is to rotate or flip an object. Rotating refers to turning an object around a 360-degree radius. Flipping refers to “turning an object over”—either horizontally or vertically—to create a mirror image of that object. You can rotate or flip any PowerPoint object.

**Note**

A PowerPoint object is defined as an object created within PowerPoint using a PowerPoint tool (such as the drawing tools) or an object imported from another program and then converted to a PowerPoint object. To convert an object to a PowerPoint object, you must be able to ungroup its components and then regroup them using the Draw Group command. If you cannot do this, the object cannot be converted to a PowerPoint object and, therefore, cannot be rotated or flipped.

PowerPoint enables you to rotate an object in either of two ways. You can rotate an object to any position in a 360-degree radius, or you can rotate an object in 90-degree increments to the left or right, which has the effect of turning the object 1/4 turn. When you flip an object, you flip it either horizontally or vertically 180 degrees. These choices are illustrated on the Rotate/Flip cascading menu shown in figure 22.8.
Fig. 22.8
Rotation and flipping options are shown on the Rotate/Flip cascading menu.

To rotate an object by 90 degrees or flip an object 180 degrees, follow these steps:

1. Select the object to rotate.
2. Choose Rotate/Flip from the Draw menu.
3. From the cascading menu, choose the Rotate Left or Rotate Right command to rotate the object, or the Flip Horizontal or Flip Vertical command to flip the object. PowerPoint immediately rotates or flips the object in the direction selected.
4. To rotate the object another 90 degrees, repeat steps 2 and 3.
5. Click any blank area of the slide to deselect the object.

To rotate an object to any angle in a 360-degree radius, you use the Free Rotate tool on the Drawing toolbar or the Free Rotate command on the Rotate/Flip cascading menu. In either case, the mouse pointer changes as shown below:

- This mouse pointer indicates that the Free Rotate command or tool is currently selected.
- This mouse pointer indicates that the pointer is in position (over a resize handle) for you to begin rotating the selected object.

To rotate an object to any position on a 360-degree radius, follow these steps:

1. Select the object to rotate.
2. Click the Free Rotate Tool on the Drawing toolbar, or choose the Draw Rotate/Flip command and then choose the Free Rotate command.
The mouse pointer changes to two curved arrows that form a circle with a cross in the center.

3. Position the cross in the mouse pointer on top of any of the object’s resize handles. The mouse pointer changes again to a cross in the center with four outward-pointing arrows.

4. Click and hold down the mouse button as you rotate the object either left or right until it is positioned correctly; then release the mouse button.

5. Click any blank area of the slide to deselect the object.

You can rotate or flip several objects at once, and you can rotate or flip objects that are grouped. When you select multiple objects to rotate or flip, each object rotates or flips independently of the others around its own center point, and each object rotates to the same angle as all others. When you rotate or flip objects that are grouped, however, the individual objects do not rotate or flip independently; they rotate or flip as a whole. This difference is illustrated in figure 22.9.

Fig. 22.9
Multiple objects rotate or flip differently depending on their grouping.
Changing the Stacking Order of Objects

As you add objects to a slide and overlap them, you quickly discover that the object drawn first appears underneath and the object drawn most recently appears on top of the others. Think of the objects being "stacked" on the slide as you draw them. The most recently drawn object appears and remains at the top of the stack unless you change the stacking order. In figure 22.10, the circle was drawn first, then the square, and then the rectangle. No matter where you move the objects on the slide, the circle is on the bottom, the square in the middle, and the rectangle on top.

PowerPoint lets you change the stacking order of objects in several ways. The Draw Bring Forward and Draw Send Backward commands let you move an object one step at a time forward or backward through a stack of objects. So, if you have six objects stacked on top of one another and the sixth object is selected, that object becomes the fifth object in the stack if you choose the Bring Forward command. If you choose the Send Backward command, nothing happens because the selected object is already at the bottom of the stack.

The other way to move objects is by choosing the Draw Bring to Front and Send to Back commands. These commands move a selected object to the top or to the bottom of the entire stack, regardless of its current position or the total number of objects in the stack. In figure 22.11, all three objects were aligned to the left, and the circle was selected and brought to the front.
Small objects can easily become completely obscured by others. If you cannot find an object to select, select any object on the slide, then press the Tab key until the object you want is selected. Each time you press the Tab key, a new object on the current slide is selected.

From Here...

In this chapter, you learned all the skills you need to know to work with objects, including selecting and grouping, moving and copying, aligning, rotating, flipping, and stacking. For related information about working with objects, refer to the following chapters:

- Chapter 23, “Drawing Shapes, Curves, and Lines,” describes how to use PowerPoint's drawing tools to add drawn objects to your slides.
- Chapter 24, “Enhancing a Presentation,” describes how to add color, borders, shadows, and other enhancements to objects.

Fig. 22.11
The circle is brought to the front, and all objects are left aligned.
Chapter 23

Drawing Shapes, Curves, and Lines

by T. Kelley Boylan

One of the easiest and most effective ways to enhance a slide is to add a drawn object. In PowerPoint, you can draw common shapes, such as ellipses and rectangles, or more unusual shapes, such as stars, arrows, and cubes. You also can draw lines, arcs, and freeform shapes by using the drawing tools in PowerPoint.

In this chapter, you learn to

- Use the drawing tools in PowerPoint
- Draw shapes, AutoShapes, and perfect shapes
- Draw lines, arcs, and freeform shapes
- Modify shapes

Using PowerPoint’s Drawing Tools

By now, you should be familiar with the Drawing and Drawing+ toolbars in PowerPoint, since they are displayed in the PowerPoint window automatically whenever you start the program. The tools on the Drawing+ toolbar (the leftmost toolbar in the PowerPoint window) are used primarily to change the look of objects on a slide. You learn more about these tools in Chapter 24, “Enhancing a Presentation.” In this chapter, you learn how to use the tools in the Drawing toolbar. These tools are described in table 23.1.
Table 23.1 Tools in PowerPoint’s Standard Drawing Toolbar

<table>
<thead>
<tr>
<th>Button</th>
<th>Drawing Tool</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Selection" /></td>
<td>Selection</td>
<td>Displays an arrow-shaped mouse pointer that enables you to select objects in a slide.</td>
</tr>
<tr>
<td><img src="image" alt="Text" /></td>
<td>Text</td>
<td>Displays an inverted T-shaped insertion point that enables you to enter text in a slide.</td>
</tr>
<tr>
<td><img src="image" alt="Line" /></td>
<td>Line</td>
<td>Draws straight lines in any direction from the point at which you click the mouse.</td>
</tr>
<tr>
<td><img src="image" alt="Rectangle" /></td>
<td>Rectangle</td>
<td>Draws rectangles of any dimension.</td>
</tr>
<tr>
<td><img src="image" alt="Ellipse" /></td>
<td>Ellipse</td>
<td>Draws curved shapes, including ellipses and circles.</td>
</tr>
<tr>
<td><img src="image" alt="Arc" /></td>
<td>Arc</td>
<td>Draws arched or curved lines. When filled, the shape becomes a quarter-ellipse.</td>
</tr>
<tr>
<td><img src="image" alt="Freeform" /></td>
<td>Freeform</td>
<td>Draws any irregular shape.</td>
</tr>
<tr>
<td><img src="image" alt="Free Rotate" /></td>
<td>Free Rotate</td>
<td>Displays a special mouse pointer that enables you to rotate a selected object to any angle on a 360-degree radius.</td>
</tr>
<tr>
<td><img src="image" alt="AutoShapes" /></td>
<td>AutoShapes</td>
<td>Displays the AutoShapes toolbar, which contains buttons for 24 predefined shapes, including a star, a cube, and an arrow.</td>
</tr>
<tr>
<td><img src="image" alt="Fill On/Off" /></td>
<td>Fill On/Off</td>
<td>Adds or removes the default fill characteristics (color, shade, and pattern) of the selected object.</td>
</tr>
<tr>
<td><img src="image" alt="Line On/Off" /></td>
<td>Line On/Off</td>
<td>Adds or removes the default line characteristics (color, style, and width) of the selected object.</td>
</tr>
<tr>
<td><img src="image" alt="Shadow On/Off" /></td>
<td>Shadow On/Off</td>
<td>Adds or removes the default shadow characteristics (color and offset) of the selected object.</td>
</tr>
</tbody>
</table>

To activate a drawing tool, simply click it. When you click the Text tool, the mouse pointer changes to an inverted T-shaped insertion point. When you click the Line, Rectangle, Ellipse, Arc, Freeform, or AutoShape tool, the mouse pointer changes to a crosshair. To activate any of the remaining tools—Free Rotate, Fill On/Off, Line On/Off, and Shadow On/Off—you must select an object before you click the tool.


**Drawing Shapes**

In the context of this chapter, a *shaped object*, or *shape*, is defined as a closed object that you draw with a PowerPoint drawing tool, including circles, ellipses, squares, and rectangles. All of the shapes in the AutoShapes toolbar also are considered to be shapes; these are discussed in the next section of this chapter.

To draw a shape, follow these steps:

1. In the Drawing toolbar, click the Rectangle or Ellipse tool to select that shape.

2. Move the mouse pointer to the approximate location in the slide where you want to draw the object. The mouse pointer changes to a crosshair.

3. Click and drag the mouse in any direction. As you drag the mouse, a solid outline of the shape appears in the slide.

4. When the object is the shape and size you want, release the mouse button. The object is selected automatically.

5. Click any blank area of the slide to deselect the object.

Figure 23.1 illustrates what you see on-screen while you draw an object. As you draw, don’t feel that you must position your object perfectly the first time; you can move, copy, resize, rotate, flip, or align any object you draw.

![Crosshair mouse pointer](image)

**Fig. 23.1**
As you draw, a solid outline indicates the size and shape of the object.
Chapter 23—Drawing Shapes, Curves, and Lines

Note

Depending on the presentation template you are using when you draw an object, PowerPoint automatically fills the object with a color called the fill color (in some templates, the fill color might be white). The fill color is determined automatically by the color scheme of the template you are using. In Chapter 24, "Enhancing a Presentation," you learn how to work with color schemes and change the fill color of an object. For now, don't worry about changing the colors of the objects you draw.

Drawing AutoShapes

The AutoShapes tool is a unique drawing tool because it displays its own toolbar when you click it. The toolbar contains 24 predefined shapes that you can draw instantly simply by clicking and dragging the mouse. You don’t have to use the Line tool to draw a perfect star, diamond, or arrow, because these shapes are available in the AutoShapes toolbar (see fig. 23.2). Other shapes in this toolbar include the parallelogram, trapezoid, triangle, pentagon, hexagon, octagon, cube, cross, and seal (starburst). The AutoShapes toolbar makes it easy for you to draw shapes that you frequently might include in your slides.

Fig. 23.2
Choose a shape from the AutoShapes toolbar.

To draw an AutoShape, use the same technique as you would for an ellipse or rectangle, except that you must select an AutoShape before you begin drawing. Follow these steps:
1. Click the AutoShapes tool in the Drawing toolbar. The AutoShapes toolbar appears.

2. Click an AutoShape to activate it.

3. Place the mouse pointer in the slide where you want to draw the object. The mouse pointer changes to a crosshair.

4. Click and drag the mouse in any direction. As you drag, a solid outline of the shape appears.

5. When the object is the shape and size you want, release the mouse button. The object is selected automatically.

6. Click any blank area of the slide to deselect the object.

**Drawing Perfect Shapes**

To draw a perfect or *uniform* shape, you follow the same basic steps for drawing a shape, except that you use the shift key as the constraint key; it keeps the object in proportion. In other words, holding down the shift key maintains the horizontal and vertical distance from the mouse pointer as you draw. You can use the Ellipse tool, for example, to draw a perfect circle. You can draw a perfect square with the Rectangle, Rounded Rectangle, Cube, or Balloon tool. Figure 23.3 shows several uniform shapes.

**Tip**

When you click the AutoShapes tool, the toolbar pops up as shown in figure 23.2. You can move or reconfigure the toolbar simply by dragging it to another location on-screen.
To draw a uniform shape, follow these steps:

1. Click the drawing tool you want to use.
2. Place the mouse pointer in the slide where you want to draw the object. The mouse pointer changes to a crosshair.
3. Press and hold down the shift key.
4. Click and drag the mouse pointer in any direction.
5. When the object is the uniform shape and size you want, release the mouse button. The object is selected automatically.
6. Click any blank area of the slide to deselect the object.

**Drawing from the Center Outward**

You have learned how to draw a shape by starting at one of the corners and drawing in any direction. Sometimes, you might want to draw a shape from the center outward. For example, you might want to center several objects on top of one another. To draw an object from the center outward, use the option key. When you press the option key as you draw a shape, the center of the object remains anchored at the point where you placed the crosshair when you began drawing.

To draw from the center outward, follow these steps:

1. Click the drawing tool you want to use.
2. Position the crosshair in the slide where you want the center of the object to be located.
3. Press and hold down the option key.
4. Click and drag the mouse in any direction. As you draw, the center point of the object remains anchored.
5. When the object is the shape and size you want, release the mouse button. The object is selected automatically.
6. Click any blank area of the slide to deselect the object.

**Tip**

You can hold down both constraint keys—option and shift—to draw uniform shapes from the center outward.

**Note**

To center several objects on a specific point, draw two intersecting lines (one horizontal and one vertical) to mark the point. Then position the crosshair on the point of intersection when you begin to draw the object. You can remove the lines after you draw and center all your objects.
Switching and Adjusting Shapes

After you draw a shape, you can change it to a different shape. You might have enclosed some special information in a star, for example, and then decide to change the star to an octagon. Rather than delete the star and start over, you can change it to a different shape easily. To change a shape, use the Change AutoShape command in the Draw menu, which displays the cascade menu shown in figure 23.4.

To change a shape, follow these steps:

1. Select the shape you want to change.
2. Open the Draw menu and choose Change AutoShape. PowerPoint displays a cascade menu similar to the AutoShapes toolbar.
3. Click the AutoShape you want to use. PowerPoint immediately converts the original shape to the new AutoShape. The object remains selected.
4. Use the resize handles to resize the shape, if necessary.
5. Click any blank area of the screen to deselect the object.

Some objects have unique shape characteristics that you can adjust. For example, you can make the arms of the cross AutoShape thicker or thinner; you also can adjust the width of an arrowhead or the length of the sides of an

Tip
You can change the shape back again by choosing Undo from the Edit menu, pressing Ctrl+Z, or clicking the Undo tool in the toolbar. You must undo the change before taking any other action.
octagon. Objects that can be adjusted display a diamond-shaped *adjustment handle*, as shown in figure 23.5.

**Note**

Symmetrical objects do not have adjustment handles.

**Fig. 23.5**

Use the adjustment handle to adjust an object's unique shape characteristics.

To adjust an object, follow these steps:

1. Select the object you want to adjust.
2. Click the adjustment handle and drag it in any direction until you are satisfied with the adjustment. Then release the mouse button. The object remains selected.
3. Click any blank area of the slide to deselect the object.

**Drawing Lines and Arcs**

The technique for drawing lines and arcs is similar to that used for drawing shapes. The only difference between drawing lines and arcs and drawing other types of shapes is that lines and arcs are not enclosed objects. Lines and arcs have a beginning point and an end point, with resize handles at each of those points. Figure 23.6 shows a drawing made with lines and arcs.
To draw a line or arc, follow these steps:

1. Click the Line or Arc tool in the Drawing toolbar.
2. Place the mouse pointer in the slide area. The mouse pointer changes to a crosshair.
3. Click where you want the line or arc to begin, and then drag the mouse until the line or arc is complete.
4. Release the mouse button. The line or arc is selected automatically.
5. Click any area of the slide to deselect the line or arc.

**Drawing Perfect Lines and Arcs**

In the “Drawing Perfect Shapes” section earlier in this chapter, you learned that the shift key can be used to draw uniform objects. Used in conjunction with the Line tool, the shift key enables you to draw vertical lines, horizontal lines, and lines at a 45-degree angle.

To draw a vertical line, press and hold down the shift key, and then drag the mouse vertically from the starting point of the line. To draw a horizontal line, press and hold down the shift key, and then drag the mouse horizontally from the starting point. To draw a line at a 45-degree angle, press and hold down the shift key, and then drag the mouse diagonally in the direction you want to draw the line.
Experiment with the various angles by holding down the shift key and moving the mouse in a circle around the beginning point of the line. A straight line appears at 45, 90, 135, 180, 225, 270, 315, and 360 degrees from the starting point.

When you use the shift key in conjunction with the Arc tool, you can draw a uniform arc—that is, the shape of the arc you draw (regardless of the size) is always a quarter-circle. A perfect arc is one in which two lines drawn perpendicular to the arc's end points form a right angle (90 degrees).

**Drawing Lines and Arcs from a Center Point**

Just as you use the option key to draw shapes from the center outward, you use the option key to draw lines and arcs from a center point outward. The point at which you place the crosshair in the slide becomes the center point for the line or arc. As you drag the mouse in any direction, this center point remains anchored.

You also can use the option and shift keys in conjunction with the Line and Arc tools to draw uniform lines and arcs outward from a center point.

<table>
<thead>
<tr>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can use the shift key with the Line tool to draw lines at 45-degree angles, but I want to draw a line at an angle other than 45 degrees.</td>
</tr>
<tr>
<td>To draw a line at any angle around a 360-degree radius, press and hold down the option key as you move the mouse in a circular motion.</td>
</tr>
<tr>
<td>I want to change the length or direction of a line and the size or shape of an arc.</td>
</tr>
<tr>
<td>Lines contain two resize handles, one at each end of the line. Drag either handle to change the length of a line or its direction. Arcs are defined by eight resize handles, one at each corner plus one on each side of a rectangle. Drag any of the eight handles to change either the size or shape of an arc.</td>
</tr>
</tbody>
</table>

**Drawing Freeform Shapes**

Using the Freeform tool, you can draw any type of freeform shape or polygon. A freeform shape can consist of curved lines, straight lines, or a combination of the two. You might use the Freeform tool to draw a cartoon, create an unusual shape, or write your name. A freeform shape can be open (that is, the beginning point and end point don't meet) or closed (the beginning
point and end point meet to form an object). A closed shape made up of straight lines is called a *polygon*.

To draw a shape (open or closed) consisting of straight lines, click and release the mouse button at each vertex in the shape. A *vertex* is the point at which you click and release the mouse button while drawing a freeform shape. To draw freehand shapes, drag the freeform tool and then double-click where you want the shape to end. The Freeform tool remains active until you complete the shape you’re drawing by double-clicking or by pressing return. To create a closed object, click near the beginning point of the shape. PowerPoint automatically connects the beginning and end points to create an object.

To draw an open or closed shape consisting of straight lines, follow these steps:

1. Click the Freeform tool in the Drawing toolbar.
2. Place the mouse pointer at the point where you want to begin drawing. The mouse pointer changes to a crosshair.
3. Click the mouse button, and then release it.
4. Place the crosshair where you want the first line to end and the second line to begin, and then click and release the mouse button.
5. Repeat step 4, clicking and releasing the mouse button at each vertex.
6. To make the object an open shape, double-click after you draw the last line. To close the shape, place the mouse pointer near the beginning point, and then click the mouse button. PowerPoint draws a straight line connecting the beginning and end points.

To draw an open or closed freehand shape, follow these steps:

1. Click the Freeform tool in the Drawing toolbar.
2. Place the mouse pointer at the point where you want to begin drawing. The mouse pointer changes to a crosshair.
3. Click and drag the mouse in any direction, drawing the shape you want.
4. To create an open object, double-click when you finish drawing, or press return. To create a closed shape, double-click near the point where you began drawing. PowerPoint automatically connects the beginning and end points.
As you draw freehand shapes, you can pause at any point by releasing the mouse button. Before beginning to draw again, place the crosshair where it was located before you paused, and then click and drag to continue drawing. To mix straight and curved lines in the same drawing, alternate between clicking a vertex and dragging the mouse.

**Editing Freeform Shapes**

When you click a freeform shape to select it, it displays the usual eight resize handles. You can drag any of the resize handles to make a freeform shape larger or smaller. Freeform shapes, unlike other shapes, also contain control handles. Control handles enable you to modify the freeform shape in addition to simply resizing it.

A control handle appears at each vertex of a freeform shape or polygon. Control handles also appear along the areas where you drag the mouse while drawing a freeform shape. The faster you drag, the fewer the control handles that appear; the slower you drag, the more the control handles that appear. If you look closely at the control handles of a freeform shape, you can see that the curves of a shape created by dragging the mouse are not actually curves; they are a series of short lines connected to one another (see fig. 23.7).
You can adjust the shape of a freeform object by dragging an existing control handle to a new position, deleting a control handle, or adding a control handle. Curves that you draw slowly often contain more control handles than are necessary; deleting some handles can make working with the curve easier. If an object contains straight lines that you want to convert to gentle curves, add a few control handles so you can curve the line. In figure 23.8, the bottom edge of the freeform shape shown has changed from an upward curve to a new shape.

To display an object's control handles, double-click the object. When you place the mouse pointer on a control handle, the pointer changes to a crosshair. To move a control handle, position the crosshair over the control handle, and then click and drag the handle in any direction. To add a control handle, press and hold down the shift and option keys, and then click the original line where you want to add the handle. To delete a control handle, press and hold down the option key, and then click the handle.

**Note**

When the Draw Snap to Grid command is turned on, control handles snap into place when you move them. To temporarily turn off the grid so you can move control handles more precisely, hold down the alt key as you move a control handle.
From Here...

In this chapter, you learned how to create all types of shapes and objects with PowerPoint’s drawing tools. Refer to the following chapters for more information on working with objects:

- Chapter 22, “Working with Objects,” describes how to manipulate objects by moving, copying, deleting, resizing, grouping, and ungrouping them.

- Chapter 24, “Enhancing a Presentation,” describes how to work with templates, enhance text, and add color, borders, shadows, and other enhancements to objects.
Chapter 24

Enhancing a Presentation

by T. Kelley Boylan

You can do many things to enhance the appearance of slides in a presentation, whether the slides contain text objects, drawn objects, or inserted objects. When you take the time to add special touches to objects, your slides are easier to read and help hold the attention of your audience. Audiences appreciate interesting slides! A good presentation should have slides with color, patterns, shadows, and attractive fonts.

In this chapter, you learn the many different techniques you can use to give your slides a powerful presence. You don't have to be a graphic arts expert; even the simplest touches can make a world of difference in the appearance of a presentation.

In this chapter, you learn to

- Work with templates
- Enhance text by changing the font, style, and color
- Work with line spacing, bullets, and alignment of text
- Work with colors, fills, and line styles of objects
- Add patterns, shading, borders, and shadows to objects
- Work with color schemes
Working with Templates

In Chapter 19, "Getting Acquainted with PowerPoint," you learned that templates are saved presentation files for which special graphic elements, colors, font sizes, font styles, slide backgrounds, and other special effects have been defined. PowerPoint includes templates specially designed for black-and-white overheads, color overheads, and on-screen slide shows.

Using a template is by far the quickest and easiest way to create professional-looking presentations, because it takes the guesswork and experimentation out of designing a presentation. PowerPoint templates are designed by graphic arts professionals who understand the elements required to achieve a certain effect and to convey a particular attitude. In Chapter 19, you saw examples of the fiesta (FIESTAC.PPT), world (WORLDC.PPT), and embossed (EMBOSSDC.PPT) templates for color overheads. Figure 24.1 shows the music (MUSICC.PPT) template.

Fig. 24.1
Use this template to convey a musical theme.

In the music template, a musical staff appears across the top of each slide. The notes in the staff are shadowed. Title text is displayed in blue in the 44-point Helvetica font; subtitle text is displayed in black in the 32-point Helvetica font. The template's color scheme is shown in the Slide Color Scheme dialog box (see fig. 24.2), displayed by selecting Slide Color Scheme from the Format menu.
The MUSICC.PPT template’s color scheme is predominately blue, with a light-blue slide background, medium-blue fill for objects, dark-blue title text, and midnight-blue shadows. Red, orange, and white are used as accent colors, and black is used for text and lines. The sample on the left side of the dialog box shows how each of these colors might look on a slide.

Choosing a Template
You can specify a template when you create a new presentation. Select the Template option in the PowerPoint dialog box that appears automatically when you start the program.

To change the template of the active presentation, follow these steps:

1. Click the Template button in the bottom right corner of the PowerPoint window, or choose Presentation Template from the Format menu. A standard open dialog box appears (see fig. 24.3).

2. Select a template; for example, azures.ppt.

Fig. 24.2
The Slide Color Scheme dialog box displays all colors used in a template.

Fig. 24.3
Select a template in the Presentation Template dialog box.
Chapter 24—Enhancing a Presentation

Tip
To identify the template used in a presentation, choose Summary Info from the File menu. The template file name appears in the Summary Information dialog box.

3. Double-click a template name, click the Apply button, or press return to select the highlighted template. The dialog box closes, and PowerPoint applies the new template to the active presentation.

Alter ing a Template
After you select a template for your presentation, you might want to change several of its characteristics. You might decide to use a different font and larger point size for your slide titles or to add a graphic element (such as your company logo) to the template. To make these changes, which affect all slides in the presentation, change the slide master after you select a template. Likewise, you might want to change the outline master, handout master, and notes master to make changes that apply to all outline, handout, and notes pages.

You do not have to display the slide master to change colors defined by a template. Instead, choose Slide Color Scheme from the Format menu to display the Slide Color Scheme dialog box. Here, you can change individual colors in the current color scheme or specify a different color scheme for the current template.

Troubleshooting

How can I use more than one template in a presentation?
Templates apply to all slides in a presentation; you cannot use more than one template in a single presentation. You can, however, change colors, fonts, shadows, patterns, and other enhancements in individual slides, as described throughout this chapter.

How can I create a custom template so I don’t have to alter a PowerPoint template each time I create a new presentation?

First choose the PowerPoint template on which you want to base your custom template. Then save the file as a Stationary Pad (by choosing File, Save, and opening the pull-down menu in the Save dialog box). After closing the file, you can use it as a template on your next presentation.
Enhancing Text

When you enter text in a slide, the font, style (regular, bold, or italic), size, color, and special effects (underline, shadow, and so on) of the text conform to the settings specified in the current template. Earlier in this chapter, you learned that the MUSICCC.PPT template uses the 44-point Helvetica font in blue for slide titles and the 32-point Helvetica font in black for slide text. In both cases, the font style is regular (no bold or italic), and no special effects are added. If you want to use a different font, style, size, color, or effect, you can change these settings (collectively called font settings) for all slides in a presentation by altering the slide master, or you can change font settings only for selected text objects.

Choosing a Font, Style, and Color for Text

To change font settings, select the text you want to change, and then choose Font from the Format menu to display the Font dialog box (see fig. 24.4). The Font, Font Style, Size, and Color settings are self-explanatory; these options appear in most word processing, spreadsheet, and graphics programs. The Effects box, however, contains some options with which you might not be familiar.

Fig. 24.4

In the Font dialog box, you can select a font, style, size, color, and special effects.
In the Effects area, the Shadow option adds a shadow at the bottom and the right side of each character. The Emboss option gives the text the appearance of raised letters by using a light color for the characters and a faint shadow behind them. Figure 24.5 shows an example of each option.

The Subscript option drops a selected character slightly below the normal line level, as in H₂O. The Superscript option raises a selected character, as in ₁₀⁵. When you choose either of these options, you can specify the Offset percentage—that is, the percentage by which characters are dropped or raised.

There are defaults for each presentation that you can set. To change font settings, follow these steps:

1. To change font settings in the slide master, press and hold down the shift key, and then click the Slide Master button in the bottom left corner of the PowerPoint window. To change font settings for selected text objects, select all objects you want to change.

2. Choose Font from the Format menu. The Font dialog box appears (refer to fig. 24.4).

3. Choose settings in the Font, Font Style, Size, Color, and Effects boxes. If you choose the Subscript or Superscript setting, specify a percentage in the Offset box or use the default setting.

4. Click OK to apply the changes.
You also can change specific format settings by clicking the following buttons in the Formatting toolbar.

<table>
<thead>
<tr>
<th>Button</th>
<th>Button Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="times_new_roman.png" alt="Font" /></td>
<td>Font</td>
<td>Changes the font of selected text</td>
</tr>
<tr>
<td><img src="24.png" alt="Font Size" /></td>
<td>Font Size</td>
<td>Changes the font size of selected text</td>
</tr>
<tr>
<td><img src="a.png" alt="Increase Font Size" /></td>
<td>Increase Font Size</td>
<td>Increases the font size</td>
</tr>
<tr>
<td><img src="a.png" alt="Decrease Font Size" /></td>
<td>Decrease Font Size</td>
<td>Decreases the font size</td>
</tr>
</tbody>
</table>

**Changing Line and Paragraph Spacing**

Just as the template defines colors, fonts, and other characteristics for a presentation, the template defines the line spacing for text in a text object. PowerPoint enables you to set the spacing between lines, as well as the amount of space before and after paragraphs. In most templates, the default spacing is 1 line, the space after paragraphs is 0, and the space before paragraphs is 0.2 or 0.

You might want to change line or paragraph spacing, depending on the content of your slides. If a slide contains only four bullets, for example, you might want to increase the line spacing so that the bullets fill the slide. If your slide contains several paragraphs of text, you might want to set the space before paragraphs to 0.2 so that each paragraph is distinctly separate from the one before it.

To change line and paragraph spacing, choose Line Spacing from the Format menu to display the Line Spacing dialog box (see fig. 24.6). The Line Spacing, Before Paragraph, and After Paragraph options use lines as a unit of measure. If you prefer to use points rather than lines, you can choose the Points option in each of the pop-up menus. (One point equals 1/72 inch.)

![Fig. 24.6](line_spacing.png)

Use the Line Spacing dialog box to set line and paragraph spacing.
To set line or paragraph spacing, follow these steps:

1. Select the text for which you want to adjust line or paragraph spacing.

2. Choose Line Spacing from the Format menu. PowerPoint displays the Line Spacing dialog box.

3. In the Line Spacing, Before Paragraph, and After Paragraph boxes, enter the number of lines or points to be used. If you prefer to use points rather than lines, be sure to choose the Points setting in each pop-up menu.

4. Click OK or press return. PowerPoint returns to your slide and reformats the selected text.

**Aligning Text**

*Alignment* generally refers to the horizontal positioning of text in a text object. In presentation slides, text generally is left-aligned (for paragraphs or bullets) or centered (for titles). However, you also can justify or right-align text (see fig. 24.7). Alignment options appear in a cascading menu when you choose Alignment from the Format menu.

Left alignment aligns text along the left edge of a text object. Right alignment
aligns text along the right edge. The Center alignment option aligns text at the center point of the text object so that an equal number of characters appear to the right and left of the center point. The Justify option aligns text along both the right and left edges so that the characters in a line cover the entire width of a text object.

Because alignment involves horizontal positioning of text at margins or at the center point, alignment affects entire paragraphs. In other words, you cannot align a single word or line in a paragraph.

You don’t have to select any text to align a single paragraph; PowerPoint aligns the entire paragraph in which the insertion point is located. To align several paragraphs, select a portion of text in each paragraph and then choose an alignment style.

**Note**

Left Alignment and Center Alignment buttons appear in PowerPoint’s Formatting toolbar. You can add Right Alignment and Justify buttons to the Formatting toolbar by customizing it.

To change the alignment of text, follow these steps:

1. Select the object that contains the text you want to align.
2. Place the insertion point anywhere in the paragraph you want to align, or select a portion of each paragraph you want to align.
3. Choose Alignment from the Format menu. The Alignment cascading menu appears.
4. Choose Left, Right, Center, or Justify. PowerPoint immediately realigns the current paragraph or selected paragraphs.

**Working with Colors and Line Styles**

All objects that you draw in PowerPoint (except lines) have a fill color, a line, and a line style. The *fill color* is the color inside an object; the *line* is the frame that defines the boundaries of an object; and the *line style* defines the width or style of the object’s frame.
For any given object, you can turn off the fill color and the line color. Turning both options off makes an object invisible (unless it contains text), so this practice is not as common as turning off one option or the other. In most templates, for example, the line that frames a text object is turned off, because text generally looks better in the slide without a frame. For other objects (such as shapes that you create with the drawing tools), the object’s frame usually is visible, and the object has a fill color.

In most templates, an object’s line style is a narrow solid line. You can choose any of five wider line styles or any of four double or triple lines. In addition, you can change a solid line to a dashed, dotted, or mixed line by choosing one of the four dashed-line options. If an object is a straight line or arc rather than a shape, you can add arrowheads to either end or to both ends of the line or arc.

Choosing Fill and Line Colors and Line Styles

To set line, fill, and line style options, use the Colors and Lines dialog box (see fig. 24.8). You display this dialog box by choosing Colors and Lines from the Format menu.

Fig. 24.8
Use the Colors and Lines dialog box to define an object’s color and frame style.

To change an object’s fill color, follow these steps:

1. Select the object.

2. Choose Colors and Lines from the Format menu. The Colors and Lines dialog box appears, displaying the current fill color in the Fill box.

3. Click the arrow to open the Fill pop-up menu, which displays the options shown in figure 24.9.
Working with Colors and Line Styles

4. Do one of the following:
   - Select the No Fill option to remove the fill color from the object.
   - Select one of the colors (derived from the current template).
   - Select the Other Color option, which displays the Other Color dialog box (see fig. 24.10). Select a color in the Color Palette, and then click OK.

5. Click OK in the Colors and Lines dialog box. PowerPoint returns to your slide and changes the fill color of the selected object.

6. Click any blank area of the screen to deselect the object.

To change an object's line color or line style, or to add dashed lines or arrowheads, follow these steps:

1. Select the object.

2. Choose Colors and Lines from the Format menu. The Colors and Lines dialog box appears, displaying the current line color in the Line box.

3. Click the arrow to open the Line pop-up menu, which displays the options shown in figure 24.11.
4. Do one of the following:
   - Select the No Line option to remove the object's line color.
   - Select one of the colors (derived from the current template).
   - Select the Other Color option, which displays the Other Color dialog box (refer to fig. 24.10). Select a color in the Color Palette, and then click OK.

5. To select a different line style, highlight a style in the Line Styles list.

6. To use a dashed line, highlight a style in the Dashed Lines list.

7. To add arrowheads to a line or arc, select an option in the Arrowheads list.

8. Click OK in the Colors and Lines dialog box. PowerPoint returns to your slide and changes the line color and style for the selected object.

9. Click any blank area of the screen to deselect the object.

A quick way to change an object's fill, line color, line style, dashed lines, or arrowheads is to use the respective tools in the Drawing+ toolbar. Select the object, and then click any of the tools shown in the following table. In each case, a pop-up menu appears, enabling you to select a new color or style.

<table>
<thead>
<tr>
<th>Tool</th>
<th>Tool Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Fill Color" /></td>
<td>Fill Color</td>
</tr>
<tr>
<td><img src="image" alt="Line Color" /></td>
<td>Line Color</td>
</tr>
<tr>
<td><img src="image" alt="Line Style" /></td>
<td>Line Style</td>
</tr>
<tr>
<td><img src="image" alt="Dashed Line" /></td>
<td>Dashed Line</td>
</tr>
<tr>
<td><img src="image" alt="Arrowheads" /></td>
<td>Arrowheads</td>
</tr>
</tbody>
</table>
To turn fill or line options on or off, click either of the following tools in the Drawing toolbar:

<table>
<thead>
<tr>
<th>Tool</th>
<th>Tool Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fill On/Off</td>
</tr>
<tr>
<td></td>
<td>Line On/Off</td>
</tr>
</tbody>
</table>

**Using Shading and Patterns**

In a slide presentation, filled objects usually are more interesting than plain ones. Two effective variations for filled objects are the shaded color and the two-color pattern.

A shaded color is a dark-to-light or light-to-dark variation of an object's color. This variation can run vertically, horizontally, diagonally, from the center outward, or from any corner. You also can adjust the intensity of the color.

To shade an object, choose Format Colors and Lines from the Format menu. The Colors and Lines dialog box appears, displaying the current fill color in the Fill box. Select the Shaded option to display the Shaded Fill dialog box (see fig. 24.12).

![Fig. 24.12](image)

The Shaded Fill dialog box displays many shade variations.

To shade an object, follow these steps:

1. Select the object you want to shade.
2. Choose Colors and Lines from the Format menu. The Colors and Lines dialog box appears. The current fill color is shown in the Fill box.
3. Click to open the Fill pop-up menu, which displays the options shown in figure 24.9.
4. Select the Shaded option. The Shaded Fill dialog box appears (refer to fig. 24.12).
5. Select an option in the Shade Styles list. The Variants box reflects the choice you make.

6. In the Variants box, highlight one variant.

7. To adjust the brightness, drag the scroll box in the Dark/Light scroll bar.

8. Use the Color option in the Shaded Fill dialog box if you want to change the fill color.

9. If you want, choose the Preview button to preview the shade in the selected object.

10. Click OK in the Shaded Fill dialog box. You return to the Colors and Lines dialog box.

11. Click OK to close the dialog box. PowerPoint applies the shaded color to the selected object.

An alternative to shading an object is patterning. A pattern is a design (such as lines, dots, bricks, or checkerboard squares) that contains two colors: a foreground color and a background color.

To add a pattern to a filled object, follow these steps:

1. Select the object to which you want to add a pattern.

2. Choose Colors and Lines from the Format menu. The Colors and Lines dialog box appears.

3. Click to open the Fill pop-up menu.

4. Select the Pattern option. The Pattern Fill dialog box appears (see fig. 24.13).

**Fig. 24.13**
Select a pattern and colors in the Pattern Fill dialog box.

5. In the Pattern box, highlight the pattern you want to use.

6. In the Foreground and Background pop-up menus, select the colors for your pattern.
7. If you want, choose the Preview button to preview the pattern in the selected object.

**Note**
When you click the Preview button in the Pattern Fill dialog box, move the Colors and Lines and Pattern Fill dialog boxes if they obscure the selected object.

8. Click OK to close the Pattern Fill dialog box. You return to the Colors and Lines dialog box.

9. Click OK to close the dialog box. PowerPoint applies the two-color pattern to the selected object.

10. Click any blank area of the screen to deselect the object.

**Adding Shadows to Objects**
A final way to enhance objects is to add shadows. You learned earlier in this chapter that shadowed text has shadows at the bottom and the right side of each character. When you shadow an object, you have flexibility because you can specify the direction of the shadow and the degree of offset from the original object. For example, you might want the shadow to project up and to the left, as shown in figure 24.14.

![Fig. 24.14](image.png)
This object's shadow is offset up and to the left.
To apply a shadow to an object, choose Shadow from the Format menu to display the Shadow dialog box (see fig. 24.15). The shadow color that appears in the Color box is determined by the current template. To use a different shadow color, select an option in the pop-up menu.

![Figure 24.15](image)

To determine the shadow's offset, select Up or Down for the horizontal offset, or Left or Right for the vertical offset. You can combine the horizontal and vertical offsets by choosing a combination of these options. The box to the right of each pair of offset options enables you to set the degree of offset in points. The default setting for each offset pair is 6 points; you can specify any number from 0 to 120. Depending on the shape of the object you are shadowing, you may want to choose the Preview button to determine the best offset.

To apply a shadow to an object, follow these steps:

1. Select the object.
2. Choose Shadow from the Format menu. The Shadow dialog box appears.
3. To change the color of the shadow, select a color in the Color pop-up menu.
4. To set a horizontal shadow offset, select the Up or Down option, and then enter the number of points in the Points box.
5. To set a vertical shadow offset, select the Left or Right option, and then enter the number of points in the Points box.
6. If you want, choose the Preview button to preview the shadow on the selected object.
7. Click OK or press return to apply the shadow to the selected object.
8. Click any blank area of the screen to deselect the object.
You can apply a shadow to an object quickly by clicking the Shadow Color tool in the Drawing+ toolbar. Select an object, and then click the Shadow Color tool. A pop-up menu appears, displaying eight color options. Select a color in the pop-up menu, or select the Other Color option to choose a different color. PowerPoint automatically applies the shadow to the selected object. Be aware that this method does not allow you to specify a shadow’s offset.

To turn a shadow on or off quickly, you can click the Shadow On/Off tool in the Drawing toolbar.

**Copying Attributes from One Object to Another**

Suppose that you have taken care to apply a special color, shade or pattern, line width, line style, and shadow to a particular object. You can apply all these attributes to another object quickly by clicking the Format Painter tool in the Formatting toolbar. When you click this tool after selecting an object, PowerPoint “memorizes” all the attributes of the selected object. The mouse pointer changes to a paintbrush, and the next object you click immediately takes on the same attributes. This process is called *picking up and applying* an object’s style to another object.

The Format Painter tool is equivalent to Pick Up Style and Apply Style in the Format menu. Using the menu commands requires two steps, whereas using the Format Painter tool requires only one step.

To use the menu commands to apply attributes from one object to another, follow these steps:

1. Select the object from which you want to copy attributes.
2. Choose Pick Up Object Style from the Format menu.
3. Select the object to which you want to copy the attributes.
4. Choose Apply Style from the Format menu.

**Working with Color Schemes**

A *color scheme* is a set of colors that are chosen because they complement one another. As you learned earlier in this chapter, every template has a predefined color scheme that consists of specific colors for the slide background, title text, text and lines, fills, shadows, and accent colors. Even the DEFAULT.PPT template, which PowerPoint calls a “blank” presentation, has a
 predefined color scheme. You can use the colors defined in a template, choose a different color scheme, or change individual colors in a color scheme.

**Changing Individual Colors in a Color Scheme**

To change individual colors in a color scheme, use the Slide Color Scheme dialog box (see fig. 24.16). You display this dialog box by choosing Slide Color Scheme from the Format menu. The dialog box displays a sample of the background, text and lines, title text, shadows, fills, and accent colors defined by the current template.

**Fig. 24.16**
The Slide Color Scheme dialog box displays every color in the current color scheme.

You can change an individual color in the current color scheme and apply the new color to the current slide or to all of the slides in the presentation by following these steps:

1. Choose Slide Color Scheme from the Format menu. The Slide Color Scheme dialog box appears (refer to fig. 24.16).

2. In the Change Scheme Colors area, highlight the color you want to change.

3. Click the Change Color button. PowerPoint displays a dialog box (see fig. 24.17). The title of the dialog box reflects the color you are changing, such as Background Color or Text and Line Color.

4. In the Color Palette area, highlight the color you want to use, and then click OK. The Slide Color Scheme dialog box returns.

5. Repeat steps 2 and 3 to change other colors in the current color scheme.

6. In the Slide Color Scheme dialog box, click the Apply button to apply the change to the current slide. Choose the Apply to All button to apply the new color to all slides in the current presentation.
Choosing a Different Color Scheme

Suppose that a template contains all the graphic elements you want to use, but the color scheme is not appropriate for the topic you are presenting. Rather than change individual colors in the template's color scheme, you can choose a different color scheme for the current template. When you choose a new color scheme, you are choosing a new set of predefined colors. As always, you can change individual colors in the scheme later if you choose.

To choose a new color scheme for the current template, use the Choose Scheme dialog box, shown in figure 24.18. To display this dialog box, choose Slide Color Scheme from the Format menu, and then select the Choose Scheme button. When the dialog box opens, colors appear in the Background Color list only; the Text & Line Color and Other Scheme Colors lists are blank. The dialog box "fills in" as you make your choices—that is, after you select a background color, color choices appear in the Text & Line Color list. After you select a Text & Line Color option, color choices appear in the Other Scheme Colors list.

To choose a color scheme, follow these steps:

1. Choose Slide Color Scheme from the Format menu. PowerPoint displays the Slide Color Scheme dialog box (refer to fig. 24.16).
2. Choose the Choose Scheme button. PowerPoint displays the Choose Scheme dialog box (see fig. 24.18).

3. Select a color in the Background Color list. Coordinated colors appear in the Text & Line Color list. Be sure to use the scroll bar to view all possible colors.

4. Select a color in the Text & Line Color list. Coordinated colors appear in the Other Scheme Colors box.

5. Select a set of colors in the Other Scheme Colors box.

6. Click OK to close the Choose Scheme dialog box. The new colors appear in the Slide Color Scheme dialog box.

7. Click the Apply button to apply the new color scheme to the current slide. Click the Apply to All button to apply the new color scheme to all slides in the current presentation.

Tip
At any time, you can choose a new color scheme by repeating steps 3, 4, and 5.

Note
To create a custom color scheme, follow the preceding steps, selecting the background color, text color, and line color you want to use. When options appear in the Other Scheme Colors box, select the one that most closely matches what you want in your custom color scheme. Then return to the Slide Color Scheme dialog box and change individual colors, if necessary.

From Here...

This chapter discussed the variety of techniques you can use to enhance objects in a PowerPoint presentation. Refer to the following chapters for more information about working with objects:

- Chapter 23, "Drawing Shapes, Curves, and Lines," describes how to use PowerPoint's drawing tools to add drawn objects to your slides.

- Chapter 25, "Creating Charts," teaches you how to use Microsoft Graph to create, format, and enhance charts that you can insert into your PowerPoint slides.
If you have worked with spreadsheet programs such as Microsoft Excel, you know that you can create graphical representations of the data you enter in a spreadsheet. A graph, or chart, is an effective tool for presenting data in a clear way that provides instant visual impact. In other words, charts are easier to understand at a glance than are rows and columns of data. Because of the high impact that charts provide—especially in a presentation—PowerPoint includes a charting program called Microsoft Graph so that you can create charts in PowerPoint.

In this chapter, you learn to

- Start Microsoft Graph
- Enter and edit data in the datasheet window
- Choose a chart type and add chart elements
- Choose colors, patterns, borders, and fonts
- Return to Graph after you exit to edit a chart

**Starting Microsoft Graph**

Microsoft Graph is a charting application, separate from PowerPoint, that is accessible from within PowerPoint. When you start Graph, a sample chart appears in the current slide of your presentation, and a datasheet appears on top of the chart. The chart appears in the slide as an object; the datasheet appears in a separate window with its own title bar. The datasheet and chart are displayed on-screen simultaneously and are dependent on each other. When you change data in the datasheet, Graph automatically updates the chart to reflect the new data.
Tip
If the datasheet window obscures the graph, drag the window to a different location. You also can resize the datasheet window.

Before accessing Microsoft Graph, you must create a new PowerPoint presentation or open an existing presentation. After opening the presentation, display the slide in which you want to insert a chart, or add a new slide to the presentation. The slide should either be blank or contain a placeholder for a chart.

As you learned in Chapter 20, "Creating, Saving, and Opening Presentations," whenever you add a new slide to a presentation, PowerPoint automatically displays the New Slide dialog box, in which you select a slide layout (see fig. 25.1). Three of the 18 available slide layouts include placeholders for graphs (indicated by pictures of bar graphs) and a layout-description area in the bottom right corner of the dialog box. Select a layout that includes a graph placeholder.

![Fig. 25.1](image-url)

The New Slide dialog box includes three layouts that contain graph placeholders.
Note

If you access Microsoft Graph from a slide that contains objects or placeholders other than for a graph, the graph you create will appear on top of other objects (such as text or drawn objects). To avoid obscuring other objects with a graph, select a blank slide layout or a slide layout that contains a graph placeholder before you access Microsoft Graph.

When you select one of the three slide layouts shown in figure 25.1, PowerPoint displays a slide similar to the one shown in figure 25.2. A dotted frame defines the boundaries of the graph placeholder. Inside the placeholder is a small picture of a bar graph with the instruction: Double click to add graph.

Starting Microsoft Graph is as easy as the instructions indicate: simply double-click the graph placeholder. After a few seconds, a sample bar chart appears in the graph placeholder in your slide. The datasheet appears on top of the chart in a separate window (see fig. 25.3). The sample data in the datasheet is used to create the sample bar chart.

Tip

If the datasheet window obstructs the chart, you can drag the datasheet window to a more convenient location.

Fig. 25.2

Graph placeholders contain a small picture of a bar graph.
To access Microsoft Graph when your slide is blank or does not contain a graph placeholder, simply click the Insert Graph button in the Standard toolbar, or choose Microsoft Graph from the Insert menu. The sample chart and datasheet window appear.

**Fig. 25.3**
Microsoft Graph displays a sample chart in the slide and sample data in the datasheet window.

---

**Troubleshooting**

_I don't want to use any of the Autolayouts that include graphs. How can I add a graph to my slide and arrange other objects on the slide myself?_

Choose the blank Autolayout for your slide. When you create a chart using Microsoft Graph, the chart is centered in the middle of the slide. You can resize the chart object, move it, and add other objects to the slide where you want them.

_I closed the datasheet window in Microsoft Graph before I finished using it. How can I redisplay it?_

In Microsoft Graph, choose Datasheet from the View menu, or click the View Datasheet button in the Graph toolbar. (This button is indicated in table 25.1.)
Using Microsoft Graph Menus and Toolbars

Notice in figure 25.3 that the Standard PowerPoint toolbar is replaced by the Graph toolbar when Microsoft Graph is active. The menus are identical to those in PowerPoint, except that Graph also includes a Data menu. The commands in each menu, however, are specific to graphs rather than to PowerPoint slides.

The buttons in Graph's Standard toolbar greatly simplify working with charts. For example, you can change the color or pattern of a set of bars in a bar chart by clicking the Color or Pattern button. This chapter emphasizes the use of these buttons, and it also explains menu-command techniques. Table 25.1 explains the functions of the buttons in the Graph Standard toolbar.

<table>
<thead>
<tr>
<th>Button</th>
<th>Button Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Import Data</td>
<td>Imports data from another application into the Graph datasheet</td>
<td></td>
</tr>
<tr>
<td>Import Chart</td>
<td>Imports a chart from an Excel worksheet</td>
<td></td>
</tr>
<tr>
<td>View Datasheet</td>
<td>Displays the datasheet for the current chart</td>
<td></td>
</tr>
<tr>
<td>Cut</td>
<td>Cuts selected objects</td>
<td></td>
</tr>
<tr>
<td>Copy</td>
<td>Copies selected objects to the Clipboard</td>
<td></td>
</tr>
<tr>
<td>Paste</td>
<td>Inserts the contents of the Clipboard</td>
<td></td>
</tr>
<tr>
<td>Undo</td>
<td>Reverses the last action taken</td>
<td></td>
</tr>
<tr>
<td>By Row</td>
<td>Causes Graph to use rows of data as data series</td>
<td></td>
</tr>
<tr>
<td>By Column</td>
<td>Causes Graph to use columns of data as data series</td>
<td></td>
</tr>
<tr>
<td>Chart Type</td>
<td>Displays a pop-up list of chart types</td>
<td></td>
</tr>
<tr>
<td>Vertical Gridlines</td>
<td>Inserts vertical grid lines into the current chart</td>
<td></td>
</tr>
</tbody>
</table>

(continues)
Working with the Datasheet

A Microsoft Graph datasheet, made up of rows and columns, is similar to a Microsoft Excel worksheet. Rows are numbered 1 through 3,999; columns are labeled A, B, C, AA, AB, AC, and so on, through column EWU. The intersection of each row and column is a cell, in which you enter text or a number. Unlike an Excel worksheet, however, a Microsoft Graph datasheet cannot use formulas.

Understanding How Data Is Plotted

In figure 25.3, the sample datasheet shows three rows, or series, of data: East, West, and North. A data series contains individual data points that are plotted along the y-axis (vertical axis) of a chart as columns, lines, or pie slices. From the first column of the datasheet, the row headings—which identify each data series—are translated to the chart's legend. The column headings in the first row of the datasheet (the row above row 1) represent categories of data. These column headings are translated to the x-axis (horizontal axis) of the chart as category labels. Thus, categories appear as groups in a chart.

Arranging Data by Rows or Columns

By default, Microsoft Graph assumes that data series appear in rows and that categories appear in columns, so Graph plots all charts accordingly. In figure 25.3, this series-in-rows arrangement emphasizes time spans: 1st Qtr, 2nd Qtr, 3rd Qtr, and 4th Qtr.
If you prefer, you can reverse the data series arrangement so that Graph uses columns as data series and rows as categories of data. Simply click the By Rows or By Columns button in the toolbar. In figure 25.4, the series-in-columns arrangement emphasizes regions—East, West, and North—rather than time spans. The arrangement you use depends on personal preference and on the data you want to emphasize. Unless otherwise indicated, the examples in this chapter use the series-in-rows arrangement.

By glancing at the datasheet, you can tell whether rows or columns are represented as data series. When rows are plotted as the data series, miniature graphic representations of the chart type (such as bars or lines) appear next to the row numbers. When columns are plotted as the data series, the graphics appear next to the column labels (A, B, C, and so on). You can see examples of these miniature graphics in figures 25.3 and 25.4. The graphics are color-coded to match the colors of each data series in the chart (bars, lines, pie slices, and so on).

To specify the arrangement of data in a chart, you can also choose Series in Rows or Series in Columns from the Data menu. You can switch back and forth between the two arrangements to decide which one represents your data most effectively.
**Entering Data**

When you're ready to enter data in the datasheet, simply type over the existing sample data. You might replace East, West, and North with Sales, Service, and Training, or Qtr 1, Qtr 2, Qtr 3, and Qtr 4 with January, February, March, and April. You can add more data to the datasheet by filling in blank rows and columns.

To highlight a cell in the datasheet, use the arrow keys or click a cell. The *active*, or highlighted, cell is outlined with a bold border. *Overtype mode* always is active in the datasheet, so any entry you type in a cell automatically replaces the current contents of a cell. To complete an entry, press return or press any of the arrow keys to move to another cell.

**Editing Data**

*Editing* refers to changes that you make in data after it is entered in the datasheet. You change data in a datasheet the same way you do in other spreadsheet programs. Editing includes changing individual entries; cutting, moving, and copying entries; and inserting and deleting rows and columns. Before you can edit cells, however, you must know how to select them.

**Selecting Cells, Rows, and Columns**

You already know that to select a single cell, you use the arrow keys or click a cell. But as you enter and edit data in the datasheet, you may want to work with a group of cells rather than just one. You might want to move a group of cells to a new location, for example. In the datasheet, you can select a range of cells, entire rows, or entire columns.

A *range* of cells is any rectangular group of cells. To select a range, click the cell in the top left corner of the range and drag the mouse to the cell in the bottom right corner of the range. The entire range is highlighted.

In the datasheet, selecting an entire row or column is as easy as clicking the row number or column label. To select all cells in row 3, for example, click the row number; to select all cells in column D, click the column label. You also can select multiple rows or columns by dragging the mouse across row numbers and column labels. To select rows 1, 2, and 3, for example, click and drag the mouse across the row numbers 1, 2, and 3. All cells in each row are highlighted. You also can press and hold down the shift key as you highlight cells with the arrow keys.
To cancel any selection, whether you have selected a range of cells or a group of columns or rows, press esc or click any single cell.

**Editing an Entry**

Earlier in this chapter, you learned that to enter new data in a datasheet, you actually change the sample data Microsoft Graph provides by typing over it. Overtyping, however, is not the only way to change data in a cell. When an entry that you type contains a minor error, you might consider editing the entry rather than overtyping. Editing enables you to change only selected characters in an entry. If a cell contains a part number such as BXN-231-781S and you discover that B should be C, you can simply correct the error rather than retype the entire part number.

To edit an entry, double-click the cell in which it appears. An insertion point appears in the cell. (If the cell contains a text entry, the insertion point appears after the last character. If the cell contains a number, the insertion point appears before the first digit.) Use the arrow keys to position the insertion point, then press delete or del to correct an error. Delete deletes characters to the left of the insertion point, and del deletes characters to the right of the insertion point. New characters that you type appear to the left of the insertion point. When you finish editing, press return, or press any of the arrow keys to move to another cell.

**Clearing Cells**

Clearing refers to removing the contents, format, or both from cells. You might clear a cell when you realize that you entered the wrong data; you might choose to clear sample data from a datasheet if you prefer to work with a blank datasheet.

To clear cells, choose Clear from the Edit menu. This selection has a cascading menu that gives you the option of clearing the contents of a cell, the format of a cell, or both. Cell contents refers to the data contained in a cell, such as a number or text character. The format of the cell refers to a variety of characteristics, such as the font, font size, and color, as well as attributes such as number format, underlining, strikethrough, subscript, and superscript.

To clear a cell, follow these steps:

1. Select the cell or cells you want to clear.
2. Choose Clear from the Edit menu. A cascading menu appears. Select All to clear the contents and formats, Contents to clear only the entries, or Formats to clear only the format assigned to the cell and retain the contents.

**Tip**

To remove only the contents of a cell and leave the cell blank, select the cell and then press the del key.
Inserting and Deleting Rows and Columns

As you enter your own data into the datasheet, you may find it necessary to insert a new row or column or to delete an existing row or column. Suppose that in your columns of monthly data, you inadvertently left out March. You would want to insert a new column between February and April. If you accidentally entered a data series twice, you would want to delete the duplicate row.

You can insert a single row or column, or multiple rows or columns. Before inserting rows or columns, however, you must select the correct row or column. Before inserting a single row, select the row below the place where you want a new row. To insert a row before row 4, for example, select row 4. Before inserting a single column, select the column to the right of the place where you want the new column. To insert a new column before column D, select column D.

To insert a single row or column, select the correct row or column and then choose Cells from the Insert menu.

If you select a single cell rather than an entire row or column, Microsoft Graph doesn't know what you want to insert, so the Insert dialog box appears. In the dialog box, choose the Entire Row or Entire Column option and then click OK.

To save you time, Microsoft Graph makes it easy for you to insert several rows or columns at once. Highlight the number of rows or columns you want to insert, then choose Cells from the Insert menu. Microsoft Graph automatically inserts the number of rows or columns you highlighted. If you highlight columns B, C, and D, for example, Graph inserts three new columns beginning at column B (see fig. 25.5).

To remove rows or columns from the datasheet, select the appropriate rows or columns; then choose Delete from the Edit menu. Notice that the del key on the keyboard does not have the same function as Delete from the Edit menu. The delete key clears the content of cells, but the cells themselves remain part of the datasheet.
Cutting, Moving, and Copying Data

Three common editing tasks are cutting, moving, and copying. Cut from the Edit menu removes the contents of selected cells and places the data in the Clipboard. (You also can press $+$X.) The cells themselves remain intact in the datasheet. You use the Cut feature when you want to remove data from the datasheet or to move the selected data within the datasheet.

**Note**

At first glance, Clear and Cut seem to perform the same function: removing data from selected cells. However, the two commands are different. Cut moves the data to the Clipboard, whereas Clear permanently removes the data without storing it anywhere. Be sure to use Cut if you think you might want to move the data elsewhere in the datasheet.

Follow these steps to cut data from the datasheet:

1. Select the cell or cells from which you want to remove data.
2. Choose Cut from the Edit menu, or press $+$X. The data is removed from the worksheet and placed in the Clipboard.

Fig. 25.5
Three new columns were inserted at B, C, and D.
When you want to move data to a new location in the datasheet, cut the selected data, and then choose Paste from the Edit menu or press \( \text{Ctrl} + V \). The new location you choose should not contain data; if it does, the data you move overwrites the existing data.

To move data within the datasheet, follow these steps:

1. Select the cells from which you want to move data.
2. Choose Cut from the Edit menu, or press \( \text{Ctrl} + X \). The data is placed in the Clipboard.
3. Select the first cell in the range to which you want to move the data.
4. Choose Paste from the Edit menu or press \( \text{Ctrl} + V \).

A quick way to move a selection is to drag it. Select the cell or cells you want to move, and then point to the border of the selection until the mouse pointer changes to an arrow. Click and drag the selection to a new location, and then release the mouse button. If the new location contains data, PowerPoint asks whether you want to replace the existing data.

Unlike cutting or moving data, copying data allows the original data to remain intact in the datasheet, and a copy of the data is placed in the Clipboard. After the data is in the Clipboard, you can paste the data to any other location in the datasheet. When you move data, the new location should not contain data; if it does, the original data is overwritten.

To copy data, follow these steps:

1. In the datasheet, select the cells from which you want to copy data.
2. Choose Copy from the Edit menu or press \( \text{Ctrl} + C \). The data is copied to the Clipboard.
3. Select the first cell in the range to which you want to copy the data.
4. Choose Paste from the Edit menu or press \( \text{Ctrl} + V \). The data is copied to the new location in the datasheet and remains intact in the original location.

Just as you move a selection by dragging it, you can copy a selection by dragging it. Select the cell or cells you want to copy, and then point to the border of the selection until the mouse pointer changes to an arrow. Press and hold down the option key; a plus sign (+) appears next to the mouse pointer, indicating that you are copying a selection. Hold down the option key as you click and drag the selection to a new location, and then release the mouse button.
Caution

When you drag a selection to copy it, PowerPoint overwrites any data in the new location.

Excluding Rows or Columns
Rather than delete rows or columns, sometimes you simply want to exclude them from a chart. Suppose that your datasheet contains sales figures for 20 retail departments, but you want to plot the sales performance of only the first 5 departments. To plot this chart, you exclude rows 6 through 20 so that Graph plots only rows 1 through 5.

To exclude rows or columns from a chart, follow these steps:

1. Select the rows or columns that you want to exclude from a chart.
2. Choose Exclude Row/Col from the Data menu.

When you exclude cells from a chart, the entries in the cells are grayed, and the buttons for the row numbers or column labels become “flat” (lose their 3-D attributes), as shown in figure 25.6. At the same time, the current chart is updated to reflect the excluded data.

![Column D is grayed](image)

**Fig. 25.6**
Column D is excluded from the current chart.

Chart shows only Qtr 1, Qtr 2, and Qtr 3
To restore excluded cells to a chart, select the appropriate rows or columns, and then choose Data Include Row/Col. The normal attributes return to the entries in the cells, the row numbers, and the column label buttons.

**Choosing a Chart Type**

When you start Microsoft Graph, a three-dimensional column chart is created from the sample data in the datasheet. A column chart, however, is not the only type of chart you can create in Microsoft Graph. You also can create the following types of two-dimensional charts:

- Area
- Bar
- Column
- Line
- Pie
- Doughnut
- Radar
- Scatter

To create charts with depth, you can select any of the following three-dimensional chart types:

- Area
- Bar
- Column
- Line
- Pie
- Surface

You select a chart type in the Chart Type dialog box. (To display this dialog box, choose Chart Type from the Format menu.) In the dialog box, choose either the two-dimensional or three-dimensional option in the Chart Dimension area; the available chart types appear below the Chart Dimension area.

Figure 25.7 displays three-dimensional chart types in the Chart Type dialog box.
Choosing a Chart Type

For most chart types, Microsoft Graph offers at least one or two variations, or subtypes. If you select the three-dimensional area chart type, for example, you then can select one of three subtypes of that style. In the first three-dimensional area subtype, data series are stacked on top of one another. In the second subtype, data series are stacked on top of one another, but they fill the entire chart area, showing how each series contributes to the whole. In the third subtype, data series are depicted separately. For each subtype you highlight, the bottom portion of the dialog box displays a sample chart that uses your data.

To display a chart's subtypes, click the Options button in the Chart Type dialog box. The Format three-dimensional area Group dialog box appears (see fig. 25.8).

Fig. 25.7
Select a chart type in this dialog box.

Displays chart subtypes

Fig. 25.8
The Format three-dimensional Area Group dialog box displays subtypes and a sample chart using your data.
To select a chart type, follow these steps:

1. Choose Chart Type from the Format menu. The Chart Type dialog box appears.
2. In the Chart Dimension area, select the two-dimensional or three-dimensional option.
3. Highlight the chart type you want to use.
4. To display chart subtypes, click the Options button. The Format Group dialog box appears.
5. In the Subtype area, highlight a chart variation, and then click OK. You return to the Chart Type dialog box.
6. Click OK. The new chart type is applied to the current chart.

When you’re not sure what chart type you want to use, experiment by choosing different chart types. To try different chart types, follow the preceding steps, but choose the Chart Type button rather than the OK button in step 6. The Chart Type dialog box appears again, enabling you to select a different chart type.

**Using AutoFormats**

Microsoft Graph’s AutoFormat feature provides an alternative to selecting a chart type in the Chart Type dialog box and specifying chart elements (such as data labels and grid lines) individually. *AutoFormats* are predefined formats that specify a chart type and subtype, as well as other chart characteristics, such as color, font, and patterns. Using an autoformat often gives you more chart-subtype choices.

When you choose AutoFormat from the Format menu, Graph displays the AutoFormat dialog box. Select a chart type in the Galleries list, and then select a chart subtype in the Formats area.

Figure 25.9 shows that many three-dimensional pie-chart variations are available when you use an AutoFormat, whereas pie-chart subtypes are limited when you use the Chart Type dialog box.
To use an AutoFormat, follow these steps:

1. Choose AutoFormat from the Insert menu. The AutoFormat dialog box appears.

2. In the Formats Used area, select the Built-in option.

3. In the Galleries list, select a chart type.

4. In the Formats area, select a chart subtype.

5. Click OK. Microsoft Graph applies the AutoFormat to the current chart.

Adding Visual Elements to a Chart

Aside from the chart itself—that is, the actual bars, lines, slices, or columns—most charts contain additional elements that make the chart easier to read and interpret. For example, you can add a title to describe the purpose of the chart. You also can add titles (such as Thousands of dollars, Percentage, or 1994) to identify the units used in the x-axis (horizontal) and y-axis (vertical). If your chart is self-explanatory and does not require axis labels, you can turn off the x- and y-axes. To identify each data series represented in a chart, you use a legend. You also can add grid lines, which help readers find the values of data points more accurately. Figure 25.10 shows these chart elements.
Fig. 25.10
Chart elements make a chart more readable

Fig. 25.11
The Titles dialog box enables you to add titles to a chart.

Adding Titles
To add a chart title, x-axis title, or y-axis title, use the Titles dialog box (see fig. 25.11). You can display this dialog box by choosing Titles from the Insert menu. In the dialog box, select those that represent the titles you want to add. For each one you select, Graph inserts a text object into the current chart. You edit the text object to add the text of the title.

Note
The options in the Titles dialog box vary, depending on the type of chart you are using.
To add titles to a chart, follow these steps:

1. Choose Titles from the Insert menu. The Titles dialog box appears.
2. Check all titles you want to add to your chart.
3. Click OK. Microsoft Graph adds text objects to the chart.
4. Click a text object to select it, and then click anywhere inside the text object to produce an insertion point.
5. Enter the correct text for the title.
6. Click any blank area of the chart to deselect the text object.

If necessary, you can resize the title text box, just like any other text box.

If you add a title to a chart and then decide you don’t want to use it, you can remove it. Simply select the text object, and then choose Clear from the Edit menu or press Del.

Adding a Legend

A legend uses color-coded boxes to identify the data series in a chart. If the East data series is represented in a bar chart by red bars, for example, the legend shows a small red box next to East. Microsoft Graph automatically adds a legend to every new chart, so you don't need to choose a command.

If you prefer not to include a legend in a chart, you can remove the legend. Select the legend, and then choose Clear from the Edit menu or press del. To place a legend in the chart again, choose Legend from the Insert menu.

Adding Data Labels

Data labels mark the exact value or percentage represented by a data point. Data labels often are used in bar or column charts to pinpoint values when data points are close together. These labels also are commonly used in pie charts to identify the exact percentage represented by each pie slice.

To add data labels to a chart, you use the Data Labels tab in the Format Data Series dialog box, shown in figure 25.12. Display this dialog box by double-clicking a bar in the chart. In the dialog box, you can select more than one data-label option. The Show Value and Show Percent options display numbers, and the Show Label option displays the category label next to the data point. The Show Label and Show Percent options are commonly used in pie charts to identify each pie slice, as well as to pinpoint the percentage.

Tip
To change any of the text attributes of a title, double-click the title text. The Format Chart Title dialog box appears. In this dialog box, select a font, style, size, color, and special effects (such as subscript).
Fig. 25.12
Select one or more options in the Data Labels dialog box.

The Show Legend Key next to Label check box, at the bottom of the Data Labels dialog box, enables you to display a legend key (a small color-coded box) alongside each data label. To use this option, click its check box.

To add data labels to a chart, follow these steps:

1. Choose Data Labels from the Insert menu. The Data Labels dialog box appears.

2. Select one or more options.

3. If you want the legend key to appear with the data label, select the Show Legend Key Next to Label check box.

4. Click OK.

Turning the Axes On and Off
All sample column charts that Microsoft Graph creates include an x-axis and a y-axis. Each axis is labeled with the scale (dollars, percentages) or unit of measurement (months, quarters) represented in the axis. For some charts, you might find that the x- and y-axes are unnecessary. When a chart's exact data points for each data series are not important and when the data markers (bars, lines, columns, and so on) clearly illustrate the differences in values, you might not want to include the x- and y-axes in your chart.
To turn off the x- or y-axis in a chart, follow these steps:

1. Choose Axes from the Insert menu. The Axes dialog box appears (see fig. 25.13).

![Axes dialog box](image)

2. For each axis you want to remove, deselect the appropriate option.

3. Click OK. Microsoft Graph removes the axes you specify from the current chart.

To return an axis to a chart, follow the same steps but select the appropriate axis options.

**Adding Grid Lines**

*Grid lines* are horizontal and vertical lines that overlay a chart. These lines help you follow a point from the x- or y-axis to identify a data point's exact value. Grid lines are useful in large charts, charts that contain many data points, and charts in which data points are close together.

The sample column chart that Microsoft Graph creates includes horizontal grid lines. When you choose a new chart type, at least one set of grid lines (horizontal or vertical, depending on the orientation of the chart) is included to make the chart easier to read. You can add the opposite set of grid lines, change from one set to another, or remove all grid lines.

To specify which grid lines to use, you can choose from options in the Gridlines dialog box, shown in figure 25.14. You can display this dialog box by choosing Gridlines from the Insert menu. Notice that the dialog...
box contains options for major and minor grid lines. The grid lines in the sample column chart that Microsoft Graph creates occur at the major intervals on the axis. Using major grid lines helps you pinpoint exact locations in a chart without cluttering the chart. When major grid lines don’t provide enough detail, however, you can use minor grid lines, which fall between the major intervals on the axis.

**Fig. 25.14**
Use the Gridlines dialog box to choose gridline options.

**Tip**
To turn grid lines on and off quickly, click the Horizontal Gridlines or Vertical Gridlines button in Graph's Standard toolbar.

To turn gridlines on or off in a chart, follow these steps:

1. Choose Gridlines from the Insert menu. The Gridlines dialog box appears.

2. For each axis, turn major and minor grid lines on or off. (Grid lines are on when an x appears in the check box.)

3. Click OK.
Specifying Colors, Patterns, Borders, and Fonts in a Chart

Throughout this chapter, you have seen how Microsoft Graph creates a sample chart from sample data. Just as you can change the chart type used for the sample chart, you can change the colors, patterns, borders, and fonts used in the sample chart. Changing these attributes can greatly improve the appearance of a chart.

You can apply colors, patterns, and borders to almost any element in a chart. In the sample column chart shown in figure 25.15, columns that represent the data series are red, green, and blue. Each column is bordered in black. All columns appear in a solid color rather than a two-color pattern. The legend box and the walls of the chart (made visible by the horizontal grid lines) appear in white, and the grid lines themselves appear in black. You can change the colors of all these elements.

Fig. 25.15
The chart elements allow you to specify a color, pattern, border, and font.
To change a chart element’s color, pattern, or border, begin by selecting the element that you want to change. If you want grid lines to appear in red rather than black, for example, click one of the grid lines. The element’s resize handles appear, showing that the element is selected. Open the Format menu, and notice that the first command in the menu is Selected [Element] (Element refers to the chart element you selected). In this example, the command is Selected Gridlines. If you selected the chart’s walls or legend, the command would be Selected Walls or Selected Legend.

When you choose Selected [Element] from the Format menu, Microsoft Graph displays a dialog box like the one shown in figure 25.16. The Patterns tab is selected by default. (Depending on the element you select, a different tab might be selected in the dialog box.) In the Border area of the dialog box, you can select the border’s style, color, and weight, or turn off the border by choosing None. In the Area section, you can select a color and pattern for the element.

![Format Data Series dialog box](image)

To change a chart element’s color, pattern, or border, follow these steps:

1. Select the element you want to change. The element is selected when its resize handles become visible.


3. In the Border area, select the appropriate options. To restore Graph’s default style, select Automatic.

**Tip**
You can double-click any chart element to display the Format [Element] dialog box.

**Fig. 25.16**
Use the Format Data Series dialog box to change element attributes.
4. In the Area section, select the appropriate options. To restore Graph's default color and pattern, select Automatic.

5. Check the Sample box in the bottom right corner of the dialog box. Repeat steps 3 and 4 to change any colors or styles with which you are not satisfied.

6. When you are satisfied with your choices, click OK.

For any text object in a chart, you can change the font, size, style, color, and background color. You also can specify underlining or add special effects, such as strikethrough, subscript, and superscript. These attributes are listed on the Font tab of the Format [Element] dialog box (see fig. 25.17). To display this dialog box, select the text object, choose Selected [Element] from the Format menu, or double-click the text object.

Follow these steps to change the format of text:

1. Select the text object that you want to format, and then choose Selected [Element] from the Format menu, or double-click the text object. The Format [Element] dialog box appears.

2. If the Font tab is not visible, click it or press option+tab.

3. Select one item each in the Font, Font Style, and Size list boxes.

4. To change the text color, select a color in the Color pop-up list.

5. If you want, select special effects in the Underline and Effects sections.

6. Check the Preview area of the dialog box. If you are not satisfied with any of the changes, repeat steps 3 through 5, selecting different items.

7. When you are satisfied with your choices, click OK.
Inserting a Chart into a Presentation

While you are working in Microsoft Graph and making changes in your chart, the changes you make are updated in your PowerPoint slide. As long as you continue working in Graph, the Graph menu bar and toolbar remain active. When you are satisfied with your chart and want to return to PowerPoint, click any blank area of the slide outside the chart area. The chart becomes an object in the slide, and PowerPoint's menus and toolbar return to the screen.

To save the chart, choose Save from the File menu or press $\text{Ctrl}+\text{S}$.

Editing a Chart

After returning to PowerPoint, you might want to edit an existing chart. To restart Microsoft Graph, simply double-click the chart. The Graph menus and toolbar replace the PowerPoint menus and toolbar.

From Here...

In this chapter, you learned how to work with a separate application—Microsoft Graph—to create charts for your presentation slides. Refer to the following chapters for information about other types of objects you can add to slides:

- Chapter 21, "Entering Slide Content," describes the basics of entering the content of a presentation and labeling objects. This chapter also describes all aspects of enhancing text, such as selecting fonts, styles, and colors; aligning text; adding bullets; and checking your spelling.

- Chapter 23, "Drawing Shapes, Curves, and Lines," describes how to use PowerPoint's drawing tools to add drawn objects to your slides.

- Chapter 24, "Enhancing a Presentation," describes how to add color, borders, shadows, and other enhancements to objects.
Chapter 26
Creating Output

by T. Kelley Boylan

As you learned in Chapter 19, "Getting Acquainted with PowerPoint," you can print a variety of components of a PowerPoint presentation, including slides (on paper or overhead transparencies), audience handouts, an outline, and speaker's notes. You also can prepare an on-screen slide show as a special kind of "output."

In this chapter, you learn to

- Choose a setup for presentation components
- Set up your printer
- Print presentation components (slides, notes, handouts, and an outline)
- Create and run an on-screen slide show

Choosing a Setup for Presentation Components

A setup determines the dimensions and orientation to be used for printing each component of a presentation. PowerPoint is set to print slides that are 10 x 7 inches in landscape orientation. If you want to use different dimensions or portrait orientation, you must choose setup options in the Slide Setup dialog box, shown in figure 26.1. Display this dialog box by choosing Slide Setup from the File menu.
In the dialog box, the Slides Sized For pop-up menu offers options for different types of paper, on-screen slide shows, and 35mm slides. When you choose an option, the dimensions set for that option automatically appear in the Width and Height boxes.

As shown in figure 26.1, the On-Screen Show option uses an area $10 \times 7.5$ inches so the slides fill the screen. You can use other Slides Sized for options:

- The Letter Paper option sets the width to 10 inches and the height to 7.5 inches. Use this option when you are printing on 8 1/2 x 11-inch paper or transparencies.

- The A4 Paper ($210 \times 297$ mm) option sets the width to 10.833 inches (26 cm) and the height to 7.5 inches (18 cm).

- The 35mm Slides option sets the width to 11.25 inches and the height to 7.5 inches so that the content fills the slide area.

- The Custom option allows you to choose the dimensions you want when you are printing on nonstandard paper. Before you specify custom dimensions in the Width and Height boxes, the width and height default to the maximum area your printer is capable of printing.

The Orientation section of the dialog box offers Portrait and Landscape as options. When you choose Portrait, the slide is taller than it is wide. Landscape creates slides that are just the opposite of Portrait; that is, each slide is wider than it is tall. Slides often are printed in Landscape orientation, whereas notes, handouts, and outlines are most often printed in Portrait orientation. Therefore, PowerPoint offers separate orientation options for slides and notes, handouts, and outlines.
PowerPoint allows you to begin numbering slides with a number other than 1 by entering that number in the Number Slides From box.

To choose a setup for slides, notes, handouts, and outlines, follow these steps:

1. Open the presentation for which you want to specify a setup.
2. Choose Slide Setup from the File menu. The Slide Setup dialog box appears.
3. Choose the appropriate option in the Slides Sized For pop-up menu.
4. To begin numbering slides with a number other than 1, enter a number in the Number Slides From box.
5. To change the print orientation for slides, choose either Portrait or Landscape.
6. To change the print orientation for notes, handouts, or an outline, choose either Portrait or Landscape.
7. When all settings are correct, click OK.

**Note**

It's best to set the slide setup before you create a new presentation. If you change the slide setup after your slides are created, you might need to make adjustments to your slides, depending on the setup dimensions you choose.

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**Printing Presentation Components**

PowerPoint allows you to print any component of a presentation: slides, notes pages, handouts, and an outline. To print any component, choose Print from the File menu. The Print dialog box appears. In this dialog box you choose the component you want to print, the number of copies, the specific pages to print, and other printing options.

**Printing Notes Pages**

Notes pages contain a reduced slide at the top of the page and speaker's notes at the bottom of the page, as shown in figure 26.2.
Because notes pages print one slide per page, specify the range you want to print. If, for example, you want to print notes pages only for slides two through six, type 2-6 in Range and select Notes from the Print What menu.

**Printing Handouts**

PowerPoint lets you print handouts using one of three different layout styles. The first layout includes two slides per page. Other layouts let you print three or six slides per page. To see how a handout page looks with each of these layout options, display the Handout Master by holding the shift key and clicking the Slide Sorter button. You see a slide like the one shown in figure 26.3. The small dotted lines outline the three- and six-slides-per-page layouts. (If you choose to print three slides per page, the slides are printed on the left side of the page; the right side is blank.) The long dotted lines outline the two-slides-per-page layout.

To print handouts, use the same basic steps. In the Print What area of the Print dialog box, choose Handouts (2 Slides Per Page), Handouts (3 Slides Per Page), or Handouts (6 Slides Per Page), as shown in figure 26.4.
To print selected handout pages, it isn’t necessary to determine on which page a slide will print. Specify the slide numbers that you want to print. If, for example, you choose 3 slides per page and you want to print slides 4, 5, and 6, type 4-6 in the Range boxes of the Print dialog box. PowerPoint prints the second handout page.

**Fig. 26.3**
Layout options for handouts include two, three, or six slides per page.

**Fig. 26.4**
Handout options in the Print dialog box.
Printing an Outline
When you print a presentation outline, it is printed just as it was last displayed in Outline view. If you clicked the Show Titles button on the Outlining toolbar to display only titles (no body text), for example, PowerPoint prints only the slide titles. (You must be in Outline view to see the Outlining toolbar.) If you change the display scale using the Zoom Control button on the Standard toolbar, the outline prints in the current scale percentage. If you click the Show Formatting button on the Outline toolbar to display the outline text without formatting, the outline is printed exactly as displayed on-screen.

To print an outline, follow the steps outlined previously for printing slides, except select Outline from the pop-up menu at the bottom of the Print dialog box. If you enter 1, 4, 5-9, as the range, PowerPoint includes only those slides on the printed outline page.

Setting Up and Running a Slide Show On-Screen
One of the most effective ways to present your slides is to use your computer screen as an output medium. When you use your computer for an on-screen slide show, the entire screen area is used; PowerPoint's title bar, menu, and toolbars are cleared from the screen, and each slide is displayed using the full screen.

An on-screen slide show offers several advantages over transparencies or 35mm slides. An on-screen slide show saves you the expense of producing slides, it requires no projection equipment, and you can use your computer's color capability to its fullest extent. You also can annotate your slides as you give your presentation.

You can run a PowerPoint slide show manually (using the mouse or keyboard to advance to the next slide when you're ready); you can set up a slide show to run in a continuous "loop" for demonstration purposes; or you can set up a slide show to advance slides automatically.

Setting Slide Timings and Transitions
When you set up a slide show to automatically advance to the next slide, you can set the amount of time each slide remains on-screen, and you can specify a transition style between slides. The transition style determines how one
Setting Up and Running a Slide Show On-Screen

slide is removed from the screen and the next one is presented. *Dissolving* from one slide to the next and *fade through black* are two examples of transition styles. PowerPoint offers 46 transition styles from which to choose.

To set timings and transitions, you use the Transitions dialog box (shown in fig. 26.5). From any of PowerPoint's display views, you can display this dialog box by opening Tools and selecting Transition. When using Slide Sorter view, you can display the Transition dialog box by clicking the Transition button at the left end of the toolbar.

Transition styles are listed in the Effect pop-up menu. To see a demonstration of how transitions actually work on-screen, open the Effect pop-up menu, and then highlight a new transition style. Each time you highlight a new style, the transition is demonstrated on the sample slide in the lower right corner of the dialog box. Try varying the speed (Slow, Medium, or Fast) to see how it affects a transition.

You specify timing options in the Advance section of the Transition dialog box. Select the Only on Mouse Click option to set slides to advance manually whenever you click the mouse. Select Automatically After _Seconds to set a specific transition time for the slide; then enter the number of seconds in the box.

**Fig. 26.5**
Use the Transition dialog box to set slide timings and transitions.

**Tip**
You can quickly set slide transitions using the Transition Effects button on the Slide Sorter toolbar. Select a slide; then select an item from the Transition Effects pop-up menu.
Fig. 26.6
Transition symbols and timings appear in the lower left corner of slides.

To set timing between slides and specify transitions, follow these steps:

1. Display your presentation in Slide Sorter view.
2. Select the slide for which you want to set timing and transition. If you want to use the same settings for multiple slides, select those slides as a group.
3. Click the Transition button at the far left end of the toolbar, and choose Tools, Transition. PowerPoint displays the Transition dialog box.
4. Select a transition style from the Effect pop-up menu.
5. Select the appropriate option in the Speed box.
6. Select the appropriate option in the Advance box.
7. Click OK.

PowerPoint displays the transition time below the bottom left corner of the slide. When you set a transition for the slide, an icon that looks like the Transition button appears alongside the transition time in the bottom left corner (see fig. 26.6). You can click any transition icon to see a demonstration of the transition effect.
You can change transitions or timing at any time by repeating these steps. You also can change slide timing when you rehearse a slide show, as described in the next section.

**Rehearsing a Slide Show**

Before you actually give your presentation, you'll probably want to rehearse it several times. You can rehearse using manual advance or using the slide timings you set. If you want to set new timings, you can do so as you rehearse.

To rehearse using manual advance or the current slide timings, follow these steps:

1. From any view, choose Slide Show from the View menu. The Slide Show dialog box shown in figure 26.7 appears.

2. In the Slides section, choose All or specify the slides you want to rehearse in the From and To boxes.

3. In the Advance section, choose Manual Advance or Use Slide Timings; then click the Show button. Your slide presentation begins running.

4. If you chose Manual Advance, click the mouse, press return, or press page down when you're ready to advance to the next slide.

   If you chose Use Slide Timings, the slides advance automatically using the current timings. When the last slide is complete, PowerPoint returns to slide sorter view. You can manually advance, however, by pressing return, clicking the mouse, or pressing page down.

**Tip**

You can specify more than 60 seconds if you want the slide to remain on-screen longer than one minute.

**Fig. 26.7**
The Slide Show dialog box allows you to control the timing of a presentation.
Tip
From Slide Sorter view, you can start a slide show to rehearse new slide timings by clicking the Rehearse Timings button on the Slide Sorter toolbar.

To set new slide timings as you rehearse a presentation, follow these steps:

1. From any view, choose Slide Show from the View menu. The Slide Show dialog box appears.

2. In the Slides section, choose All or specify the slides you want to rehearse in the From and To boxes.

3. In the Advance section, choose the Rehearse New Timings option; then click the Show button. Your slide presentation begins running, and a clock timer appears in the lower left corner of the screen, counting seconds.

4. Begin rehearsing your presentation. When you are ready to advance to the next slide, click the mouse button, press return, or press page down.

5. Repeat step 4 until all slides are shown. A message appears telling you the total time for the new slide timings.

Choose Yes to record the new timings; choose No to ignore the new timings and retain the previous timings.

Running a Slide Show
You can run a PowerPoint slide show in several ways. You can run a slide show from within PowerPoint by first opening the presentation and then choosing Slide Show from the View menu, or by clicking the Slide Show button in the lower left corner of the PowerPoint window. When you choose Slide Show, the Slide Show dialog box appears. Use this dialog box to specify the slides to view and how you want the slide show to run. When you choose the Slide Show button, you bypass the display of the Slide Show dialog box, and PowerPoint uses whatever settings appear in that dialog box.

To run a slide show after choosing Slide Show from the View menu, use these steps:

1. Open the presentation for which you want to run a slide show.

2. Choose any view.

3. Choose Slide Show from the View menu. The Slide Show dialog box appears.

4. In the Slides section of the dialog box, choose All.

5. In the Advance section, choose Manual Advance or Use Slide Timings, then click Show. Your slide presentation begins running.
If you chose the Manual Advance option in step 5, click the mouse, press return, or press page down when you’re ready to advance to the next slide. If you chose Use Slide Timings, the slides advance automatically using the current timings.

It’s rare that you have an opportunity to run through a slide show completely without interruption. At times, you might want to pause, view a previous slide, or turn a slide “off” by making the screen go black (or white). Table 26.2 lists the methods for controlling your movements through a slide show.

<table>
<thead>
<tr>
<th>Function</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Show the next slide</td>
<td>Click the left mouse button or press space bar, or use the page down or down arrow button.</td>
</tr>
<tr>
<td>Show the preceding slide</td>
<td>Click the right mouse button or press delete, or use the left arrow or up arrow button, or press ⌘+shift+tab.</td>
</tr>
<tr>
<td>Show a specific slide</td>
<td>Type the number and press return.</td>
</tr>
<tr>
<td>Toggle the mouse pointer on or off (Show or Hide)</td>
<td>Type A or equal sign (=).</td>
</tr>
<tr>
<td>Toggle between a black screen and the current slide</td>
<td>Type B or period (.)</td>
</tr>
<tr>
<td>Toggle between a white screen and the current slide</td>
<td>Type W or comma (,).</td>
</tr>
<tr>
<td>End the slide show and return to PowerPoint</td>
<td>Press esc, ⌘+(-), or ⌘+(+).</td>
</tr>
<tr>
<td>Pause and resume an automatic slide show</td>
<td>Type S or plus sign (+).</td>
</tr>
</tbody>
</table>

Another method for running a slide show is to simply click the Slide Show button at the lower left corner of the PowerPoint window. When you click this button, PowerPoint immediately runs the slide show, beginning with the slide that is currently selected. The slide show runs using current slide timings. If there are no timings set, you must advance each slide manually. To run a slide show from the beginning using this method, be sure to select the first slide in the presentation before you click the Slide Show button.

**Tip**
To end a slide show at any time, press esc. PowerPoint returns to the view that was displayed before you began the slide show.
A third method for running a slide show is to use the PowerPoint Viewer, a special program that runs outside PowerPoint. The PowerPoint Viewer lets you run a slide show even if the PowerPoint program itself is not installed on the computer. The PowerPoint Viewer is particularly useful if you need to present a slide show on a computer other than your own (perhaps at a customer's office or at a trade show).

To run a slide show using the PowerPoint Viewer, follow these steps:

1. Go to the Finder by either clicking the Desktop or choosing Hide Microsoft PowerPoint from the Application icon in the upper right corner of the monitor.

2. Open the PowerPoint 4.0 folder and double-click the PowerPoint Viewer program icon. The Microsoft PowerPoint Viewer dialog box appears, as shown in figure 26.8.

3. Highlight the PowerPoint file you want to display.

4. To run the slide show continuously, select the Run Continuously Until COMMAND+check box at the bottom of the dialog box.

5. Click the Show button to begin the slide presentation.

Refer to table 26.2 to control a running slide show.
Annotating a Slide Show

When you deliver a presentation using overhead transparencies, you may often circle or underline a specific point, or write notes on the slide in response to audience questions or comments. If you use a dry-erase marker, you can easily wipe off your annotations so that the transparencies are not permanently marked.

When you run an on-screen slide show, PowerPoint gives you the ability to electronically annotate your slides in freehand form using the mouse. For instance, you might want to draw a check mark beside an important point or underline it. As with overhead transparencies and dry-erase markers, electronic annotations are not permanent. They are automatically removed when you move to the next slide in a slide show. You can remove annotations manually as you present your slides.

To annotate slides during a slide show, follow these steps:

1. Start your slide show either in PowerPoint or in the PowerPoint Viewer.

2. Click the Annotation icon, which appears in the lower right corner of your screen. The mouse pointer changes to a pencil.

3. Press and hold the mouse button as you write or draw on-screen, using it as you would a pencil. Release the mouse button to stop drawing or writing. The Annotation tool is still active; the Annotation icon toggles on and off (see fig. 26.9).

4. Repeat step 3 to write or draw again on the slide.

5. If you want, press E to erase all annotations to the current slide.

6. When you are finished annotating the current slide, click the Annotation icon again to restore the mouse pointer.

If you don't press E to erase all annotations on the current slide (see step 5), PowerPoint erases all annotations automatically when you move to the next slide in the slide show.
From Here...

This chapter, which describes how to prepare your printer, print slide show components, and run a slide show in PowerPoint, concludes the PowerPoint section of Using Microsoft Office 4.2 for the Macintosh, Special Edition. To review information about using PowerPoint, refer to any of these chapters:

- Chapter 19, "Getting Acquainted with PowerPoint,” describes how to start and exit PowerPoint and describes the PowerPoint window. You also learn about templates, masters, objects, layouts, and visuals that you can add to a PowerPoint presentation.

- Chapter 20, “Creating, Saving, and Opening Presentations,” describes the various methods for creating a new presentation file and how to switch your view of a presentation. You also learn how to save, close, and open a PowerPoint presentation file.

- Chapter 21, “Entering Slide Content,” describes the basics of entering the content of a presentation and labeling objects. This chapter also describes how to create a Word table, an Excel spreadsheet, and an organization chart in a PowerPoint presentation. You also learn how to insert objects from sources outside PowerPoint.

- Chapter 22, “Working with Objects,” defines objects and shows you how to select and group them, and shows you how to move, copy, resize, align, rotate, flip, and stack objects.
Chapter 23, "Drawing Shapes, Curves, and Lines," describes how to use PowerPoint's drawing tools to add objects to your slides.

Chapter 24, "Enhancing a Presentation," describes how to add color, borders, shadows, and other enhancements to objects.

Chapter 25, "Creating Charts," describes how to use Microsoft Graph, an embedded application that lets you create a wide variety of chart types from spreadsheet data.
Part V

Working Together with Microsoft Office Applications

27 Viewing and Organizing Files and Working with System 7.5
28 Working with Wizards, Multiple Documents, and Cut, Copy, and Paste
29 Sharing Data between Applications with Linking and Embedding
30 Sharing Data between Applications with Publish and Subscribe
31 Using Mail with Other Microsoft Office Products
32 Using Office Applications with PowerTalk
33 Sending a Mass Mailing
34 Using Office Applications to Create a Presentation
35 Using Office Applications to Create a Newsletter
The PivotTable Wizard builds an automatic summary of data from Microsoft Excel or an external data source.

Create PivotTable from data in:
- Microsoft Excel List or Database
- External Data Source
- Multiple Consolidation Reports
- Another PivotTable

Tip: To learn more about PivotTables, use the Help menu.
Suppose that you are working in a brand new office. The office has new desks and chairs, new computers, and a new copy of Microsoft Office. The non-profit organization you work for is catching on so fast that it's hard for you to keep up with everything you have to do. And as the first real employee, you have to do everything—answer the phone, create correspondence, manage volunteers, brainstorm, and even organize the director. Your most basic task is to organize your work.

In this chapter, you learn to

- Find and organize files with the Finder and Find File
- Identify and find files with summary information
- Move between Office programs

**Using the Finder to Organize Files**

In the same way you set up an office by labeling file drawers and organizing files in the drawers, you need to organize the files on your hard disk. To find out what files you have on your hard disks and floppy disks, use the Finder (also called the Macintosh desktop). The Finder is actually the program that creates the desktop and runs automatically when you boot your Macintosh.
Looking at the Hard Disk

To see how your files are organized, you need to navigate through the Finder, shown in figure 27.1. Double-click each drive icon to see the folders and the files on that drive. There are two ways to open a folder and see its contents: you can double-click the folder icon or just click it once and then open the File menu and choose the Open command.

The Microsoft Office folder is now open. To get a better overall view of your hard disk’s contents, open the View menu and choose the By Name command. The Finder window changes to a list view, as shown in figure 27.2.

In any list view, click the small triangles next to a folder to see an indented view of that folder’s contents.

Suppose that you look in each program folder and notice that your boss saved all document files to the program’s folder. (You can tell because there were new worksheet files in the Excel folder and new document files in the Word folder.) You call your boss, who tells you to organize things any way you want—as long as you don’t lose any files. You decide to organize the disk drive so that the files are listed by project.
Caution

Be careful when you move files on your hard disk; you don’t want to destroy someone else’s organization. Make sure that all users of the computer know where you are putting their files. Also, make sure that you have a good backup of all files on your hard disk before you do any major rearranging. Do not delete files unless you know the files’ contents or purpose.

Creating a Folder

To create a new folder, follow these steps:

1. Click the window in which you want to create the folder.

2. Open the File menu and choose the New Folder command. You get a new folder, with the highlighted name, untitled folder.

3. Type in the name you want the new folder to have, and then click the mouse button on the window next to the new folder to deselect the folder and lock in the name.

You now have a new, empty folder.
Organizing Your Hard Drive

When you create folders to organize your hard drive, keep the following questions in mind:

- How often will you use the files?
- Will you expect to find your work by date, by person, by project, or by the software that created the files?
- How does your backup procedure work?
- Who else sees your work?
- Who else is going to need access to your files?
- Do your files need to be protected from unauthorized use?

Using the new Find File feature available in most Microsoft Office programs, you can find files based on summary information, such as the date, the project, and the name of the person who created the file. Even with this capability, you want to organize your hard disk to make finding files easier for you and for others who need to view or use your files.

Figure 27.3 shows one way of organizing a folder structure for your hard drive. In the figure, the hard disk called Harder Disk has four main folders: Applications, Documents, Microsoft Office, and System Folder. The System Folder contains the Mac's operating system, and doesn't need to be modified. You may want to back up your documents daily and your programs monthly, or whenever you change a program. Therefore, you can create one folder for documents and one for programs. If you are on a network or have a security application, you may want to have limited security for programs and tighter security for data. With network programs, you can assign security to a folder, and the security will flow to the subfolders and files of the folder.

Figure 27.3 also shows subfolders organized by client, by date, and by project. Below the Documents folder are subfolders for Clients, Finances, MS Office Figures, and Writing. The Clients subfolder is broken down by client name. One of the clients, LAMG (Los Angeles Macintosh Group), is broken down by date (93 Files, 94 Files, and History), as well as by project (General Meetings and Mac Fair). Documents are displayed within the 94 Files folder.
Using the Finder to Organize Files

Searching for Files

When you have a folder structure in place, you may forget where you put a file. You can look for a file through the Finder’s Find feature or through the Find File procedure in the applications. Find is of limited use, because it only looks sequentially through your hard disks for file names, or other Finder attributes such as size or creation date. The Find File feature in the applications has the capability to preview the document and its summary information. Find is described in this section; Find File is described in the section “Using Find File to Organize Files,” later in this chapter.

To search for a file by the file name or a portion of the file name, follow these steps.

1. In the Finder, open the File menu and choose the Find command.
   The Find File dialog box appears (see fig. 27.4).

![Fig. 27.3](image)
This list view of a folder structure in the Finder shows just one possibility of how you can organize your hard drive.

![Client subfolders](image)

The main folders for this hard drive

![Fig. 27.4](image)
The Finder’s basic Find File dialog box.
2. In the Find File text box, type the name of the file, and then click the Find button or press return. The Finder searches for the first occurrence of the text you entered, opens the window containing the file, and highlights the file.

3. Click Find again (or press \( \mathcal{H}+G \)) to find the next occurrence of the searched text.

**Note**

If you click the More Choices button in the Find File dialog box, it expands the window. The expanded window has pop-up menus that allow you to expand the search criteria and select the drives to be searched (see Fig. 27.5).

![Find File window](image)

**Fig. 27.5**
The expanded Find File box.

---

**Moving and Copying Files**

When you have the file you want in the folder window, you can move or copy one or more files. First, select the files and then use the mouse to drag the files to their new location. To see where your files are and where they are going, it may be necessary to click the title bar of a window and drag it to one side.

To select files, do one of the following things:

- To select one file, click the file's icon.
- To select multiple files, hold down the shift key while you click each of the files. To select all files within a folder, press \( \mathcal{H}+A \).

To move the files, click a highlighted file and drag the file to the desired drive or folder. To copy files, you can hold down the option key while you drag the files.
Using Find File to Organize Files

Rather than going through files one by one in the Finder's Find feature, you can use the Find File feature within an Office application to preview the files and move them in groups to the correct subfolder. An application's Find File feature has different options from the Finder's, including the capability to preview files, check their summary information, search across multiple drives, and search for multiple file name criteria.

Listing Files in Find File

To use the Find File feature, first open Word, Excel, or PowerPoint. Open File and choose the Find File command. The Search dialog box appears (see fig. 27.6). If you did a previous search, the Find File dialog box appears (see fig. 27.7). To return to the Search dialog box, choose the Search button.

Fig. 27.6
Word's Search dialog box.

Fig. 27.7
This figure shows a preview of the currently selected file.

See “Finding Files,” p. 69

\[69\]
Type in the name of the file you're looking for. If you provide a partial name, Search returns all the files that have that partial name in their title. To search for a file by its type, choose the type from the File Type pop-up menu. If you want to give the search criteria a name—so that you can repeat the search at a later time—click the Save Search As command button and type the name in the Search Name text box. Finally, pick a drive to search from the Location pop-up menu.

**Using Find File Advanced Search**

To figure out what files should go into what subfolder, you can use the Advanced Search dialog box, shown in figure 27.8. With Advanced Search, you can search for the file by its contents, its summary information, the user of the file, and the date.

*Fig. 27.8*

Find File's Advanced Search dialog.

To use the Advanced Search feature of Find File, click the Advanced Search button in the Search dialog box. The Advanced Search dialog box appears. The Advanced Search dialog box has the following three tabs:

- **Location.** This tab enables you to select multiple drives and folders by using buttons—instead of typing—in the Search dialog box.

- **Summary.** This tab enables you to look for summary information and to search within the file for words or phrases.

- **Timestamp.** This tab enables you to search for files by user name, by when they were created, or by when they were last saved.

Suppose that you want to search for all files that contain the word meeting and move them to the LAMG folder. In the Location tab, you would select only files in the Documents folder. In the Summary tab, you would type Meeting in the Containing Text box.
After moving all the meeting files to the LAMG directory, you decide to look for all files that a certain person has used since January 1—in this case Suzy Prieto. When Microsoft Office or each of the applications is installed, the computer asks for a user name; the name you type at this point is the default user name. Because the user for whom you are searching started working exclusively on this computer for this project on January 1, you would find other files (without the word meeting) that should be part of the LAMG directory. Enter the date and user name in the Timestamp tab of the Advanced Search dialog box, as shown in figure 27.9. After you finish filling out the dialog box, click OK. The results appear in the Find File dialog box.

![Fig. 27.9](image)

Type date and user information in the Timestamp tab of the Advanced Search dialog box.

Suppose that after you find the LAMG documents, you want to look at their contents. You can preview the documents by selecting Preview from the View pop-up menu in the Find File dialog box (see fig. 27.10).

![Fig. 27.10](image)

This figure shows a preview of the currently selected file.
Opening and Closing Files
To open a file in Find File, double-click the file name, or select the file and click the Open command button.

<table>
<thead>
<tr>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>I tried to search a network drive, but Find File would not search it.</td>
</tr>
<tr>
<td>Find File cannot search a network drive to which you are not connected. Make sure you use the Chooser to connect to the network drive. Find File will now search this drive if you include it in your search criteria.</td>
</tr>
<tr>
<td>I searched for a string of text that I know is in a document, but Find File didn't find the file.</td>
</tr>
<tr>
<td>If you save files with the Allow Fast Saves option, Word's Find File cannot search for text in them. You need to turn off Allow Fast Saves. Open the Tools menu and choose the Options command, and then choose the Save tab. Deselect Allow Fast Saves, and click OK. This fixes the problem for any files you save in the future, but it does not fix your problem for files you have already saved until you open and save them again.</td>
</tr>
</tbody>
</table>

Using Summary Info
You may have noticed that it would be much easier to find and organize files if you had more information about the files. The Summary Info option enables you to add longer titles, the author's name, and other descriptive text to your documents.

Adding Summary Information to Your Document
In Word, Excel, and PowerPoint, you can add a summary to the document. The Summary Info dialog box contains five text fields (Title, Subject, Author, Keywords, and Comments), each of which has room for up to 255 characters—including spaces and special characters. In Word, you can also see document statistics, such as total number of pages, words, and paragraphs.

To add summary information, complete the following steps:

1. Open the File menu and choose the Summary Info command. The Summary Info dialog box appears (see fig. 27.11).
2. In the Title text box, type a description that is longer than the file name of your document.

3. In the Subject text box, type a category.

4. In the Author text box, type your name.

**Note**

The user's name—the name entered during installation—is entered in the author text box automatically. You can keep this name or change it.

5. In the Keywords text box, type words or phrases that describe your document.

6. In the Comments text box, type any other notes you have.

7. Click OK.

**Viewing Summary Information in Find File**

When you use Find File in Word, Excel, and PowerPoint, you can see a preview of your file and two other views: file info and summary. File info view shows the file name, document title, file size, and the date and time when it was last saved. Summary view shows the information in the Summary Info dialog box, as well as information about the time when the file was created and saved.

To see the Summary Info before you open a file, complete the following steps:

1. Open File and choose the Find File command. The Search dialog box or your last Find File dialog box appears (depending on your last use of the Find File command).
2. If the Search dialog box appears, fill in the dialog box and click OK. This begins the search and takes you to the Find File dialog box.

3. In the Find File dialog box, select Summary from the View pop-up menu.

4. Select the file for which you want to see information. The Find File dialog box displays information similar to that shown in figure 27.12.

5. To see other information about the file, select File Info from the View pop-up menu. The dialog box displays information similar to that shown in figure 27.13.

6. When you finish, click Open to open the file or click Close to close the dialog box.
Opening Files and Searching for Text

Suppose that you went through the files in the LAMG directory, glanced at the major files, and added summary information. Now that you have the files in the right area, you decide to make notes for your phone calls. Open the Apple menu and choose the Note Pad to open your phone messages. To find out where the answers to the questions in the Note Pad are, use Find File and go into the documents that you suspect contain the answers.

To open the file in the Find File dialog box, first make sure you are in the right application. You can double-click the file name or click the Open button. You also can open the File menu and choose the Open command.

To search for text when you are in the file, follow these steps:

1. Open Edit and choose the Find command. The Find dialog box appears.

2. In the Find What text box, type the characters you want to find, as shown in figure 27.14.

3. Choose one of the Find buttons (No Formatting, Format, or Special).

4. Click the Find Next button to begin the search.
Say you remember that a list in the Proposal file lists your associate Leon Kelly. After you open the Proposal in Word, you use the Find feature to go to the page you want.

### Moving between Office Programs

To move to the Word document you have open (Proposal), open the application menu and choose Word. To move back to the phone message note in the Note Pad, simply choose Note Pad from the application menu. The phone message note will appear. If you have the Microsoft Office menu active, you can press `+ tab to scroll through the open applications. In the Office Manager menu, choose the application name to switch to the application. If the application is not open, choose it from the Office Manager menu.

Because you are working with several Word documents at once, you decide to open all the important ones. When the documents are open, you can choose a document from the bottom of the Window menu (see fig. 27.15).

![Fig. 27.15](image)

To enter the answers to the questions in your phone message document, you switch back and forth between Word and the Note Pad a lot (writing down the names of the documents and, in some cases, the page numbers).
From Here...

This chapter shows you how to become more organized by using the Microsoft Office menu, organizing your folder structure, and summarizing information in your files.

After you organize your files, you may want to create documents. For more information about creating documents, refer to the following chapters:

- Chapter 4, "Creating and Editing Documents," covers the basics of creating a Word document.
- Chapter 12, "Creating Worksheets," covers the fundamentals of creating an Excel worksheet.
- Chapter 20, "Creating, Saving, and Opening Presentations," gives you the basics on how to create a slide presentation.
- Chapter 28, "Working with Wizards, Multiple Documents, and Cut, Copy, and Paste," shows you how to use multiple open documents and gather information into one document.
Chapter 28

Working with Wizards, Multiple Documents, and Cut, Copy, and Paste

by Tom Negrino

Look at figure 28.1. This page from the Note Pad (available as a desk accessory in the Apple menu) shows a couple of names and addresses of important contacts that you noted during a phone call. These contacts want some more information about the organization you work for. You could write each contact a customized letter, but it would be more efficient to create standardized documents that you could quickly send out when you receive inquiries. Some of the information about your organization already exists in documents you've previously created. This information about your organization is scattered throughout your hard drive and everyone else's. Instead of retyping the information into your new standard document, you can use the Cut, Copy, and Paste procedures to reuse existing information. To start your standardized documents and save time, try the Wizards that come with the Office applications.

This situation calls for you to create a letter in Word and copy information from other Word documents, a PowerPoint slide, and an Excel worksheet. In this chapter, you learn how to start a letter with one of Word's wizards and copy information from the other Office applications, and then paste this information into your Word document.

In this chapter, you learn to

- Use wizards to start letters
- Switch between programs
- Copy text, data, and pictures between programs
Fig. 28.1
This page from the Note Pad shows some contact information that you want to use in a Word document.

Fig. 28.2
Templates are shown in the New dialog box. Wizards are a subset of templates that walk you through creating a document.

Starting a Letter with Letter Wizard

As mentioned in Chapter 2, "Using Common Features to Create Documents," a wizard asks you a series of questions about what task you want to accomplish. Through your answers, the wizard creates a format for your document and adds some text to get you started. To begin a wizard in Word, use the New command from the File menu.

To start the Letter Wizard, follow these steps:

1. Choose the New command from the File menu. The New dialog box appears, displaying a list of templates and wizards (see fig. 28.2).

2. Scroll down and select Letter Wizard in the Template list box.

3. Click OK.
You can choose Summary in the New dialog box and enter Summary Info for the new document, and then enter the first of the wizard dialog boxes.

After you choose OK in the New dialog box, the Letter Wizard's first dialog box appears, as shown in figure 28.3. The dialog box asks whether you want to select a prewritten business letter, write a business letter, or write a personal letter. If you select prewritten business letter, a list of 15 letters appears. This list, shown in figure 28.4, includes a press release, a collection letter, a resume cover letter, and various thank-you letters.

If none of the prewritten letters are appropriate, choose the Back button to return to the Letter Wizard dialog box shown in figure 28.3. Select the Write a Business Letter option, and choose the Next button. The next Letter Wizard dialog box, shown in figure 28.5, asks which items you want to appear in
Fig. 28.5
Click a check box to turn the item on (with an X) or off (without an X).

The next dialog boxes ask whether or not your letter is on letterhead and, if it is, where to place the letterhead on the page.

**Copying Information into a Dialog Box**

The dialog box shown in figure 28.6 requests the recipient's name and address and your name and return address. You can type the information or copy it from somewhere else, such as the Note Pad or another document. Your name and return address should already be filled in if you created a previous letter with a wizard, or if you entered the information in the Tools, Options, User Info tab of the Options dialog box. The recipient's name and address already appear in your Note Pad.
To copy information from the Note Pad into the Letter Wizard dialog box, follow these steps:

1. Drag the I-beam mouse pointer over any existing information in the recipient's text-box area to highlight all the information you will replace, as shown in figure 28.6.

2. Switch to the open Note Pad by choosing Note Pad from the application menu. Alternatively, if it is visible, click the Note Pad to bring it to the foreground.

3. In the Note Pad window, select the information you want to copy.

4. To copy the highlighted text, choose the Copy command from the Edit menu or press $\text{Ctrl}+\text{C}$.

5. Choose Word from the application menu to return to the Letter Wizard dialog box in Word.

6. The old entry in the recipient's text box should still be highlighted. Press $\text{Ctrl}+\text{V}$ to copy the information from the Clipboard to the text box. Figure 28.7 shows the completed text box.

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**Finishing the Letter Wizard**

To finish the interactive portion of creating a letter, fill out other dialog boxes in the Letter Wizard by following these steps. (Click the Next button to move to each successive step.)

1. After you insert the names and addresses, choose the Next button to continue to the next dialog box.

2. Select an option button to specify the style you want for your letter: classic, contemporary, or typewriter.
3. The Letter Wizard dialog box displays a checkered finish flag (see fig. 28.8), and then asks whether you want to create an envelope or mailing label, display help, or display the letter. To create an envelope, for example, select the Create an Envelope or Mailing Label option. Click Next to go to the next dialog. If you click Finish, you will go directly to the end of the process and you will not have the option of creating envelopes or mailing labels.

4. If you select the Create an Envelope or Mailing Label option, the Envelopes and Labels dialog box appears (see fig. 28.9). The name of the recipient appears in the Delivery Address text box, and your address appears in the Return Address text box. If necessary, edit these entries in the dialog box.

5. To create an envelope, select the Envelopes tab.

6. To create a label, select the Labels tab. In the Labels tab, you can specify the label size, which label to print on a label sheet, and whether or not a bar code prints with the label.
7. Your name and address automatically appear in the Return Address text box. If you have preprinted envelopes, click the Omit check box to remove the return address.

8. To change the envelope size, add or remove a bar code, change the fonts for the delivery or return addresses, or change the placement of the addresses on the envelope, click the Options button.

9. To add the envelope as a separate page in your document, click the Add to Document button. This option also enables you to preview the envelope before you print it.

10. To go directly to the printer, click the Print button.

Whether or not you print an envelope, your letter appears with the current date and the recipient's information. Throughout the letter, information that you need to replace is indicated by brackets and italics, as shown in figure 28.10. Highlight the markers, including the brackets, and type your replacement text.

Fig. 28.10
Highlight [Recipient] and type the salutation for the letter.

Copying Information from the Note Pad to Word

You can copy items from the Note Pad into your letter. Choose Note Pad from the Apple menu to open the Note Pad.
To place the information in the Clipboard, follow these steps:

1. In the Notepad document, select the text you want to copy.

2. Choose the Copy command from the Edit menu or press `Ctrl+C`.

**Note**

To remove the information from the Notepad and place it in the Clipboard, choose the Cut command in the Edit menu or press `Ctrl+X`.

To copy the information from the Clipboard to your Word document, follow these steps:

1. Return to the Word document by clicking the Word document on the screen, or by using the application menu.

2. In your document, position the insertion point where you want to place the copy.

3. Choose the Paste command from the Edit menu, or press `Ctrl+V`.

**Using the Styles from the Letter Wizard**

When you use a template or wizard, more than just text comes with the document. Styles, glossary items, and macros are added to the normal template entries to give you added flexibility in creating your documents. The first item in the Formatting toolbar shows you the current style for the selected text. Figure 28.11 shows that Return Address is the style when the insertion point is in the letter's return address.

If you select the date, address, or body of the letter, the style changes to Date, Address, or Body Text, respectively. You can apply a style by selecting the text, clicking the Style pull-down arrow, and selecting the style. In this case, the Lead-in Emphasis style was selected.
In this example, return was pressed between each question and changed the style back to the default style, Normal. To return to the Normal style, press \[Ctrl+shift+N.\]

**Copying Text between Word Documents**

The information for your documents may be scattered throughout existing documents. Learning how to copy text between documents is worthwhile if you dislike typing the same thing repeatedly.

**Opening Word Documents**

Part of the process of working with multiple documents in Word is opening those documents. You can open each document separately by choosing the Open command from the File menu, and you can have multiple documents open at the same time.

To open more than one document, follow these steps:

1. Choose the Open command from the File menu. The Open dialog box appears.

2. If necessary, navigate to the appropriate folder and drive in the Open File dialog box.
4. Click the Open button. The selected file will open.
5. Repeat steps 1-4 for each document you wish to open.

Switching between Documents
When you have several documents open, you need to switch between the documents to copy information between them.

To switch between open documents in Word, do one of the following:
- Select one of the documents from the bottom of the Window menu.
- Press $\text{Ctrl}+\text{F6}$ to cycle through the open documents.

Copying Information from One Word Document to Another
After you open your documents, you can copy information between them. Use the Clipboard method described in this section or the drag-and-drop feature mentioned in the section, “Using Drag and Drop to Copy Information between Documents,” later in this chapter.

To copy information between documents, follow these steps:
1. Select the text you want to copy.
2. Choose the Edit Copy command or press $\text{Ctrl}+\text{C}$.
3. Switch to the document that is to receive the copy, and position the insertion point where you want to place the copy.
4. Choose the Edit Paste command or press $\text{Ctrl}+\text{V}$.

After you copy the text into your document, you may have to reformat the text so it matches the surrounding text.

Note
The Format Painter button is handy for copying formats. Position the insertion point within the text that has the format you want, and click the Format Painter button. Drag the mouse-pointer l-beam across the text you want to change. When you release the mouse button, the selected text changes format.
Note

When you use the normal paste procedure in step 4, the text retains some formatting from the original document. If you want the text to assume the formatting of the text at the insertion point in your target document, choose the Paste Special command, and then select the Unformatted Text option in the Paste Special dialog box.

Arranging Documents

If you want to see more than one document at a time, you can display parts of each document window.

To arrange the documents, follow these steps:

1. Open the documents you want to view.
2. Choose the Arrange All command from the Window menu. The documents are tiled within the window, as shown in figure 28.12.
3. To change the size or shape of the window, click and drag in a window's resize box.
4. To move a window, drag the title bar.

Tip

You can point to selected text, press control, and hold down the mouse button to display a shortcut menu that lets you cut, copy, and paste.

Fig. 28.12

Two documents, 17 AR.TN rev and NAVGSAW sponsor letter, are open and visible.
Using Drag-and-Drop to Copy Information between Documents

When you have more than one document visible, you can drag text between the two documents.

To move or copy information with drag and drop, follow these steps:

1. Select the text you want to move or copy.

2. Position the mouse pointer in the middle of the selected text.

3. To move the text, drag the mouse pointer.

   To copy text, hold down the option key and drag the mouse pointer.

   The mouse pointer changes as you drag, as shown in figure 28.13.

4. Drag the text into the new window to receive the copy. The gray vertical bar indicates the position of the new text.

5. Release the mouse button to complete the copy procedure.

   **Note**

   Use the same drag-and-drop procedure when you move or copy text within the same document.
**Troubleshooting**

*When I copy information with drag and drop, the original document loses its information.*

You used the move feature instead. Make sure that you hold down the `Ctrl` key throughout the process. Release the mouse button first, and then release the `Ctrl` key.

*My copied text appears in the middle of existing text.*

Don’t forget to watch the gray dashed line that is part of the mouse pointer. This line shows where the copied text will be inserted.

*I get a black circle with a slash through it when I try to copy.*

The black circle with the slash on the title bar or status bar indicates that you cannot drop as you drag the mouse with a copy. Make sure you go all the way into the other document before you release the mouse button.

---

**Copying Spreadsheet Information**

The procedure for copying information from an Excel spreadsheet to a Word document is essentially the same as copying between two Word documents. Select the area you want to copy, choose the Copy command from the Edit menu, move to the location where you want the copy to appear, and choose the Paste command.

**Copying from Excel to Word**

To copy information from an Excel worksheet to a Word document, follow these steps:

1. Choose Excel from the Microsoft Office Manager menu.
2. Choose the Open command from the File menu, or press `Ctrl`+O.
3. Select the name of the file you want to open, and click OK.
4. To select the range you want to copy, do one of the following:
   - With the thick white-cross mouse pointer, drag across the range to copy, as shown in figure 28.14.
   - Hold down the shift key and use the arrow keys to highlight the range.
5. Choose the Copy command from the Edit menu or press `Ctrl`+C.
Fig. 28.14
When you choose the Copy command from the Edit menu, a dashed marquee surrounds the range to be copied.

Caution

Be careful when you drag the mouse pointer. Make sure that it is a thick white cross and not an arrow (used for drag-and-drop) or a black plus sign (used for automatic fill).

6. Return to the Word document by using the Microsoft Office Manager menu or the application menu.

7. Position the insertion point where you want the spreadsheet information to appear.

8. Choose the Paste command from the Edit menu or press \( \text{Ctrl} + \text{V} \).

Note

When you perform a normal paste operation in step 8, the information goes into a table in Word, as shown in figure 28.15. The light gray grid lines do not print. If you want additional lines to appear, choose the Format Borders and Shading command.
Using Paste Special with a Spreadsheet

If you don't want text to appear in a table in your Word document, you can use the Paste Special option. To use Paste Special with spreadsheet data in the Clipboard, choose the Paste Special command from the Edit menu. The Paste Special dialog box appears, as shown in figure 28.16.

The options in the Paste Special dialog box enable you to link, embed, or specify a format for the spreadsheet. You can do any of the following:

- To link information to the spreadsheet, select the Paste Link option.
- To insert the Excel spreadsheet as an object, select Microsoft Excel 5.0 Worksheet Object.
To insert the spreadsheet as a table in your Word document (the default when you choose the Edit Paste command), select the Formatted Text (RTF) option.

To insert the spreadsheet with tabs separating data that was in columns, as shown in figure 28.17, select the Unformatted Text option. If you select this option, you probably will have to select the data and change the tabs if you want the information to align.

Fig. 28.17
When you copy information from the spreadsheet, set a tab stop to separate the items that were in columns in the worksheet.

To insert the spreadsheet as a graphic, select the Picture option in the As list box. To edit the picture, first select the picture to display the small black handles. To resize the picture, point to one of the handles until the mouse pointer changes to a double-headed black arrow, and then drag. To move the picture up or down in the document, drag the drag-and-drop white arrow and rectangle mouse pointer.

Copyi ng Pictures from PowerPoint

In addition to copying text or data, you may want to copy a picture from PowerPoint or a chart from Excel. The procedure is essentially the same: select the object, choose the Copy command from the Edit menu, and then choose the Paste command from the Edit menu.
To copy a PowerPoint picture, follow these steps:

1. Switch to PowerPoint by using the Office Manager menu.

2. If necessary, choose the Open command from the File menu to open the presentation.

3. Go to the next slide in your presentation by clicking the Next Slide or Preview Slide buttons (double arrows) in the scroll bar, or by using the Slide Sorter View button and double-clicking the slide you want.

4. Click the object to copy. Black handles surround the object to show that it is selected.

5. Choose the Copy command from the Edit menu or press $\text{Ctrl} + C$.

6. Return to the position in your Word document where you want to place the copy.

7. Choose the Paste command from the Edit menu or press $\text{Ctrl} + V$. The picture appears in your Word document.

The Paste Special option does not do anything different from the Edit Paste command. You cannot link or embed the object with Paste Special.
To select the picture, click the picture. To change the size of the picture in Word, drag a handle. To move the picture vertically in the document, drag it to the new position. To move the picture vertically or have text wrap around the object, however, you need to frame the picture first, as described in the following section.

**Framing a Picture**

When you paste a PowerPoint picture or an Excel chart, or select Picture or Bitmap in the Paste Special dialog box, the graphic is one object in your Word document. For better control in positioning the object, you can frame it. Figure 28.19 shows an unframed picture object in page layout view. Text does not wrap around the picture, and you cannot move it horizontally on the page.

**Fig. 28.19**

In this example, the picture had to be made smaller. Notice the text does not wrap around the picture.

To frame a picture, follow these steps:

1. Select the object.
2. Click the Frame button in the Drawing toolbar or choose the Insert Frame command.
3. Choose Yes if the program prompts you to go to page layout view. You’ll see this prompt if you are not already in page layout view.

When the object is framed, you can move it horizontally on the page and position text to the left or right of the object. To edit the properties of the
frame, choose the Format Frame command. You can specify whether you want text to wrap around the picture, set the size and location of the picture, or remove the frame.

From Here...

This chapter focuses on copying information from different sources into a Word document. In some cases, you may want to link information instead. This added capability means that when the source document changes, the link automatically updates the target document. For more information, refer to the following chapters:

- Chapter 29, "Sharing Data between Applications with Linking and Embedding," focuses on linking information so that the document remains updated.

- Chapter 31, "Using Mail with Other Microsoft Office Products," shows you how to pass documents among different users on your network.

- Chapter 33, "Sending a Mass Mailing," shows how you can avoid typing the name and address in every letter by using your existing Excel spreadsheet.
Chapter 29
Sharing Data between Applications with Linking and Embedding
by Tom Negrino

Earlier chapters in this part of the book assume you are working for a new nonprofit organization and suggest ways you can use Microsoft Office. As part of your work, you have already created a variety of documents explaining the organization and its goals. Many parts of the existing documents could be useful for requests for information and for other reports and documents that may need to be created. Those who would need the information include prospective donors, sponsors, participating organizations, the press, parents, schools, prospective scholarship recipients, event attendees, paid staff, volunteers, the executive director, and the board of directors. Trying to provide information to everyone is a huge task. By using Microsoft Office's capabilities to link and embed information, you can streamline the task of supplying information to a diverse audience.

In this chapter, you learn to

- Link information between documents
- Update links
- Edit links
- Embed information within documents
Moving beyond Copy and Paste to Link Information

You also may have documents or portions of documents that you need to use over and over. With Microsoft Office applications, you have different options to accomplish the same task. The first option is a simple copy and paste. Whenever you need information from one document, open the document and select and copy the information. Then open the second document and paste the information at the appropriate point.

Although the copy and paste procedure is the easiest to master, there are two drawbacks. First, if the original information changes, you have to continually repeat the procedure if you want to keep your documents current. The second drawback is you have to remember the application that created the information and where you put the files. If you want to edit the data, you may have to return to the original application.

To overcome these drawbacks, you have additional options for sharing data between files (and applications). One option is to create a link between two files. Whenever the data in the source file changes, the destination file will receive the update. The technical term for this is dynamic data exchange or DDE.

Note

This chapter describes the source application and document as the application and file on disk that supply data. The destination or target application and document is the application and the file on disk that receive the data.

Using Embedding to Link Information

Another option is to embed the information into your destination document. When you embed the information, you can use the source application to update the information. You have two ways to get to the tools (menus and
toolbars) of the source application. You can launch the source application from within the destination document, and a window appears with the source application showing the information to edit. The other possibility is new for Microsoft Office 4.2 applications. This is called in-place editing. When you select the object to edit, your menu and toolbar change to the source application, but you remain in the document and can see the surrounding text or data. The technical term for this kind of sharing is object linking and embedding (OLE). If you can edit the data without leaving the destination, the source application is OLE 2.0 compliant.

**Note**

This chapter mentions objects. An object can be text, a chart, table, picture, equation, or any other form of information that you create and edit, usually with an application different from your source application.

One difference between linking and embedding is where the information is stored. Linked information is stored in the source document. The destination contains only a code that supplies the name of the source application, document, and the portion of the document. Embedded information is stored in the destination document.

In some cases, you cannot launch the source application by itself; you have to use your destination application to start the application. These applications are called applets (small applications) and include WordArt, Microsoft Graph, and others.

You may want to look at your existing documents and see if you will continually use different portions in other documents. Table 29.1 shows lists of the existing available documents for your organization. Suppose, as the office manager, you use Excel to list the original document and divide the document into parts that might be used in multiple documents. You decide it would be better to create separate documents for each frequently used part of a larger document. You also include a column for which application might be best for the subdocuments.
### Table 29.1 Portions of Documents That Can Be Linked with Other Applications

<table>
<thead>
<tr>
<th>Portion of Document That Can Be Used Elsewhere</th>
<th>Proposed Application</th>
<th>Where Else Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Plan Logo</td>
<td>PowerPoint</td>
<td>Will this change in many documents?</td>
</tr>
<tr>
<td>Purpose</td>
<td>Word</td>
<td>Queries, brochure, many documents</td>
</tr>
<tr>
<td>New-chapter networking</td>
<td>Word</td>
<td>Also instruct new chapters</td>
</tr>
<tr>
<td>Timeline for development</td>
<td>Word</td>
<td>Goals, manage timeline, board notes</td>
</tr>
<tr>
<td>Geographic development</td>
<td>Word</td>
<td>Goals, board notes</td>
</tr>
<tr>
<td>Distribution of funds</td>
<td>Excel</td>
<td>Goals, board notes</td>
</tr>
<tr>
<td>Reasons to donate</td>
<td>Word</td>
<td>Donors, sponsor presentations, brochure</td>
</tr>
<tr>
<td>Benefits to your company</td>
<td>Word</td>
<td>Sponsor presentation, brochure</td>
</tr>
<tr>
<td>History</td>
<td>Word</td>
<td>Queries, press release, brochure</td>
</tr>
<tr>
<td>Equipment needed for startup</td>
<td>Excel</td>
<td>Need to update as new numbers, info received</td>
</tr>
<tr>
<td>Orgchart</td>
<td>Organization Chart</td>
<td>Will change; board notes</td>
</tr>
<tr>
<td>Budget</td>
<td>Excel</td>
<td>Summary, internal management, board notes</td>
</tr>
<tr>
<td>Factsheet Logo</td>
<td>PowerPoint</td>
<td>Will this change in many documents?</td>
</tr>
<tr>
<td>Purpose</td>
<td>Word</td>
<td>Queries, brochure, many documents</td>
</tr>
<tr>
<td>Eligibility</td>
<td>Word</td>
<td>New-chapter notices, scholarship queries</td>
</tr>
<tr>
<td>Scholarship amount</td>
<td>Word</td>
<td>New-chapter notices, scholarship queries</td>
</tr>
<tr>
<td>Submission process</td>
<td>Word</td>
<td>New-chapter notices, scholarship queries</td>
</tr>
</tbody>
</table>
Using Common Steps to Link Documents

The procedure for linking any kind of application to any other application is essentially the same regardless of the source or destination application. You copy the source into the Clipboard and then use the Link option in the Paste Special dialog box to create the link. In the Paste Special dialog box, you also can specify the type of format in which the information is presented.

In some cases, you may not be able to use the Paste Special dialog box to create the link. To link a PowerPoint slide to a Word document, for example, you may have to use the Insert Object dialog box to create the link. This procedure is described in “Linking a PowerPoint Picture to a Word Document” later in this chapter.

To copy an item to the Clipboard and link the item to another document, follow these steps:

1. Select the item in the source document.
2. Open the Edit menu and choose the Copy command or press $C$.
3. Move to the target application and document. Position the insertion point where you want the link to appear.
4. Open the Edit menu and choose the Paste Special command. A Paste Special dialog box appears, as shown in figure 29.1.
   
   Several format types may be available, depending on the source application. Two options usually are available: Paste and Paste Link. The Link option is grayed if the source document for the selected format cannot be linked.
5. Select a format option in the As list box.
6. Select Paste Link.
7. Click OK.

The As list box shows different formats. These formats change, depending on the source and target applications. In general, four different formats appear in most links. One of the formats usually is Object. In figure 29.1, the specific format is Microsoft Word 6.0 Document Object. When you insert, or embed, an object, you can double-click the object or its icon (if the Display as Icon option is active) and then edit the object with the source application.
Fig. 29.1
In the Paste Special dialog box, you can choose Paste and Paste Link.

Another format option is Formatted Text. This option means that the object appears in your target document with most of the formatting (fonts, borders, and so on) from the source document. This option is different from Unformatted Text, in which the text takes on the format of the target document.

The last option is to add a picture of the document. Whether the original document is a picture or text, the link becomes a picture, and you can size and move the picture as one item.

**Linking Two Word Documents**

When you want to link two Word documents, you can use Paste Special to create the link, or you can use the Insert File feature. To insert a portion of a file, use the Paste Special feature, which is helpful if the source document is not a complete paragraph. To insert an entire document, use the Insert File feature.

To link two Word documents, follow the steps in the preceding section, “Using Common Steps To Link Documents.” Select and copy the text you want to link, and then move to your target document. Open the Edit menu, and choose Paste Special. In the Paste Special dialog box, select the Unformatted Text option in the As list box to enable the linked text in the target document to assume the format of the target document.

Table 29.1 shows that the purpose for Org Name TK is mentioned in the business plan, fact sheet, and in most other documents. As office manager for Org Name TK, you may want the changes to be updated in all documents containing the purpose. Therefore, you might create the separate document
"Purpose" to describe the purpose of Org Name TK. Because the text is formatted differently in the documents, you would link the text using the Unformatted Text option in the As list box of the Paste Special dialog box.

**Displaying the Link**

When you move within the linked section, as shown in figure 29.2, the link is highlighted in gray. Although you can edit the linked text, the editing changes disappear when the link is updated (when you open the file again; print the file; or press F9, the Update Field shortcut key). The gray highlight reminds you not to edit this part of the document. If the link is not highlighted, open the Tools menu, choose the Options command, and then select the View tab. In the Field Shading pop-up menu, select When Selected or Always.

![Figure 29.2](image)

The linked area in the document is highlighted in gray.

If you want to see the name of the source document, you can display the field name codes rather than the actual text. Open the Tools menu and choose the Options command. In the View tab, select the Field Codes option. (To display the text, deselect Field Codes.) Figure 29.3 shows field code used in place of text.
Troubleshooting

Changes in my source document aren't reflected in my destination document.

The link may be an automatic link or may require manual updating (see the section on updating links). You also can do the following:

To update any manual links, go to each field code by pressing F11. To update the code or link, press F9 or ⌘+shift+option-U.

To make sure your document updates any automatic links when you open the file, Open the Tools menu and choose the Options command. In the General tab, make sure Update Automatic Links on Open is active.

To make sure your document prints with the latest information, open the Tools menu and choose the Options command. In the Print tab, make sure Update Links is active.

Editing Links

When you link a document, you must keep both the document name and the document in the same location (drive and folder). If you rename, delete, or move a document, the link is broken, and you get an error in your destination document. In some cases, you can break the link so that the source document is inserted into the target document without a link; in other cases, you can change the name of the source document.
To change links, follow these steps:

1. In Word, open the Edit menu and choose the Links command (be sure the insertion point is in the target document, not the source document). The Links dialog box appears, as shown in figure 29.4.

2. Select the files in the Source file list box.

3. Do one or more of the following:
   - Click the Update Now button to update the link with any changes in the source file.
   - Click the Change Source button to change the file name or location of the linked file in the Change Source dialog box.
   - Click the Break Link button to insert the object into the document and unlink it. When Word displays a message box, asking whether you are sure you want to break the selected links, choose Yes.

4. Click OK when you finish.

**Inserting a File into a Document**

You also can link documents by using the Insert File feature, which enables you to insert the entire file, rather than just a part of the file. When you use Paste Special to link a file, you can only insert text before or after the source-document information, so the target document does not include the entire text. Insert File alleviates this problem. The file you insert can be from the same application or a different application.
To insert a file into a document, follow these steps:

1. Move to the position in the target document where you want to insert the file.

2. Choose the Insert File command. The File dialog box appears, as shown in figure 29.5.

3. Identify the file you want to insert, including the drive and directory if necessary.

4. Select the Link to File option.

5. Click OK.

As in the Paste Special example earlier in this chapter, you can display the linked document with a gray highlight or show the field codes. In figure 29.6, the revised business plan document shows field codes for the linked documents.

**Note**

If you want to insert several documents into a single larger document, give your documents a consistent appearance by using the same formats for each one. You also can use templates and styles to help ensure consistency among documents. For more information, see "Formatting with Styles" in Chapter 9, "Working with Large Documents."
Linking an Excel Worksheet to a Word Document

The procedure for linking a range or an entire Excel worksheet to a Word document is the same as for linking Word documents. You can use either the Paste Special command or the Insert File command, although it's easier to format a document when you use the Paste Special command. When you use the Insert File command, the resulting table sometimes is hard to center on the page because of extra space for the last column or extra cells. In the Paste Special dialog box, you have the same formatting choices when you Paste Link as when you Paste (see fig. 29.7).

Fig. 29.6
The field code INCLUDETEXT appears for the Word documents Title TK, Title TK, and Title TK.

Fig. 29.7
Choose the Paste Link option to link the spreadsheet to the Word document.

See "Copying Text Between Word Documents," p. 589
The following list describes the formatting options in the Paste Special dialog box shown in figure 29.7. The results appear in figure 29.8.

- To insert the Excel spreadsheet as an object, select Microsoft Excel 5.0 Worksheet Object. In a Word document, when you double-click the object, you enter the application that created the object. You then can edit the object, using the source application’s menus, toolbars, and other commands.

- To insert the spreadsheet as a table in your Word document (the default choice when you choose the Edit Paste command), select Formatted Text (RTF). You may need to change the column widths for the table to line up properly, as is the case in figure 29.8.

- To insert the spreadsheet with tabs separating data, choose Unformatted Text. You may have to select the data and change the tabs for the selection if you want the information to align.

- To insert the spreadsheet as a graphic, select Picture. This option inserts the spreadsheet as a diagram. In figure 29.8, however, there is almost no discernible difference between Microsoft Excel 5.0 Worksheet, Object, and Picture. In fact, these three options perform the same function: they all insert a picture into the Word document, and you can double-click all three options to go to Excel to edit the object. To edit the picture, first select the picture to show the small square handles. To resize the picture, point to one of the handles until the mouse pointer changes to a small double-headed black arrow; then drag. To move the picture up or down in the document, drag the drag-and-drop white arrow and rectangle mouse pointer. To go to Excel to change the data, double-click the picture.

Suppose you need to create a quarterly report which contains text, Excel worksheets, and Excel charts. To do this, you would begin by inserting some introductory text at the beginning of the report which includes the purpose and history of the organization. You would then link the “Purpose” and “History” Word documents to the quarterly report file. In order to report on the donations for the first three months, you might want to show the amount in a table, a pie chart by type of donation, and a bar chart of donations by month.

Figure 29.9 shows a formatted Excel worksheet. Because the numbers will change, you will want to link rather than paste the worksheet and the charts.
To copy this worksheet into a Word document, follow these steps:

1. In Excel, highlight the range to be linked (A1:E6).
2. Choose Copy from the Edit menu or press \( \text{Ctrl} + \text{C} \).
3. Switch to Word.


5. Select Paste Link and As Picture. Click OK. The result appears in figure 29.10. Notice the picture is left-justified.

**Fig. 29.10**
The worksheet picture appears left-justified in the Word document.

6. If you want to center the worksheet, select the picture and then click the Center button.

**Linking an Excel Chart to a Word Document**

Suppose you want to add a pie chart and bar chart to this page in your quarterly report document. You can create charts quickly by clicking the ChartWizard button in Excel's Standard toolbar.
Creating a Pie Chart

To create a pie chart, follow these steps:

1. Drag the white-cross mouse pointer to highlight the titles in A3 to A5.

2. Hold down the ~ key and drag to highlight E3 to E5.

3. Click the ChartWizard button. The mouse pointer changes to a graph and a plus sign, as shown in figure 29.11.

4. Click Sheet2 to draw the chart where you want it.

5. Drag from the top-left corner to the bottom-right corner of the range where you want the chart to appear. The ChartWizard dialog box appears, displaying five steps.

6. Choose Next to go to the Step 2 ChartWizard dialog box.

7. Select 3-D Pie, and then click the Next button, as shown in figure 29.12.

8. Click Next until you get to the Step 5 ChartWizard dialog box. Type **Donations YTD** in the Chart Title text box, and then choose Finish. The chart appears in the second sheet of the workbook, as shown in figure 29.13.

---

**Fig. 29.11**

After you select the ranges for your chart and click the ChartWizard button, the mouse pointer changes to a graph-and-plus-sign icon.
Chapter 29—Sharing Data between Applications with Linking and Embedding

Fig. 29.12
The ChartWizard dialog boxes enable you to select chart types and other settings.

Fig. 29.13
The chart appears in Sheet2, surrounded by handles.

9. You can copy the chart the same way you do a range. Because the chart already is selected (handles surround the chart), choose the Copy command from the Edit menu or press \( \text{Ctrl}+\text{C} \).


11. Open the Edit menu and choose the Paste Special command. The Paste Special dialog box appears.
12. Select Picture and Paste Link. Click OK. The chart appears in the Word document, surrounded by handles. If the handles do not appear, click the picture.

13. Open the Format menu and choose the Paragraph command. In the Indents and Spacing Tab, select Center from the Alignment pop-up menu, or press $\mathbf{F}+E$ to center the picture.

### Creating a Bar Chart

To create a bar chart, follow these steps:

1. Drag the white-cross mouse pointer to highlight the range A2 through D5.
2. Click the ChartWizard button.
3. Move to Sheet3, and highlight the range where the chart will appear.
4. Fill in the ChartWizard dialog boxes, including the 3-D column chart in Step 2 and format 4 in Step 3, and type **Donations by Month** in the Chart Title text box in Step 5. After you finish the ChartWizard dialog boxes, the chart is selected, with handles.
5. Open the Edit menu and choose the Copy command, or press $\mathbf{X}+C$.
7. Open the Edit menu and choose the Paste Special command. The Paste Special dialog box appears.
8. In the As list box, select Picture, and select the Paste Link option. Choose OK. The chart appears in the Word document, with handles.

The third diagram on the page from the quarterly report is shown in figure 29.14. When the final numbers come in, simply go to the Excel range and edit them. Figure 29.15 shows an updated Word document with the new number (15,000) for March corporate donations.

### Note

To remove the border surrounding the charts, change the charts in Excel rather than Word. In Excel, click to select the chart. In the middle of the chart, hold down the control key and choose Format Object from the shortcut menu. In the Patterns tab, select None in the Border section.
Fig. 29.14
The Excel range and two charts appear in the Word document.

Gramercy Project Donations

Donations for Gramercy Project

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>350</td>
<td>595</td>
<td>1,750</td>
<td>2,695</td>
</tr>
<tr>
<td>Events</td>
<td>445</td>
<td>1,495</td>
<td>595</td>
<td>2,535</td>
</tr>
<tr>
<td>Corporate</td>
<td>100</td>
<td>10,000</td>
<td>6,000</td>
<td>16,100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>895</td>
<td>12,090</td>
<td>8,345</td>
<td>21,330</td>
</tr>
</tbody>
</table>

Donations YTD

- Individual 39%
- Corporate 11%
- Events 50%

Donations by Month

- Individual
- Events
- Corporate
Gramercy Project Donations

Donations for Gramercy Project

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
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<td>Corporate</td>
<td>100</td>
<td>10,000</td>
<td>15,000</td>
<td>25,100</td>
</tr>
<tr>
<td>Total</td>
<td>895</td>
<td>12,090</td>
<td>17,345</td>
<td>30,330</td>
</tr>
</tbody>
</table>

Donations YTD

- Corporate: 11%
- Individual: 39%
- Events: 50%  

Donations by Month

Fig. 29.15
After you update the Excel worksheet, the changes occur in the Word document.
Linking a PowerPoint Picture to a Word Document

Suppose you went through your documents and noticed the organization logo was on almost every document. If this was an established organization, simply pasting the logo would be appropriate. However, linking the logo may be inappropriate if there is a chance that the logo might change. If you want to link a PowerPoint slide to a Word document, the Paste Special command does not allow you to choose the Paste Link option. Insert File also does not have a PowerPoint option. To do the link you need to use the Insert Object command, and the first slide of the presentation must be the picture you want to link.

To create your PowerPoint slide, follow these steps:

1. Go to PowerPoint.
2. To insert pictures into your slide, choose the Insert Clip Art command (if the picture is part of Microsoft ClipArt Gallery) or the Insert Picture command (if you got the picture from another source).
3. To type text, click the Text tool. Then click the location in the document where you want to add text, and type.
4. To create rotated text, click the Free Rotate tool, and drag the mouse pointer as shown in figure 29.16.

Fig. 29.16
Click the Free Rotate tool, and drag the top right handle to change the orientation of the text.
5. Save the document.

To link a PowerPoint slide to Word, follow these steps:

1. Create a PowerPoint slide with a picture and/or text you want to link to your Word document.
2. Save the PowerPoint presentation.
3. Go to the location in your Word document where you want to position the picture.
4. Choose the Insert Object command. The Object dialog box appears, as shown in figure 29.17.

5. Click the Create from File tab, and select the file name.
6. Select the Link to File option, and then click OK.

The picture appears in your Word document. You can resize the picture by dragging the handles. To move the picture horizontally, you need to frame the picture. Choose the Insert Frame command. If you are prompted, choose Yes to go to page layout view. When the picture is in a frame, you can drag the frame to position the picture. You also can use the Frame command in the Format menu, and indicate where you want to position the picture (such as centered horizontally or vertically on the page) and whether text should wrap around the picture. Figure 29.18 shows the picture in a document.
If your PowerPoint presentation is more than one slide, you can double-click the picture in Word, and you will launch PowerPoint or the PowerPoint presentation. If you launch PowerPoint, you can edit the slide. If you launch the presentation, you can play the presentation by clicking each slide to move to the next slide.

To change the object to a PowerPoint presentation within Word, follow these steps:

1. Select the PowerPoint object.
2. Choose Edit.
3. Choose MS PowerPoint 4.0 Slide Object.
5. Select the Convert To option, select MS PowerPoint 4.0 Presentation, and click OK.

**Linking Data between Excel Worksheets**

In some cases, you may want to repeat text or data in an Excel worksheet. For example, you may want to include a summary of actual numbers on a
separate sheet of the workbook. You can copy the labels and numbers, or you can create a formula to copy the text and values. If you link through a formula, when the numbers or labels in the source part of the document change, they also change in the target part of the document.

The formula is simple: type an equal sign (=), move to the cell you want to copy, and press return. The cell you want to link can be in the same sheet, in a different sheet of the same workbook, or in a different workbook file. Figure 29.19 shows an example. The budget worksheet on the left contains monthly numbers. To see only the categories and the year totals, you could hide columns or create the formula.

To link the worksheets, follow these steps:

2. Move to cell A3, and type =.
3. Move to the source worksheet (identified as “Budget” in the Org Name TK example).
4. Click A3 in the “Budget” worksheet, and then press return.

Notice in figure 29.19 that when you use this method, the reference to the cells includes the file name (Budget), the sheet name (Budget!), and an

Fig. 29.19
After you link the cell, the reference contains the file name, the sheet name, and an absolute reference to the cell ($A$3).
absolute reference to the cell ($A$3). If you want to copy the information, as in this example, remove the dollar signs to make the reference absolute. Then you can copy cell A3 from A4 through A11 to link the other cells. Notice in figure 29.20 that the cell reference has no dollar signs (A3).

Fig. 29.20
To copy the cell information, change the reference so no dollar signs appear, as shown in the edit line (A3).

Note
To arrange your worksheets side by side, as shown in figure 29.19, choose the Arrange command from the Window menu, and then select the Tiled option in the Arrange Window dialog box. You don’t have to arrange your worksheets this way, however; you could move to the other worksheet by choosing the document name from the bottom of the Window menu.

The formula automatically contains the file name (if the reference is to a cell in a different workbook), the sheet name (if the reference is to another sheet), and the cell name. The default formula includes dollar signs; this means if you copy the formula, the reference does not change. In the example, payroll would be in every cell in column A. Delete the dollar signs so the copy will work correctly.
Embedding Information in Your Documents

As mentioned at the beginning of the chapter, in addition to linking information, you can embed information within a document. When you embed an object, the information resides in the destination document, but the source application's tools are available for use in editing.

You can use any of the following methods to embed information in a document:

- Copy the information to the Clipboard, open the Edit menu and choose Paste Special, and select an object format. (This method was discussed earlier in this chapter in the section "Using Common Steps To Link Documents," along with other Paste Special formats.)

- Arrange two windows side-by-side, and use drag-and-drop to copy information between the applications.

- Open the Insert menu and choose Object, and open an existing file. (This method was discussed in "Inserting a File into a Document" earlier in this chapter.)

- Choose Object from the Insert menu, and create a new object. The following section will describe this method.

Inserting a New Object into Your Document

If you want to use the features of another application in your document, you can open the Insert menu, choose the Object command and select an application from a list. In addition to the standard Microsoft Office applications, the list contains applets and some other Microsoft applications. Applets are small applications that cannot be run by themselves. When you purchase an application, one or more applets may be available.

Following is a list of applets that come with Microsoft Office. If you purchased your applications separately, you may not have all the applets.
To use the tools from another application or applet within your document to create a new object, follow these steps:

1. Position the insertion point in the destination document.
2. Open the Insert menu and choose Object. The Object dialog box appears, as shown in figure 29.21.
3. In the Create New tab, select an application or applet from the Object Type list.
4. If you want to only see an icon for the object, select the Display as Icon option.
5. When you finish with the Object dialog box, click OK.

After you complete these steps, one of two things will occur, depending on the exact operation you’re performing. You may enter a separate window for the application or the applet, as shown in figure 29.22. The other possibility is you will remain in your destination document window, but the menu bar and toolbar will change to reflect the source application, as shown in figure 29.23.
Thank you for your interest in The Gramercy Project. The Project is an innovative housing project, designed to serve the needs of upper- and middle-income homeowners, while simultaneously addressing the need for affordable housing for the disadvantaged who would normally not be able to consider home ownership. The breakdown of our proposed population is as follows:

**Fig. 29.22**
When you choose Microsoft Organization Chart, a separate window opens. After you finish with the chart program, choose Quit to return to the Word document.

**Fig. 29.23**
When you choose Microsoft Excel 5.0, you get in-place editing. The menu bar and toolbar change to Microsoft Excel, enabling you to use Excel features such as the Auto-Sum button.

Complete the object, using the application’s toolbar and menus.

When you finish creating the object, you can exit the object in either of two ways. If you launched a separate window for the application or applet, open the File menu and choose Quit. If you stayed in your destination document, click outside the object.
Editing an Embedded Object

Regardless of which of the four methods you use to embed information into your document, you can edit the embedded object with the tools of the source application.

To edit the object, follow these steps:

1. Click the object. Handles appear around the object, and the status bar tells you to double-click the object (see fig. 29.24).

Fig. 29.24
The status bar displays instructions on how to get to the source-application tools.

2. Double-click the object. Depending on the source and destination applications, a separate window for the program appears, or the current window's toolbar and menu bar change to those of the source application.

3. Complete the object, using the application's toolbar and menus.

4. When you finish creating the object, exit the object. If you launched a separate window for the application or applet, choose Quit from the File menu. If you stayed in your destination document, click outside the object.
From Here...

This chapter showed you how to create links and embed information between different source applications and Word. Because you may need to know the basics of the other Microsoft Office applications, you may want to review the following chapters or continue with other sharing-information chapters:

- Chapter 12, "Creating Worksheets," covers the fundamentals of creating an Excel worksheet.
- Chapter 20, "Creating, Saving, and Opening Presentations," shows you how to create a slide presentation.
- Chapter 31, "Using Mail with Other Microsoft Office Products," tells you how to use Microsoft Mail to send your files to other members of your network.
- Chapter 33, "Sending a Mass Mailing," explains how to use database sources to send a Word document to many people.
Sharing Data between Applications with Publish and Subscribe

by T. Kelley Boylan

As you learned in the previous chapter, an application need no longer be an island, with the Clipboard its only method of sharing data. Today much computer work involves sharing files—by network, e-mail, bulletin board, and fax—and we share data from one application to another. You may need to paste a graphic into a Word file or an Excel workbook, or both Word and Excel data into a PowerPoint presentation.

You could do a simple copy and paste to bring an Excel spreadsheet into Word, but you also can do a live copy and paste. Both Publish and Subscribe and Object Linking and Embedding (OLE), described in the last chapter, allow this.

Because problems in data sharing may arise from differing file formats, this chapter begins with a discussion of file formats. It then discusses the major methods of data sharing between Office applications. The chapter covers the following topics:

- Understanding file formats
- Copying and pasting via the Clipboard and the Scrapbook
- Publishing and subscribing
Understanding File Formats

A file format is a set of conventions that determines how information is stored. If you can read the following words: “siht daer ot yrt,” you are translating a foreign convention into your native convention.

Similarly, each Office application creates, saves, and manipulates data in its own native file format. When you transfer data in from a different application, the first application needs to be able to read or translate the foreign file format.

The major reason for varying format types is that different applications store different kinds of information. Word, for example, needs to store fonts, sizes, styles, margins, and spacing. PowerPoint uses bitmaps and vector graphics to store line width, color and fill, and coordinates for each pixel. Excel needs to store the widths of columns and rows, as well as numbers and formulas.

There are various ways of dealing with different file formats. With some methods (OLE in particular), the applications take care of translating file formats for you.

Transferring Static Data

When you want to transfer some information from one application to another, and you don’t plan to update the information or share it over the network, you can choose one of the following methods of transferring data (once the data has been transferred by these methods, it cannot be changed except by another transfer; it is static):

- Copying and pasting via the Clipboard
- Copying and pasting via the Scrapbook

Using the Clipboard

Unless you are a brand-new Macintosh user, you probably know how to use the Clipboard to transfer data within an application (see fig. 30.1).

If you aren’t familiar with the process, here are the steps to allow you to transfer data:

1. Select some text or a graphic, or both.
2. Open the Edit menu and choose Cut or Copy, or press ⌘+X or ⌘+C from the keyboard.
3. Place your cursor where you want the selection to appear.

4. Choose Paste from the Edit menu, or press \( \mathit{⌘}-\mathit{V} \) from the keyboard.

But even experienced users don't know—or tend to forget—that the Clipboard can transfer data between applications. They may struggle with more difficult methods, when a simple copy and paste would do.

As a rule of thumb, when you want to do a simple transfer of static graphics or text (or even sound and QuickTime movies) from one application to another, consider the Clipboard first.

**Understanding Clipboard Formatting**

When you cut text from one application and paste it into another, the pasted copy usually retains the formatting style of the source document. But sometimes it doesn’t—the font, or its size or style are changed, or you can’t edit what you’ve pasted. To make the results more predictable, it helps to understand how the Clipboard works.

Most applications store the data you cut or copy to the Clipboard in several versions, each in a different format (though only one version is visible in the Clipboard window, with the Show Clipboard command).

These formats are similar to file formats, but are designed especially for the Clipboard. Generally, each application stores one version of the information in its own native Clipboard format. Thus, if you paste within the same application, the information will usually retain its exact formatting.

Other versions of the information may be stored in one or more of the following standard Clipboard formats:

- **PICT**. This format stores data, whether a graphic or text, as a picture (either object-oriented or bit-mapped). Text stored in PICT format is not editable.

- **TEXT**. This format stores data as text only. Text stored in this format loses its font and style information.
- **styl.** This format stores data as text, complete with font and formatting information.

- **MooV.** If you have Apple's QuickTime extension installed, this format is used to store QuickTime movie frames.

- **snd.** This format stores sounds, either those supplied with the system software or those you record yourself, for transferring between applications that support sounds.

Applications store multiple versions of Clipboard data in order to give applications on the paste side of the process a chance to find a format they understand, and thus preserve as much of the original formatting as possible.

For example, when you copy cells from an Excel spreadsheet and paste them into a Word document, one of the formats Excel uses in the Clipboard is RTF (*Rich-Text Format*), an interchange format that Word understands as well. Word chooses the copy with that format, and thus is able to paste it with the original formatting.

To get out of the Clipboard what you put into it, the destination application must either understand the source application's native Clipboard format, or both applications must have another format in common.

The data is displayed in the Scrapbook in only one format, though it is probably stored in others you don’t see. Therefore, the data may look as if it’s incorrectly formatted. But if the application you paste into can find a format it can read, it will restore the original formatting, or as much of the formatting as it can read.

The Paste Special command (under the Edit menu) enables you to choose among the available Clipboard formats (see fig. 30.2).

---

**Fig. 30.2**
The Paste Special command will let you paste data in a number of formats.
With the latest version of the Macintosh system software, System 7.5, the Clipboard works more effectively with graphics than in the past. With applications that support this new power, graphics transfer more accurately and predictably.

In addition, System 7.5 offers a new method of transferring data that is even easier than the Clipboard—Drag-and-Drop. You can simply drag a block of data (text, graphics, etc.) from an open document to a new location in another document—whether in the same document, the same application, or a different application. (As when you copy rather than cut data to the Clipboard, the original data remains in place when you drag-and-drop it in a new location. You are actually dragging a copy of the data.)

You also can drag-and-drop a selection (text, graphic, or sound) from a document onto the desktop, where it becomes a Clippings file that you can name. Then you can drag that Clippings file directly to any new location. The Clippings file remains on the desktop so you can use it repeatedly. As with the Scrapbook (see the section, “Using the Scrapbook,” later in this chapter for more information), Clippings files are useful for storing frequently used data, such as your mailing address and the company logo.

**Clipboard Tips and Tricks**
The following are tips and tricks about using the Clipboard:

- You can transfer entire files via the Clipboard, even large ones, by just selecting all the data. If the data exceeds what can be held in memory, the application will save it to disk. The size of information you can copy to the Clipboard is limited only by the space available on your hard disk.

- You can copy the current time and date from the Alarm Clock desk accessory and paste it at the beginning of a file.

- You can copy the results of a calculation made with the Calculator desk accessory, then paste it.

- You can go the other direction and paste a numerical problem, including common math symbols, from a file to the Calculator. The Calculator's keys flash to reflect what you have pasted, and the answer appears. Then you can paste the answer back into your file. (The Calculator beeps for any symbol it doesn't recognize.)

- If you can record sound, you can Copy and Paste sounds.

- You can transfer QuickTime movie frames.
If you cut or copy something, and then realize you want what was previously held on the Clipboard, you can undo the cut or copy with \textasciitilde Z, which will return the Clipboard to its previous state.

You can keep what is currently on the Clipboard by using the delete key instead of the Cut command to delete unwanted items in your document. (Cut places the selected item in the Clipboard, replacing the item stored there previously.)

Using the Scrapbook

The Scrapbook, a desk accessory normally located under the Apple menu, is often overlooked as a means of transferring data. Unlike the Clipboard, Scrapbook data is saved to disk, and thus isn't destroyed when you paste something else or turn off the computer.

Using the Scrapbook, you can save as many text or graphics items as you want for later use (see fig. 30.3).

These are the rules for the Scrapbook:

- You don't select something from the Scrapbook to cut or copy. You simply choose Cut or Copy while the page you want to cut or copy is displayed and the Scrapbook window is active.
Transferring “Live” Data

- Each time you paste to the Scrapbook, you add a new page to the Scrapbook. You can’t paste over an existing page. What you paste affects either the page before or the page after the one displayed.

- The number of the current page is displayed at the bottom left of the Scrapbook window, along with the total number of pages in the Scrapbook. You use the scroll bar to display different pages.

- As explained in the section on the Clipboard, pasted data is often saved in multiple formats. The name of the format or formats appears at the bottom right of the Scrapbook screen.

Scrapbook Tips and Tricks

Here are some tips and tricks concerning the Scrapbook:

- What you store in the Scrapbook file is kept in the startup volume’s System folder under the name Scrapbook File. You can transfer that file from one disk or volume to another.

- You can create and store multiple Scrapbooks and name them according to contents. For example, you might have Scrpbk.Excel and Scrpbk.Word. Then you can use one of these files by renaming it Scrapbook File and moving it into the System folder.

- ClickPaste by Mainstay (Camarillo, CA) is a utility that allows you to store Scrapbook pages in hierarchical folders.

- SmartScrap by Portfolio Systems (Cupertino, CA) lets you store multiple scrapbooks, which you can access without renaming them. You can select any portion of a stored image for copying, name each page of each scrapbook, search through the contents by name, and build a table of contents with thumbnail views of each page. To open a page, you click its thumbnail image.

In System 7.5, you can drag graphics directly from the Scrapbook into your document, if the document is in an application that supports drag-and-drop.

Transferring “Live” Data

As useful as copying and pasting can be, it has one major limitation: once information is transferred, it’s disconnected from its source. If the original information changes, you have to go back and recopy, then repaste. If the information changes frequently or if you need to paste into multiple files,
this can be a tedious task. It also can be unreliable because you might not remember all the places where the information has been pasted. There's also the constant danger involved in version control—getting the latest version to all the affected documents.

Three other methods of exchanging data address these problems in different ways: publish and subscribe, linking, and embedding. All three methods keep information connected to its source in some way, and so can be considered "live."

**Deciding on a Method**

To help you decide which method of transferring live data to use in a particular situation, find the category of information you are dealing with in the following list and read about the recommended method(s). You might also want to see Table 30.1 for a comparison of the advantages and limitations of the three methods.

<table>
<thead>
<tr>
<th>Table 30.1 Comparison of Methods of Live Data Exchange</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Publish &amp; Subscribe</strong></td>
</tr>
<tr>
<td>Especially suitable for information that occurs frequently or changes frequently, or for networked information</td>
</tr>
<tr>
<td>Works over the network</td>
</tr>
<tr>
<td>Multiple files can be updated simultaneously</td>
</tr>
<tr>
<td>File sizes virtually unaffected</td>
</tr>
<tr>
<td>Data updated on save or manually</td>
</tr>
<tr>
<td>Multiple copies can be updated simultaneously</td>
</tr>
<tr>
<td>Source applications not needed</td>
</tr>
<tr>
<td>Renaming or moving source file or Edition files OK on same hard disk</td>
</tr>
</tbody>
</table>
Information Subject to Change.

You may create files containing information that is subject to change, such as financial data, product descriptions, and project schedules. To keep the files up-to-date when the original information changes, you can use linking, or publish and subscribe. Linking is easier, but it works only with a single Macintosh, and requires that all source applications be available. If the information is to appear over the network, use publish and subscribe.

Information from Other People on the Network.

If you want to create a file that includes information created by different people, such as a flyer with contributions from various writers and graphic artists, use publish and subscribe.

Information to be Used by Other People on the Network.

If you want to create or maintain information to be used by others over the network, such as a corporate logo, a mission statement or slogan, and legal disclaimers, use publish and subscribe.

Cross-References.

You may want to update cross-references automatically so that when figures, chapters, or sections are renumbered or renamed, the references to them change accordingly. The simplest way to do this is to use linking.

Information for a Specific Document

You may want to create information especially for a document, using another application. For example, within a sales report, you may want to include a chart you would create in Excel. Use embedding to create the information within the document.

Information for Transporting by Floppy Disk.
If you plan to transfer a document by using a floppy disk, and the document has information from other sources, use embedding, which stores all the information in a single file.

**Using Publish and Subscribe**

Publish and subscribe is probably System 7's most under-utilized feature. Introduced as a "sophisticated Copy and Paste," many users seem to think it's *too* sophisticated.

It may be a little more complicated than other methods, but it's worth using, particularly if you work with information that is subject to change, or information that appears in various documents throughout an organization.

Comparing publish and subscribe to copy and paste may help explain how it works. Instead of copying the source information, you *publish* it. Instead of going to the Clipboard, and thus being held in memory, the published information goes to a special file called an *Edition*, which is saved on disk. Then instead of pasting the information, you *subscribe* to the Edition, causing it to appear in your document. Table 30.2 shows the similarities between the two methods up to this point.

<table>
<thead>
<tr>
<th>Source</th>
<th>Holding Area</th>
<th>Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy</td>
<td>Clipboard, (in memory)</td>
<td>Paste</td>
</tr>
<tr>
<td>Publish</td>
<td>Edition, (on disk)</td>
<td>Subscribe to</td>
</tr>
</tbody>
</table>

Once information appears in a destination, the two methods are very different. After you perform a copy and paste, the information in the destination is static and can only be changed by another copy/paste. But after you perform a publish and subscribe, the information in the destination is dynamic—it remains linked to the source information via the Edition file. When the source information changes, those same changes appear in the Edition, and in the destination either automatically or on command.

The other major difference is that the data in an Edition is saved to the hard disk, and therefore stays around until you delete it. You can subscribe to the same Edition from as many documents and applications as you want. If you share the Edition over the network, other users can subscribe to it as well.
What Can You Do with Publish and Subscribe?

Clearly, the more places a piece of information appears, or the more times it changes, the more useful, even essential, the publish and subscribe method becomes. Over a network, it can save the time of many people, and ensure that everyone is working with the latest information.

If you find it difficult to envision how you can benefit by using publish and subscribe, the following list of possible uses may help you think of some. It is not meant to be an exhaustive list; categories and items overlap a good deal, but are designed only to spur ideas.

Use publish and subscribe for information subject to regular or frequent updating, such as:

- Spreadsheet data (such as sales figures, expenses, and price lists)
- Product descriptions, product identification numbers, graphics or photographs of products
- Customer and employee databases
- Employee resumes
- Corporate or organizational mission statements, slogans, blurbs, legal disclaimers, or copyright notices
- Templates for brochures, manuals, memos, status reports, invoices, and so on
- Meeting minutes
- Proposals
- Contracts
- Schedules, calendars, and project tracking
- Employee worksheets and contract invoices
- Error reports, customer questions, and complaints

Work being created at one source, but used (or edited) in other locations, also can be handled with publish and subscribe:

- Logos and icons
- Product presentations and internal presentations
- Screen shots and descriptions of software or other products under development
Publish and subscribe is useful for composite work pulled in from several sources:

- Flyers, newsletters, and brochures
- Data sheets
- Presentations
- Excel data used in Word

Use publish and subscribe to create master repositories or catalogs of information subscribed to by multiple users:

- "Boiler plate" blurbs or phrases, such as product descriptions
- Scanned photographs or slides
- QuickTime movie clips
- Recorded messages

Home uses for publish and subscribe include:

- Graphic designs you use in multiple places, perhaps as you work to improve them over time
- Updates from employers or clients over the modem via Apple Remote Access

**Note**

Here's an idea for creating a design. Create a graphic or scanned photo, then subscribe to it any number of times on the same page. When you edit the original, you get a new design. Do a Save As and repeat to create different designs. In addition to editing or replacing the published graphic, you can rearrange the subscribers on the page for a variety of effects.

**A Publish and Subscribe Scenario**

Suppose you are in charge of producing an internal monthly sales report. Every month you must gather the latest Excel graph of sales figures from other staff and write a column about the Employee of the Month.
Each contributor to the report publishes his or her information, thus creating Editions that you subscribe to from the layout you created in Word. A copy of each Edition file is placed in your Word document. You can resize the information if you want.

In May, your report might look like the one shown in figure 30.4.

After the report is distributed, your Word document will receive updates (manually or automatically) made by your contributors for the June issue. After you have received your updates, your report might look like the one shown in figure 30.5.
Fig. 30.5
As contributors work on the latest information in their published documents, the Word report is updated for next month's edition.

If you want, you can edit the published information by selecting Open Publisher from the Edit menu, an option that launches the other application and file directly from your Word document. Or you can leave the editing to your contributors, receiving their updates.

**Procedure for Publishing Data**

When you publish information, a copy of it is sent to an Edition file, which you and others with the relevant access privileges can subscribe to. Then when the publisher (the information you publish) changes, the Edition and all subscribers (copies of the published information) to it change accordingly.
To publish data, follow these steps:

1. In your document, select the information you want to publish. (You can select as little as one character or as much as the entire document. If you publish the entire document including the final paragraph mark, anything you add later to the document will be included in the Edition file.)

2. Highlight Publishing in the Edit menu, and from the cascading menu attached to it, select Create Publisher. The dialog box shown in figure 30.6 appears.


The Edition is the intermediary file where the data you publish is kept.

**Note**

To help you keep track of your Editions, it's a good idea to leave the word "Edition" in the file name. You may want to create a new folder to hold all your Editions. Alternatively, you may want to keep your Editions in the same folders as the published information. Consistency is important.

4. Click Publish in the dialog box.

**Caution**

After an Edition file is created, you can rename it and move it to another location on the same volume if you want. However, if you move an Edition to a different volume, the System will not be able to find it. The System will also lose track if a volume has been renamed. Make sure people with whom you're publishing and subscribing don't change their hard drive names.
Chapter 30—Sharing Data between Applications with Publish and Subscribe

Now you or anyone else can subscribe to the Edition you just created. You may want to choose when changes made to the published information (called the publisher) are sent—it can be either when you save the document (the default) or manually. See the next section, "Choosing Publisher Options," for more information.

Choosing Publisher Options
To make changes to publisher options, follow these steps:

1. In the document where it was created, place your cursor within the published material.

   **Note**

   To help you find published information in a document, many applications surround publishers with gray borders. In some applications, there is an option to Show/Hide Borders in the Edit menu. In others, borders are controlled by the command that shows and hides other markers, such as paragraph markers.

2. Choose Edit Publishing Publisher Options from the Edit menu. The dialog box in figure 30.7 appears.

   **Fig. 30.7**
   The Publisher Options dialog box enables you to decide when updates will occur.

3. Select the option or options you want.
   - Send Editions/On Save/Manually. If you choose to send On Save, updates will be sent to all subscribers as soon as changes are saved.

   If you choose to send updates Manually, click that button. Then whenever you want, you can send the changes by clicking the Send Edition Now button.
Procedure for Subscribing to Data

4. Click OK.

Editing Published Information

You can edit published information just as you edit any other information in a document. (But remember, your changes also will be made in any other locations where the same published information is subscribed to.)

To edit the publisher, open the document that contains it, find the publisher, and make any changes you want. The changes are sent according to the selection in the Publisher Options dialog box (usually either On Save or Manually). Refer to the section “Choosing Publisher Options” for more information.

Procedure for Subscribing to Data

If you have previously created an Edition by publishing some information, or if you have access to an Edition created by someone else, you can insert a copy of the published information in your document by subscribing to the Edition.

Note

Sending updates to the Edition is not the same as having each subscriber receive them. Final control of when the changes are actually made is up to each subscriber, through the Subscriber Options dialog box.

- **Send Edition Now.** This button allows you to send editions whenever you want. If the Manually radio button is selected, this button is the only way to send updates. If the On Save button is selected, you can use this button to send an update between saves.

- **Cancel Publisher.** This button breaks links from this published data to all current subscribers. The contents of the publisher remain in your document, and the Edition remains on disk, but changes are no longer sent to the Edition or to subscribers. If you don’t want users to subscribe to the disconnected Edition as it currently stands, delete it from the Finder. When you click this button, you will be asked to confirm.

- **Send Edition When Edited.** This option sends changes even before they are saved, which can slow down performance while changes are being made.
To subscribe to published data, follow these steps:

1. If the Edition is on another Macintosh, connect to that Macintosh.


3. Choose Subscribe to from Publishing in the Edit menu. A dialog box resembling the one in figure 30.8 appears.

4. Navigate through the folders until you see the Edition you want. (If the Edition is located on another hard disk or another Macintosh, click the Desktop button first.)

Office applications help you find the Edition you want by displaying the first part of any Edition you select in a small Preview box.

5. Select the Edition you want.

6. If there is a choice of file formats, choose the one you want.

   The TEXT and PICT formats, similar to those used in the Clipboard, are usually available, in addition to private formats. (Refer to the section "Understanding File Formats" for more information on formats.) Don’t worry if you don’t know which format to choose. You can easily resubscribe if the data is not displayed properly. You also can change the format from the Subscriber Options dialog box.

7. Choose Subscribe.

Now that you have subscribed to an Edition, you may want to choose when changes sent from the publisher will be made in your document—automatically or whenever you choose to send them manually. See the next section, "Choosing Subscriber Options," for more information.
Choosing Subscriber Options

Once you have subscribed to a copy of published data, you can select several subscriber options. When changes sent from the subscriber are to be made (either automatically or manually), the file format to be used in the subscriber, whether formatting changes made in the subscriber are to be kept, and when the information is updated. You also can open the publisher to edit it, and you can cancel the subscriber so no more updates will be sent.

To select subscriber options, follow these steps:

1. In the file that subscribes to published data, select that data.
   
   Note that the data is selected as a block, so that you cannot edit it, except for cosmetic font changes or for changes to the size and shape of a graphic.

2. Select Subscriber Options from the cascading menu under Publishing in the Edit menu. The dialog box in Figure 30.9 appears.

![Fig. 30.9](https://example.com/fig309.png) The Subscribe dialog box presents a number of options.

3. Select the option or options you want.

   - Get Editions/Automatically/Manually. If you choose Automatically, changes will be made as soon as they are sent from the publisher. If you choose Manually, you must access this dialog box again whenever you are ready for an update, and click the Get Edition Now button. The latest changes will then appear in your document if any updates have been sent by the publisher.
Chapter 30—Sharing Data between Applications with Publish and Subscribe

Note

Choosing when you get Editions only affects when you get changes that have been sent by the publisher. Publisher Options determine when changes are sent. For more information, refer to the section "Choosing Publisher Options" earlier in this chapter.

- Get Edition Now. Whether you have chosen the Automatically or the Manually button, pressing Get Edition Now immediately brings in changes that have been sent from the publisher.

- Cancel Subscriber. If you click this button, this particular subscriber will no longer receive changes from the publisher. The information will remain in your document and you will be able to edit it normally. You will be asked to confirm.

- Open Publisher. Clicking this button takes you directly to the published data, even if it is in another application. This allows you to edit the source data if you want.

Caution

When collaborating with other people on a network, be certain that the editing you do to the publisher is desired by all subscribers.

- Subscribe with. The TEXT and PICT formats used in the Clipboard are usually available, in addition to private formats. Refer to the section "Understanding File Formats" for more information on formats.

The following option appears in Word and a few other applications:

- Keep Subscriber Formatting Changes. This option keeps formatting changes you make to this instance of the published data, such as font changes, or changes to the size and shape of a graphic, when the data content is updated. (Such cosmetic formatting changes are usually allowed only to the whole block of information, not to parts of it.)

4. Click OK.
Procedure for Subscribing to Data

**Note**

You can cut, copy, and paste subscribed data at will, without losing the connection to the published data.

**Editing Subscriber Information**

Word allows you to change fonts and font characteristics in the subscriber. Generally, the changes must be to the entire block of information. For example, you may be able to make the entire block of subscriber information appear in boldface type, but you probably cannot make a single word appear in boldface type.

Changes you make in the subscriber are usually overridden when the subscriber is updated, unless you select a publisher option to maintain the changes.

To change the content of a subscriber, such as to delete a word from a word processing application, a line from a graphics application, or a number from a spreadsheet, you must edit the publisher. Refer to the section “Editing Published Information” earlier in this chapter for more information.

**Troubleshooting**

I have trouble keeping track of Editions: where they are located, who has subscribed to each one, and which subscribers have been updated and which haven't.

Use a consistent system for what to name and where to store Editions, and be sure everyone understands the system. You might want to write a set of rules, such as the following:

- Whenever anyone publishes information, they are to send an e-mail message to the entire group of potential subscribers describing what they published, where its Edition is located, and in what documents it should appear. The same rules apply when someone changes published information.

- (If it fits your situation, the following rule ensures consistency.) Anyone publishing information should choose the option Send Editions Automatically. Anyone subscribing to information should choose the Get Editions Automatically button.

- Editions should not be moved or renamed unless there is a good reason to do so, and everyone is informed of the changes.

(continues)
The updated information my document receives doesn’t always match the publisher exactly.

There may be two versions of the publisher. This can happen in two ways. (1) You or someone on the network may have done a Save As to save the document with the publisher under a different name. Changes may then be made from both documents to the same Edition. (2) You or someone else may have copied and pasted information containing a publisher. Changes may then be made from both instances of the publisher to the same Edition.

The publisher may be set to send changes manually, or the subscriber may be set to receive changes manually. Though changes have been made to the publisher, they either have not been sent from the publisher or received at the subscriber. To send the latest changes, put your cursor in the publisher and select the Send Editions Now button. To receive the latest changes, put your cursor in the subscriber and select the Get Editions Now button.

From Here...

This chapter showed you how to publish and subscribe to information between different source applications. Because you may need to know the basics of the other Microsoft Office applications, you may want to review the following chapters or continue with other sharing-information chapters:

- Chapter 12, “Creating Worksheets,” covers the fundamentals of creating an Excel worksheet.
- Chapter 20, “Creating, Saving, and Opening Presentations,” shows you how to create a slide presentation.
- Chapter 29, “Sharing Data between Applications with Linking and Embedding,” describes the process of making dynamic data links between files.
- Chapter 31, “Using Mail with Other Microsoft Office Products,” tells you how to use Microsoft Mail to send your files to other members of your network.
Microsoft Mail is an electronic mail (e-mail) package that enables you to send messages to people on your network. Your messages appear on the recipients’ computer screen. Documents created using other Microsoft Office packages can be sent or routed to selected people on the network. You can also copy portions of a document or attach entire documents to a Mail message.

Microsoft Mail isn't included when you buy Microsoft Office. You do receive an additional license to use Mail on any network you connect to. The Mail package is available from Microsoft at an additional charge. If you don’t have a network, this chapter may not be relevant to you, but it will provide an overview of what Microsoft Mail has to offer.

**Note**

The figures in this chapter reflect the use of Microsoft Mail on an AppleTalk Network. Your figures may vary slightly if you have another type of network.

In this chapter, you learn to

- Start Mail and create a message
- Copy information from a Word document to a Mail message
- Send a document through Mail or through the Routing commands in your File menu
- Attach other Office files to your Mail message

**Opening Microsoft Mail**

Starting Mail is similar to opening any other Office program. When you install the Office packages, the Microsoft Office menu appears at the top of your screen. Choose Microsoft Mail from this menu, or switch to Mail using the application menu if it's already open. Figure 31.1 shows the Summary window in Mailbox view.

If you've already sent or received messages, the Mailbox folder stores those messages and displays them in this window. The Outbox folder stores messages that are waiting to be sent. You can save messages in default folders (WasteBasket, Outbox, and Sent Mail) or in custom folders that you create. (See “Reading a Sent Document” later in this chapter for more information on creating folders.) The title bar of the Summary window changes to indicate the open folder. In this case, the title is Mailbox for Network Manager because the Mailbox folder is open.

The buttons and menu choices in Microsoft Mail enable you to compose, read, reply to, move, or delete a message.
Creating a Message

You can create and send a message to anyone on your network if they have been added to Mail's address list by your network manager.

To create and address a message, follow these steps:

1. Click the Note button in the upper-left corner of the window.
   The Address Mail window appears, as shown in figure 31.2.

   ![Fig. 31.2](image)

   The Address Mail window enables you to choose who will receive the message.

2. To address the message, do one of the following:
   - Type the names of the individuals or groups in the text box.
   - Choose the names from the Choose Names list and click the Add button or double-click the names.

3. Click the Close button.

4. Type your message in the Send Note window as shown in figure 31.3.

   ![Fig. 31.3](image)

   Type a message in the Send Note window.

5. Click Send.
The message is sent to the recipient, who can read, reply to, file, or delete the message.

**Reading a Sent Document**

When a message is sent to you, you are alerted by a dialog box with the subject of your message in the title bar as shown in figure 31.4. The dialog box shows who the message is from and the subject of the message.

**Fig. 31.4**
An Alert message appears when you receive mail.

---

**Note**

If you would rather not have your work interrupted by mail notification, you can disable notification features by changing your Mail preferences. Choose Mail Preferences and click the Notifier option to set your personal notification preferences.

To open the message and read it immediately, click the Read Now button. If you click the Read Later button, you can read the message by following these steps:

1. Start or switch to the Mail program by choosing Microsoft Mail from the Microsoft Office menu.

2. Open your Mailbox folder.

3. Double-click the message you want to read. Messages that haven't been read appear in bold type as shown in figure 31.5.

4. Read the message and close the window.

Or...

Use the buttons along the bottom of the message window to perform the following functions:

- **Reply**: The note appears in a Reply window. Enter your reply as shown in figure 31.6 and click Send.
Unread messages appear in bold type

Type your reply above the line

---

- **Forward.** Click this button to send a message you have received to others on the Mail network. The Address Mail dialog box will open as described previously (refer to fig. 31.2).

- **Print.** Use this option to print a hard copy of the message.

- **Move.** This option allows you to store the message for future reference in any of the folders shown at the bottom of the Mail window.

---

**Note**

Additional folders can be created by choosing Mail, New Folder. Enter a folder name in the dialog box that appears.

---

- **Delete.** Moves the message to the Wastebasket folder. Messages in the Wastebasket folder will be removed when you close and sign out from the Mail system. To retrieve a message from the Wastebasket folder, simply move the message to another folder.
Chapter 31—Using Mail with Other Microsoft Office Products

Creating a Personal Group

Often, in a company or organization, messages are sent to more than one person. Usually these people perform similar work or work together on a particular project, so many mail messages are relevant to the same group of people. For example, perhaps you send price updates to seven salespeople in your organization regularly. Rather than send the information to each of seven people, you could create a personal group called Salespeople and send the message once, and each person in the defined group would receive it.

To create a personal group, follow these steps:

1. Choose the Personal Groups command from the Mail menu. The Personal Groups dialog box appears, showing a list of the current groups.
2. To create a new group, type an appropriate group name in the New Group Name box and click the New button. An Address window will open.
3. Select the name you want to add.
4. Choose the Add button, or double-click the name.
5. Repeat steps 4 and 5 for all the names you want to add to your group.
6. When you finish adding names, click Save.

Sending and Receiving a Document

Documents created in any of the Office applications can easily be sent directly to others on your network if you are signed in to Microsoft Mail.

To send a document from an Office application to another network user, follow these steps:

1. Open the application and the file you want to send.
2. In Word, choose File, Send. In Excel and PowerPoint, choose File, Mail, and then Send from the cascading menu.

Note

If the Send option is not shown on the File menu in Word, choose Tools, Options. In the General tab, select Mail as Attachment.
3. An Address window will appear as discussed previously (refer to fig. 31.2). Address the message as desired and click Close.

4. Enter a subject and any additional message, and click Send, as you would in any Note window.

When a sent document is received, the receiver is notified as with any Mail message. The message includes an enclosure, as illustrated in figure 31.7.

When you receive a document, click the Enclosure button to retrieve it. A dialog box similar to the one shown in figure 31.8 opens. Choose the location, rename the file if desired, and click the Save button. The document can now be opened in the application of origin.

Fig. 31.7
This message window indicates that a document is enclosed in the message.

Fig. 31.8
The Retrieve dialog box functions like a standard Save dialog box.
Routing a Document

An alternative to sending a document is routing it to selected parties. You can track a routed document’s location and you can send it automatically to consecutive recipients.

Creating a Routed Mail Message

To route a document from an Office application, be sure you are signed in to Microsoft Mail and follow these steps:

1. In Word, choose the File, Add Routing Slip command. In Excel or PowerPoint, choose File, Mail, and then Add Routing Slip from the cascading menu. The Routing Slip dialog box appears, as shown in figure 31.9.

2. Choose Address, and select the names of the people to whom you want to send your document.

3. To change the order of the address list, select a name and use the up or down arrow beside the list box. The order of names in the address list will be the order in which recipients receive the routed document.

4. To remove a name from the list, click the Remove button.

5. In the Route to Recipients area, specify whether you want to route this file simultaneously to every recipient or to consecutive recipients.

6. If you want to be notified via your Mail Inbox of the status every time someone reads the document, select Track Status.
7. If you want the final document returned to you at the end of the routing, select Return When Done.

8. In the Protect For pop-up menu box, specify whether you want to protect part or all of your document so that recipients can’t make changes.

9. When you finish, click the Add Slip button to begin routing the document.

**Attaching Word, Excel, or PowerPoint Files to Your Message**

When you send or route a document, you start in the document’s application. You can also send documents from within Microsoft Mail, by using the Enclosures button to attach documents. By using the Enclosures button, you can attach more than one document to each message.

To attach a document to your message, follow these steps:

1. Create a new mail message.
2. Click the Enclosures button. The Enclosures dialog box appears.
3. Identify the name and location of the files to be sent.
4. When you finish choosing files, click the Done button.
5. Finish the message, and send it by clicking the Send button.

**From Here...**

This chapter showed you how to work with Mail and other Office applications to send electronic messages to people on your computer network.

See the following chapters for more information:

- Chapter 4, “Creating and Editing Documents,” tells more about creating documents.
- Chapter 7, “Managing Files,” provides steps for saving documents and working with files.
Chapter 32
Using Office Applications with PowerTalk

by Cyndie Klopfenstein

AOCE (Apple Open Collaboration Environment) is Apple's operating system framework for communication services. Most companies have not yet subscribed to this technology, but Microsoft once again is a leader. PowerTalk is the first software released by Apple that is based on the AOCE technology. You use PowerTalk on individual networked Macintoshes to provide an easy and consistent way of working with mail, messaging, and on-line services. Even though you need a network, you do not have to be connected through a file server, as opposed to Microsoft Mail which does require a server.

In this chapter you'll be introduced to the connectivity of PowerTalk and you'll learn about

- Catalogs and adding information cards
- Sharing your information cards with servers and other users
- Retrieving your mail from the in-basket
- Sending mail to unconnected users
- Passing messages to other users of your network
PowerTalk—The Look

PowerTalk, like most other interface systems, provides icons, menus, and other methods for working with it, such as information cards. The most noticeable icons are the three placed on your desktop: Catalogs, Key Chain, and Mailbox. PowerTalk is automatically installed during a regular installation of System 7.5. The major features of PowerTalk are:

**Key Chain**
A "key" (master password) to other passwords and information of and about the file servers and on-line information that you connect to. This master password is storage for all the other passwords and requires only that you use the master to open each of those contained within.

**Catalogs**
The catalog most closely resembles a Rolodex system. It has a card of information about each of the people, servers, or services to which you connect.

**Mailbox**
This area, represented by the mailbox icon on your desktop, is where your incoming and outgoing electronic data waits to be processed.

**AppleMail**
AppleMail is very similar to Microsoft Mail—both perform the same primary function. They are used to turn a regular document into a piece of mail to be sent via PowerTalk.

**Digital Signature**
This service of PowerTalk signs an electronic signature to your correspondence so that PowerTalk receivers can verify who sent the file and make sure that it was untouched since its sending.

PowerTalk can be used as a stand-alone system or to share mail and information cards with a server. The server in this case is called the PowerServer and it enables you to share the set of information cards, or Catalogs, with other PowerTalk users on the same network. You also can automatically verify the addresses of the senders and receivers as well as ensure the security of the e-mail.

The best feature of PowerShare for those on the go is the ability to send mail to the server where it will wait for the receiver to log back on before sending. This enables you to either receive your mail when you return to your office or to have others receive mail you've sent when they return.
Putting It to Work

Microsoft Mail and PowerTalk won't work together. You must use one or the other. If you are connected to others in your office via a network but not a server, PowerTalk is your best choice. It doesn't require a server, but Microsoft Mail does. PowerTalk changes the File menu of the Microsoft Office suite. When PowerTalk is on, the File menu contains, among other mailing features, the menu option for attaching the header to send mail. Since this is the first step in sending mail to another user, we'll explore it first.

Caution

If you have already installed System 7.5 or System 7 Pro and are currently using PowerTalk, it will interfere with the installation of Microsoft Office. Turn PowerTalk off in the Control Panel and restart your Macintosh with extensions off (hold down the shift key while restarting) or you will be unable to install the Microsoft Office suite.

If this is the first time you've sent mail and you have not previously established an access code, PowerTalk will intervene and ask you to establish your Key Chain (access code). To establish your Key Chain, follow these steps:

1. From the File menu, choose Add Mailer. You are greeted by the Key Chain dialog box.

2. Type your name and access code in the fields provided. You are then greeted by a second dialog box asking you to type the Key Chain access code again.

3. Type your access code again, exactly as you did the first time. This field is case-sensitive, so watch your capital letters; you'll need to repeat them exactly.

From here forward, each time you choose Add Mailer from the File menu you will need to sign on with your access code. Watch capital and lowercase letters when you sign on or you may be denied access to your own system. Figure 32.1 shows the sign-on dialog box.

Once you have entered your access code, another dialog box appears (see fig. 32.2). Type the subject matter in the subject field and choose recipients and enclosures by clicking the icons next to these field names.

Tip

The second dialog box is for accuracy verification, so it's important to be careful when typing.
Fig. 32.1
Type your access code in the dialog box for the Key Chain services of PowerTalk.

Fig. 32.2
In this dialog box, choose recipients and enclosures.

The names that are listed in the recipient field are those you have saved in the information cards. You can remove or add names by going to the PowerTalk folder and locating the Untitled Info Card icon. Double-click the icon to add a name to the blank information card.

To choose a new recipient for the mail to which you are adding the header, click the recipient button. A dialog box appears (fig. 32.3). In this dialog box you can search your Personal Catalog for the intended recipient, browse, use the Zoom tool to search, or type in an address that you have not previously stored in an information card.

The Personal Catalog is a collection of information cards you create. When you click the Recipient button and use the dialog box, you are actually searching or browsing the Catalogs icon located on your desktop.

To create a new information card to be included in the catalog, go to the PowerTalk folder on your hard disk and follow these steps:
1. Click the Untitled Info Card icon and choose Duplicate from the File menu (~+D).

2. Rename the copy of the icon with the name of the person for whom the information card is being established.

3. Double-click the icon to open it. This prompts a dialog box where you can enter the data about the person you want to add.

4. Click each field and type the information it names (see fig. 32.4).

5. Click the Close box in the upper left corner of the window to close the window and save the changes.

To place the information card in the catalog folder, double-click its icon on the desktop and drag the named icon to the AppleTalk icon inside the Catalog folder.

Once you’ve added the information card, it will appear as one of the list of people (or destinations) available when you click the Recipient button.

After you’ve added the information, open the Catalogs icon on your desktop and copy the information card to the AppleTalk icon. Since catalogs can be shared, you might want to make one for yourself so that others on your network have pertinent information about you.
When you've finished choosing the recipients, type your letter or other correspondence in the Microsoft Word document below the Mailer header (you may also type the mail before attaching a mailer header). Then from the File menu, choose Send. A dialog box will appear like the one in figure 32.5.

If you click the Sign Letter button, a dialog box appears asking you to locate your Digital Signature file. Use the buttons in the dialog box to locate the file, or click Cancel to close the dialog box without assigning a signature. Click the check box again to turn off that feature; otherwise you will be required to find the signature file and attach it.

The multiple formats button allows you to send the correspondence in formats other than as Microsoft Office mail. You may choose to send it as a picture by clicking the Snapshot button or as another word processing format.

The priority buttons will identify your correspondence accordingly. Recipients will be notified of the importance of the mail when you choose one of these buttons.

Click the Send button when you have finished making your choices; the file is then placed in your outbasket. If you and the recipient are both connected, either to one another or to the server, the file is transferred to the Mailbox for that person or group.

If you have added a header to correspondence that you decide not to send, return to the File menu and choose Delete Mailer. The header is removed, and the document is returned to a normal Microsoft Word page.

Choosing Mail from the File menu also enables you to reply to mail you've opened, reply to everyone who received the mail, or forward it to another recipient. Choose the appropriate option from the File menu.
Changing and Locking the Key Chain

You're not stuck with your access code forever—it is editable and also lockable. To change it, just double-click the Key Chain icon on your desktop and then click the Change Code button. Type your current code in the first field and the new code in the next field. Click OK when you've finished, and after the verification dialog box appears, type the new code again and click OK.

To lock the access code, and thereby your catalog and mailbox, choose Lock Key Chain from the Special menu. You're not warned, but access to your mailbox and catalog is terminated. You can use this option if you're stepping away from your computer for awhile and want to protect sensitive documents from being read by others who may use your computer. When you return, choose Unlock Key Chain from the Special menu and retype your access code.

Key Chain Services

You are always connected to at least one service, the AppleTalk mail service. This software is an inherent part of PowerTalk. Even without Microsoft Mail, you will be able to send and receive documents—all as a part of AOCE.

The services which you are employing are listed when you click the Key Chain icon on your desktop. If you want to check which are active, double-click the Key Chain icon to display the window. Services are listed in the Service field (fig. 32.6), along with the name of the host computer and the type of service it is. Your network administrator is responsible for setting up the different services available to you. For instance, with certain software you can connect to Internet on-line service without even being aware of the change in software.

![Fig. 32.6](Image)

This dialog box is for adding and removing servers and services. A service is made available to you by your network administrator.
With some services, you’ll be able to set up your software without a network or an administrator. If you use on-line information systems such as America Online or CompuServe, you can add them to your list. Connect to the service first, and as you enter the password for that service, PowerTalk displays a dialog box asking whether you would like to add that server to your Key Chain. If you click Yes, the password you just used to connect is added under the protective services of the Key Chain system and the service is listed in the Key Chain dialog box.

To add another type of service, click the Add button in the Key Chain dialog box. Delete a current service by clicking the Remove button, also found in the Key Chain dialog box.

**Working with the Catalogs**

There are two types of catalogs for PowerTalk: Personal and Shared. Every Mac using PowerTalk has both of these catalogs. If you want to view the catalog, double-click the Catalog icon on your desktop and then double-click the AppleTalk icon.

The Personal Catalog resides in the Apple Menu under the Mail and Catalogs entry, although you can place it anywhere you like. In the Apple Menu the Personal Catalog is very easy to access, but you might want to make aliases and place them in other easily accessible locations on your hard disk.

Personal Catalogs are empty until you add information cards. The information cards, as you saw earlier, closely resemble Rolodex cards so you can use them to store information about people or services. You also can have several different Personal Catalogs that contain specific types of data. Name them anything you like and place them where they’re handy.

In the Get Info dialog box (click the Personal Catalog icon and choose Get Info from the File menu of the Finder) for a Personal Catalog, you can mark a catalog as Preferred. This will become the default catalog. This places a small bookmark on the left page of the Personal Catalog icon. All applications that use PowerTalk are able to find items in your Preferred Personal Catalog, regardless of its location on your hard disk.

To create additional Personal Catalogs, open your main Personal Catalog (in the Apple menu or open the Catalogs icon on your desktop), and a new menu appears to the right of the Finders Special menu. Choose New Personal
Catalog from the Catalogs menu, and a new catalog is placed on the desktop. Change the name and place it where it is easily found when sending mail.

**Information Cards**

The servers, people, and services are all represented in the catalogs by three different types of information cards:

- User information cards
- Group information cards
- File server information cards

A user information card includes a person’s name, postal address, electronic address, telephone numbers, and other details that you might find informative (or easy to forget). You can create a new user card by choosing New User from the Finder’s catalog menu.

A group card contains aliases for user information cards. You’d use this method to repeat send information to a selected group of individual users. Use the Catalogs menu to create a group card and then select and drag those individual users that you want to include in the group to this icon. The aliases are copied into the group icon and you can view them by double-clicking the group icon. Rename the icon if you choose.

A file server information card is used to connect to file servers. It contains the registered user name and the password, if there is one. If you open one of the icons, it’ll mount the volume or open the volume and log on.

**Simplifying Mail**

Even though it’s very simple to send mail from inside Microsoft products, it’s not necessary to launch the program to do so. You can simply drag the icon for the document to the icon for the user or group information card and PowerTalk will step in and do all the rest.

When you drag mail to an icon, the correspondence is placed in the Mailbox. This in/out basket icon on your desktop is a centralized location for all mail that you send and receive without consideration for its origin or destination. This basket system also will hang on to documents that are being sent to unconnected users until they connect.
Checking the Mailbox

To open mail you have received is simple as double-clicking the Mailbox on the desktop and double-clicking the desired correspondence. All of your incoming mail is listed in the window. Delete the mail by dragging the file to the trash. Copy mail by dragging it to a folder (other than the Mailbox) on your hard disk.

Anytime you double-click or open the Mailbox icon, a Mailbox menu is added to the right of the Finder’s special menu. Use this menu to go directly to either the In Tray or the Out Tray of your Mailbox. When you select one of these options a window appears with a list of the mail that you have received (In Tray) or that is waiting to be sent (Out Tray).

Sometimes it’s important to categorize your mail. You can do this by displaying the Mailbox window (double-click the icon), choosing the files you want to mark, and choosing Tags from the Finders Mailbox menu. You also can attach multiple markers by using the Tags option repeatedly. Remove all attached tags by selecting the file and choosing Preferences (fig. 32.7) from the Mailbox menu.

![Fig. 32.7](image)

Use Mailbox Preference to Tag items, remove outdated items, and to warn you of incoming mail, among other options.

The Preference dialog box check boxes allow other settings, too. From here you can ask that the most recent mail be displayed first (Show most recent first), or to let others check their mailboxes from your computer (Allow visitors mailbox). For in-bound mail, your Macintosh can alert you when it arrives (Display alert), causing the icon in the menu bar to blink (Blink icon in menu bar) or play a user-defined sound (Play this sound:). In the Out Tray you can define a number of days to wait before unsent mail is deleted.

Back in the Mailbox menu, with the Mailbox window open you can access the Out Tray. It displays a list of items you have recently sent or the status of
those still waiting to transfer. Unfortunately, you cannot tell from here whether or not the message has been received or read—just that it has been sent.

**Signing Documents**

With the technology that allows us to protect our documents comes the technology for someone else to snoop, edit, or even delete our electronic mail. To help with this problem, PowerTalk also incorporates digital signatures. Using this, a receiver can verify the authenticity and originality of mail he or she has received—it’s just as though a handwritten signature appeared at the bottom. The digital signature is verified by using the Get Info dialog box of the File menu. Click the icon of the file you want to verify and choose Get Info (CTR+I) and then click the digital signature button to the right of the Comments window.

To use the digital signature, you must first have one. Use the document that was shipped with System 7.5 to register your digital signature, or signer. There is an application called DigiSign that you use to register the signature.

Once you have received the digital signature, you can add it to the mail you want to send by dragging the file to your Signer. From Microsoft, use the Sign Letter option in the Send dialog box (fig. 32.8).

![Select a Signer file](image)

You’ll then have to enter the DigiSign identification code that you assigned yourself when you applied for the signature. To attach the digital signature, enter the access code in the field provided (see fig. 32.9). This further protects documents, since no one else should know the code that will enter your signature to the document.

**Fig. 32.8**
When you click the Sign Letter button in the Send dialog box, you will be asked to locate the signature. You may also drag a file to send to the digital signature icon.
PowerShare Servers

PowerTalk is made even more adept by using a server. A server, in the most basic of terms, is a computer traffic controller. All the computers in a network may be connected to one another using a network such as AppleTalk or EtherNet or to a central system (file server) also using AppleTalk or EtherNet (or a host of other brand names). You must install the PowerShare software on the Mac that is the server. Once installed, you have additional services available to PowerTalk, which are:

- Shared Catalogs
- Authentication and Privacy
- Messaging Store and Forward

Shared catalogs were discussed earlier in this chapter; they give you the option of sharing and using shared catalogs—catalogs that reside either on the server, or shared computers. The network administrator is responsible for sharing catalogs with users. It works in the same way that you share your catalog (using the Configure Catalogs option in the Catalogs menu). You must be connected to a server in order to share your catalog. Likewise, the server must be connected to the network in order to share its catalogs with you.

The Authentication process is a method for ensuring that a message was sent from the place that it claims, which helps to guarantee that the e-mail remains secure. As a part of a PowerShare network, you are included in the catalog of the server. You have an authentication key that enables you to access the server. Without this key, you can’t send or receive correspondence with the server. Further, the server encrypts data sent through it so that persons who might gain access to the correspondence being sent can’t decipher the coded contents.
Finally, with Store and Forwarding, mail that is sent to unconnected persons is held until those persons log-on to the server. At that time, the mail is automatically placed in a connecting user's mailbox.

Whether or not you use a server will not make a difference to how well PowerTalk works for you. It's a convenient, easy-to-use mail system that you'll find approachable and worthwhile for e-mail. If you've never used e-mail, now's a good time to try it out.

From Here...

Microsoft Office is a demonstration of connectivity. OLE and menu bar sharing are just two examples of how seamless the applications are when sharing data. Turn to these chapters to find out more about these and other types of data sharing:

- Chapter 8 “Customizing Word,” shows you how to customize menu bars and how they share characteristics with the other applications of the Microsoft Office suite.

- Chapter 30, “Sharing Data between Applications with Linking and Embedding,” walks you through OLE and how you can use it to move between Microsoft and other OLE applications.

- Chapter 31, “Using Mail with Other Microsoft Office Products,” is a discussion on the operations of Microsoft Mail. Although PowerTalk and Mail cannot be used together, in a network with a server, Mail may be a better solution for your data sharing needs.
Chapter 33

Sending a Mass Mailing

by Donna Minarik

This chapter focuses on an efficient way to mail a personalized letter to many people. Combining the Mail Merge feature of Microsoft Word with addresses stored in Word or in external software sources allows you to quickly prepare a mass mailing.

In this chapter, you learn to
- Begin a mail merge with the Mail Merge Helper
- Create, edit, and use Word, Excel, and database files to address the letter
- Make envelopes and labels from the data files
- Create a list of the contents of the data file

Creating a Letter

You can prepare your form letter as you would any other letter in Word. You can open the File menu, choose New, and then select the Letter Wizard. When you create the letter, do not include the name and address of the addressee. Then, save the file and position the insertion point where you want to insert name and address information. Figure 33.1 shows a portion of the letter before placeholders for the name and address are added.
Fig. 33.1
Create a letter as you normally would, and position the insertion point where the addressee's name will go.

Place insertion point here

- See “Entering Text,” p. 90
- See “Editing Text,” p. 94
- See “Moving between Office Programs,” p. 578

Fig. 33.2
The Mail Merge Helper dialog box asks you to identify the letter (main document) and the name and address file (data source).

Using the Mail Merge Helper
CrossWord 6 contains a Mail Merge Helper dialog box to guide you through the merge process. You need to identify the letter you have just prepared as a merge document, attach your data file, and then merge the letter and the data file.

To get to the merge helper, choose Tools, Mail Merge. The Mail Merge Helper dialog box appears, as shown in figure 33.2.
During the merge process, you may need to return to the Mail Merge Helper. To do so, open the Tools menu and choose Mail Merge again. If you are editing the letter, you can click the Mail Merge Helper button in the Mail Merge toolbar, as shown in figure 33.3.

**Identifying the Letter as a Merge Document**

In the Mail Merge Helper dialog box, you must identify your letter as the main document you will use for the merge.

To identify the letter you are working on as a merge letter, follow these steps:

1. Open Tools and choose Mail Merge. The Mail Merge Helper dialog box appears.
2. In the Main Document section, choose Create.
3. In the drop-down-list, select Form Letters.
4. A dialog box appears, asking whether you want to use the active window or a new window. Because the letter you want to use is currently open, click the Active Window button.

You will then need to identify where you will get the names and addresses for your letter. Return to the Mail Merge Helper dialog box, where you have a number of options:

![Fig. 33.3](image-url)
If you want to create or use an existing table in Word, see the section "Using a Data File in Word" later in this chapter.

If you want to use names from an Excel spreadsheet, see the section "Using Data from Excel" later in this chapter.

If you want to use names from a database, see the section "Using Data from Databases and Other Spreadsheets" later in this chapter.

**Using a Data File in Word**

If you do not already have the names and addresses of the recipients of your letter stored in the computer, you may want to create a data file in Word and add the names and addresses in that file. Complete the following steps to create a data document:

1. Open Tools and choose Mail Merge. The Mail Merge Helper dialog box appears. (This step is unnecessary if you left Mail Merge open in the preceding procedure.)

2. In the Data Source section, click the Get Data command button.

3. In the pull-down list, select Create Data Source. The Create Data Source dialog box appears, as shown in figure 33.4.

4. Change a field in the Create Data Source dialog box, as shown in figure 33.4, by doing any of the following:
   - Add a field name to the suggested list by typing a new field name in the Field Name text box, and clicking the Add Field Name button.
   - Remove a field name from the suggested list by selecting a name in the Field Names in Header Row list box and then choosing the Remove Field Name button.
Change the order of the field names in the list by selecting a name and then choosing the up or down arrow.

5. When you’re finished, choose OK.

6. Identify the File Name and location of the file for your data in the Save Data Source dialog box. This dialog box is the same as the File Save As dialog box.

7. After you name the file, Word asks you whether you want to add records to the data file or edit the main document. Choose Edit Data Source to add your records now. A Data Form dialog box appears, showing the fields you identified in step 4 (see fig. 33.5).

8. Type the information in each field. Press Tab to go to the next field; press Shift+Tab to go to the preceding field. Choose the Add New button to add someone else’s information.

After you create the data file, click OK to return to your letter. If you need to make changes to the data, click the Edit Data Source button. Data records are edited in the Data Form dialog box, as shown in figure 33.5.

### Adding Field Names to Your Letter

After you identify your letter as a main document and create or attach your data file, you need to tell Word where each field name appears in the main document. From your letter, click the Insert Merge Field button in the Mail Merge toolbar and select the field name to insert, as shown in figure 33.6.
Each field name appears in the letter in chevrons («»). Don’t forget to add spaces between field names and any necessary punctuation (such as a comma between the city and state). If you need to delete a field, you can highlight the field name, including the chevrons, and press delete.

**Completing the Merge**

After you identify the main document and the data source and insert the merge fields, you are ready to merge the names and addresses with the letter. You can merge through the Mail Merge toolbar or through the Mail Merge Helper dialog box. The Mail Merge Helper dialog box gives you more options, such as selecting some of the names and addresses and sorting the names.

For more information on selecting whom you want to send to, see the section “Selecting Who Receives the Document” later in this chapter. For more information on sorting, see the section “Sorting the Mailing” later in this chapter.

You can merge and create a new document or send the merged letters directly to the printer. Unless you are certain that the merge will turn out correctly, you should merge to a new document so you can preview the merged document before you print it. You can do any of the following things at this point:

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1. See “Merging the Data and the Document,” p. 224
Completing the Merge

To merge to a new document from the main document, click the Merge to New Document button in the Mail Merge toolbar.

To see whether you have the wrong field names or other problems, click the Check for Errors button.

To send the merged document directly to the printer, click the Merge to Printer button.

To return to the Mail Merge Helper dialog box, click the Mail Merge Helper button.

In addition to using the buttons in the Mail Merge toolbar, you can use the Mail Merge Helper so you have more options during the merge. To merge to a new document from the Mail Merge Helper, complete the following steps:


2. Click the Merge button in section 3, as shown in figure 33.7. The Merge dialog box appears, as shown in figure 33.8. You can also use the Merge button on the Print Merge toolbar to access this dialog box.

Fig. 33.7
The Mail Merge Helper dialog box identifies your letter and data file.
3. In the Merge To drop-down list, select New Document.

4. If you have several letters, you can select only the first few records to test the merge. In the Records to Be Merged section, select All to merge all the data, or type the desired record range in the From and To text boxes.

5. Click Merge to perform the merge. If you use the Merge to New Document button on the Mail Merge Helper toolbar, the results appear in a new document, as shown in figure 33.9.

Note

Generally, it is not recommended that you save a merged document, especially when you have a large data file. The merged document can take a lot of space. If you need to regenerate the merged document, simply complete the merge again.
After scrolling through the document to check for problems, print the document as you would any other by opening the File menu and choosing Print. If you want to print specific pages of the merge, enter the specific pages in the Pages text box in the Print dialog box.

To print directly to the printer instead of creating a new document on-screen, select one of the following options:

- Click the Merge to Printer button.
- In the Merge dialog box (refer to fig. 33.8), select Printer in the Merge To drop-down list, and then click Merge.

### Using Data from Excel

One of the advantages of Word 6 is the ease with which you can perform merges with data sources other than Word documents. In fact, if your data is stored in Excel, or if you are knowledgeable in Excel, you may want to use it to create the data file because you have more search, calculation, and reporting capabilities than in a Word data file.

To merge your letter with an Excel spreadsheet, follow these steps:

1. Open the Tools menu and choose Mail Merge. The Mail Merge Helper dialog box appears.
2. Identify your letter as a main document, as described in the section “Identifying the Letter as a Merge Document” earlier in this chapter.
3. Return to the Mail Merge Helper dialog box, and click the Get Data button in the Data Source section.
4. Select Open Data Source in the pull-down list. The Select a Data File dialog box appears, as shown in figure 33.10.
5. Pull down the List Files of Type list, and select Microsoft Excel 5.x worksheet.
6. Select the desired file from the appropriate folder. Click OK to continue.
Fig. 33.10
In the Select a Data File dialog box, choose Microsoft Excel 5.x Worksheet as the file type and then select the desired file.

Note
Before you link (temporarily share data) to Excel, that application must be installed on your computer. You cannot link to a source file without having its native application available.

7. Another dialog box prompts you to enter the name or the cell range. Leave the Named or Cell Range entry as Entire Spreadsheet, as shown in figure 33.11, and click OK to use all of sheet 1 in the workbook file. The Mail Merge Helper reappears, as shown in figure 33.12.

Fig. 33.11
Leave the entire spreadsheet selected to include all data in the spreadsheet.

Fig. 33.12
The data source area now shows the Excel Data worksheet.
8. If necessary, change the field names as described in the section “Adding Field Names to Your Letter” earlier in this chapter.

9. Complete the merge, as described in the section “Completing the Merge” earlier in this chapter.

Using Data from Databases and Other Spreadsheets

If your data is in a database source, Word may be able to use that file directly. For example, you can use FileMaker Pro files as a data source by exporting them directly to Word as a merge data file. Because FileMaker Pro and Microsoft Word both support Apple Events, this process can be automated with a macro.

If your data is in a spreadsheet file format, try opening the spreadsheet in Excel. Because Excel can read many different file formats, it is likely that the file can be translated. Once the file is opened, save the spreadsheet in Excel format by opening the File menu and choosing Save As. In the List Files of Type pull-down list, change the type to Microsoft Excel. After you convert the file, perform the steps in the section “Using Data from Excel” earlier in this chapter.

Sorting the Mailing

You can sort the letters based on up to three fields in the data source. First specify the main document and data source (you can’t set query options until you do this). Then, sort the letters by following these steps:

1. Open Tools and choose Mail Merge. The Mail Merge Helper dialog box appears.

2. Choose Query Options. (You also can click the Query Options button in the Merge dialog box.) The Query Options dialog box appears.

3. Select the Sort Records tab. The Query Options dialog box appears, as shown in figure 33.13.

4. You can sort up to three fields. In the Sort By drop-down list, select one of your fields. The example in figure 33.13 shows Zip.
Fig. 33.13
You can select specific records in the Filter Records tab or order records in the Sort Records tab of the Query Options dialog box.

If your list is long, you may want to sort by another field. In figure 33.13, your list is sorted first by ZIP code. For all names with the same ZIP code, the sort is then organized by company name.

5. If you want to sort from lowest to highest (A to Z or 1 to 9), select Ascending. If you want to sort from highest to lowest, select Descending.

6. When you finish using the Sort Records tab, click OK. You return to the Mail Merge Helper dialog box.

7. Finish your sort by clicking the Merge button in the Mail Merge Helper dialog box, as described in “Completing the Merge” earlier in this chapter.

Selecting Who Receives the Document
You may not want to send the letter to everyone in the data source. If you want to send only to selected people, you can complete the merge and choose Current Page or fill in the Pages area in the Print dialog box, as described in “Completing the Merge” earlier in this chapter. You also can use the Mail Merge toolbar and Query Options dialog box to select specific records.

Sending to One Person
If you want to send the letter to only one person in the data source, you can use the Mail Merge toolbar to find the person and then print the letter like a normal document.
To show the merge for one person, follow these steps:

1. After identifying the main document and the data source, return to the main document.

2. Click the View Merged Data button in the Mail Merge toolbar. The first name in the data source shows where the field codes were in the letter, as shown in figure 33.14.

3. You can choose the record by scrolling through the list with the same buttons that are in the Data Form dialog box (refer to fig. 33.5). Go to the first record or last record and scroll to find the name you want. Figure 33.14 shows the selection buttons in the Mail Merge toolbar.

4. Find a name by clicking the Find Record button and then entering the appropriate data in the Find in Field dialog box, shown in figure 33.15.

5. After the name appears in the letter, click the Print button to print the letter.
Fig. 33.15
Choose the Find First button to find the first occurrence in the database. The button then changes to Find Next. Click the button to search for each occurrence of text.

Troubleshooting
When I try to find a record, the program does not find one that I know exists.

Make sure that you select the right field from the In Field drop-down list box in the Find in Field dialog box. If the program prompts you to search from the beginning of the file, choose Yes.

Searching for Matching Criteria
You also can find the record you want by using the Query Options dialog box. You may want to use this dialog box instead of the Mail Merge toolbar if more than one record meets your criteria. You may, for example, have many names from New York and want to send your letter only to those people. If you use the Mail Merge toolbar, you have to find each record and print it. If you use Query Options, you can select, merge, and print only New York records.

To search for many records with the same text, follow these steps:

1. Open the Tools menu and choose Mail Merge. The Mail Merge Helper dialog box appears.

2. Choose Query Options. (You also can click the Query Options button in the Merge dialog box.) The Query Options dialog box appears.

3. Select the Filter Records tab, as shown in figure 33.16.

4. In the Field drop-down list, select the name of the field. You can select up to six fields.

5. In the Comparison drop-down list, you can select Equal To to match the text you type in the next column. You also can select options such as Is Blank, Is Not Blank, and Greater Than.
Selecting Who Receives the Document

6. In the Compare To text box, type the text or value that you want to match for the field. If, for example, you want to find Atlanta in the city field, type Atlanta. If you want salaries above $50,000, type 50000 and select Greater Than in the Comparison list.

7. If you have more than one line of criteria, you can indicate that you want every record that meets all criteria by choosing And beside the field names or every record that meets any of the criteria by choosing Or.

8. When you complete the Filter Records tab, click OK.

9. Finish your sort by clicking the Merge button in the Mail Merge Helper dialog box, as described in “Completing the Merge” earlier in this chapter.

Marking Records for Selection

If not all the letters you want to print have the same criteria, it may be easier to create an extra column or field in the source file and then perform the merge. For example, you can open an Excel data file, create an extra column (such as Send), and place an X in each row for data that you want to include in your merge, as shown in figure 33.17.

When you return to Word, select the Filter Records tab of the Query Options dialog box and type Send in the Field column, Equal To in the Comparison column, and X in the Compare To column.
**Fig. 33.17**
The X's in the Send column designate the people to whom you want to send the letter.

---

**Addressing Envelopes and Mailing Labels**

After you merge a letter, you probably want to address envelopes or mailing labels for each letter. The process is essentially the same as creating the letter.

To create envelopes or mailing labels, follow these steps:

1. Open Tools and choose Mail Merge. The Mail Merge Helper dialog box appears.
2. In the Main Document section, click Create.
3. In the pull-down list, select either Envelopes or Mailing Labels.
4. You are prompted to use the existing active document or a new document. Choose New Main Document. The Mail Merge Helper dialog box reappears.
5. Select or create a data source, using one of the methods described in the sections for Word and Excel earlier in this chapter.
6. After you select or create the data source, Word notifies you that the main document needs to be set up. Click the Set Up Main Document button.
Depending on your choice in step 3, the Envelope Options or Label Options dialog box appears. See “Filling in the Envelope Options Dialog Box” or “Filling in the Label Options Dialog Box” later in this chapter.

**Note**

If you later want to edit the Label or Envelope settings, open the Tools menu and choose Envelopes and Labels.

7. When you finish creating the address, return to the Mail Merge Helper dialog box. Choose Merge to merge the addresses with the envelope or label form. Figure 33.18 shows completed mailing labels.

---

**Filling in the Label Options Dialog Box**

To set up labels after step 6 in the preceding section, follow these steps:

1. In the Label Options dialog box, select the type of printer and the location of the paper tray to which you want to print (see fig. 33.19).

2. The Label Products pull-down list gives you a choice of Avery Standard labels or other types of labels. Most labels have an equivalent Avery number. Figure 33.19 shows Avery Standard.
Chapter 33—Sending a Mass Mailing

Fig. 33.19
The Label Options dialog box enables you to specify the type of label and printer you have.

3. In the Product Number list box, select the label type by its Avery number.

4. Verify that the label information is correct for your label.

5. If you want to customize the size or spacing for the label, choose the Details command button.

6. When you finish with the Custom Information dialog box, click OK to return to the Label Options dialog box.

7. When you finish with the Label Options dialog box, click OK. The Create Labels dialog box appears, as shown in figure 33.20.

Fig. 33.20
The Create Labels dialog box enables you to enter merge fields for the label.

8. Click Insert Merge Field, and select a field from the list. Make sure that you add spaces and punctuation as necessary to create your label.

9. When you finish with the label, click OK.

10. When you finish creating the address, you return to the Mail Merge Helper dialog box. Click Merge to merge the addresses with the label form.
Filling in the Envelope Options Dialog Box
To set up envelopes after step 6 of the process of creating envelopes or mailing labels, follow these steps:

1. In the Envelope Options tab of the Envelope Options dialog box, select an envelope size in the Envelope Size drop-down list box (see fig. 33.21).

2. In the Delivery Address and Return Address areas, you can change the fonts or placement of the addresses.

3. In the Printing Options tab, you can select the orientation for the envelope and placement for the addresses.

4. After you finish filling out the Envelope Options dialog box, click OK. The Envelope Address dialog box appears, as shown in figure 33.22.

Fig. 33.21
The Envelope Options dialog box enables you to change the size of the envelope as well as the orientation of the envelope in the printer.

Fig. 33.22
The Envelope Address dialog box allows you to enter merge fields for the envelope.
5. Click Insert Merge Field, and select a field from the list of fields. Make sure that you add spaces and punctuation as necessary to create your envelope.

6. When you finish with the envelope, click OK.

7. When you finish creating the address, you return to the Mail Merge Helper dialog box. Click Merge to merge the addresses with the envelope form.

Creating a List of What You Mailed

If you mailed many different letters, you may want to create a log of each of the data sources. You can use the log to compare the lists and remove duplicates.

To create a list of each data source, follow these steps:

1. Open Tools and choose Mail Merge. The Mail Merge Helper dialog box appears.

2. In the Main Document section, click the Create button, and then select Catalog.

3. Answer the prompt to edit the active window, and select the data source to use data from Word or Excel.

4. After you select your data source, Word reports that it found no fields. Click the Edit Main document button to return to your document.

5. When you return to the main document, open the Table menu and choose Insert Table, and create a table that contains one row and the same number of columns as you have fields.

6. Use the Insert Merge Field button to add field names in each cell of the table.

Note

Because you may have several lists, make sure that you sort them the same way by choosing the Query Options button in the Mail Merge Helper dialog box and by filling in the Sort Records tab, as discussed in “Sorting the Mailing” earlier in this chapter.
7. Complete the merge by clicking the Merge to New Document button in the Mail Merge toolbar. Each record of your database now appears in a row of your new table.

In some cases, it may make sense to combine all data sources into one file. This may be true if you were using the list for just one purpose. However, you may want to keep data sources in separate files if you use the lists for different purposes, such as mailing, accounting, and reporting. Maintaining multiple data sources increases the possibility of duplicate or conflicting information. To assist in maintaining your records without duplicate or conflicting information, it is helpful to include a date field in each record showing when the record is created or updated. You can then refer to the latest date if you have a conflict.

From Here...

This chapter explained how to create a Word document and merge the document with a data source. The Word document could be a letter, an envelope, or a label form. The data source could be a Word data file, Excel spreadsheet, or some other compatible file type. A merge is completed through the automated process of the Mail Merge Helper. If you want to merge different kinds of information, read the following chapters:

- Chapter 31, "Using Mail with Other Microsoft Office Products," shows you how to send one mail message to multiple network users.
- Chapter 35, "Using Office Applications to Create a Newsletter," shows you how to create a newsletter-style mailer.
Chapter 34
Using Office Applications to Create a Presentation

by Donna Minarik

This chapter focuses on integrating Microsoft Office applications with PowerPoint. If you need overhead transparencies, 35mm slides, a graphical report, or an on-screen presentation, it would be most efficient to use PowerPoint to create the presentation. If the information you wish to present already exists in other sources, such as Word or Excel, you can copy or link the information from the source application to PowerPoint.

In this chapter, you learn to do the following:

- Organize a presentation
- Use a Word outline to create slides
- Copy information from other Microsoft Office Applications to PowerPoint

Organizing the Presentation with a Word Outline

An outline of your presentation can be created in Word and used to create slides in PowerPoint. Suppose that you need to create a presentation and you already have the information for the presentation compiled in a report in Word. PowerPoint uses Word's heading styles for the title and bullets of slides.

See “Formatting with Styles,” p. 182

See “Outlining a Document,” p. 176
slides. Therefore, you must be sure that the Word document includes these styles: Heading 1 for the planned title of the slide, Heading 2 for each major bullet item, and Heading 3 for each minor bullet item. For detailed information regarding outlining in Word, see Chapter 9, "Working with Large Documents."

To view the document as an outline, choose the View Outline command or click the Outline View button beside the horizontal scroll bar in the lower left corner of the screen. The view changes to show your indents for each heading level (see fig. 34.1).

**Fig. 34.1**
Outline view enables you to organize your text for use in a presentation.

- Heading 1 is the first level indent. When you convert to PowerPoint, this level becomes the slide title.
- Heading 2 is the second level indent. This level becomes first level bullets in PowerPoint.
- Heading 3 is the third level indent. This level becomes the second level indents in PowerPoint.

When you choose the View Outline command, the document changes to show different heading levels, and the Outlining toolbar becomes available. You can use the Outlining toolbar to show 1-8 levels in the outline. The numbered buttons on the toolbar correspond to Heading styles of the same numbers. If you have three levels defined, for example, only three buttons...
will be active. Figure 34.2 shows the outline when you click the Show Heading 1 button. Click the All button to show your entire document. You also can use the Outlining toolbar to alter levels in the outline.

If a heading (for example, Heading 1) does not contain supporting text, a minus sign appears to the left of the heading. If a heading does contain supporting text, a plus sign appears to the left of the text. Double-click the plus sign to show other headings and body text. Double-click the plus sign again to compress the text.

To move a heading (along with all subheadings and text below the heading), place the mouse pointer on the plus or minus sign before the text. The mouse pointer changes to a black, four-headed arrow (see fig. 34.3). Drag the mouse up or down to the desired position. You also can use the Move Up or Move Down button in the Outlining toolbar. The Move Up button moves the selected text up in the outline. The Move Down button moves the text down in the outline. To change a level in the outline, use the Promote and Demote buttons in the toolbar, or change the style to a different heading. The Promote button changes the selection to a higher level (from Heading 2 to Heading 1). The Demote button changes the selection to a lower level.
Using a Word Outline to Create Slides

Once your outline is complete, you can use it in PowerPoint to create a new presentation or to add slides to an existing presentation. To start a new presentation, follow these steps:

1. Within PowerPoint, open the File menu and choose Open.

   ![Note]
   
   If you are not in PowerPoint, you will see a Tip of the Day dialog box when you first open the program. To close the Tip of the Day, choose Open an Existing Presentation and click OK.

2. In the List Files of Type menu, choose All Readable Outlines to display Word documents.

3. Locate the Word outline in the appropriate folder, if necessary.
4. Choose the outline file by clicking to highlight it.

5. Click Open.

Figure 34.4 shows the outline view of the presentation. The number 3 slide shows Gang Member. To switch to Slide View, click the Slide View button in the bottom left corner of the presentation window or use the View menu. Figure 34.5 shows the slide view of the Gang Member definition slide. Compare this slide with figure 34.1. Heading 1 style became the title of the slide, Heading 2 became the first bullet, and Heading 3 items became subpoints of the bullet. Figure 34.5 also shows that editing text for a slide presentation may be necessary if there is too much text for the slide.

---

**Note**

You also can use Excel worksheets to create slides.

---

Fig. 34.4

A Word document opened in PowerPoint becomes an outline.
After you open a Word file to create a PowerPoint presentation, you can select a format more interesting than simple black text on a white background. To change the format, click the Pick a Look Wizard button (see fig. 34.6) or use the Format Pick a Look Wizard command.

Follow the steps in the Wizard dialog box to select the formatting for the slide, notes pages, outline, and handout pages. To accept all the default choices or choices you made for the last wizard, click Finish. Figure 34.7 shows the formatted and edited slide from figure 34.5.
Automating the Process from Word to PowerPoint

Word provides a macro that automates the process involved with converting a Word outline to a slide presentation. The PresentIt macro is in the Macro folder located in the Word 6 folder. You can attach the macro to your current document by opening File and choosing Templates Attach. You can then run the PresentIt macro to automate the conversion process. If you create many

Figure 34.7
The original slide in figure 34.5 is edited and formatted.

Note
You can insert the Word outline into an existing presentation. The Word outline assumes the format of the existing PowerPoint presentation. To insert a file into the presentation, choose the Insert, Slides from Outline command and identify the file name and location.

Troubleshooting
I cannot open my file.
You may not have closed the Word document before you returned to PowerPoint. Click the Word button in the Microsoft Office toolbar. If necessary, choose the Window command and select the document name. Choose the File Close command to close the document. Click the PowerPoint button to return to PowerPoint.

Automating the Process from Word to PowerPoint

Word provides a macro that automates the process involved with converting a Word outline to a slide presentation. The PresentIt macro is in the Macro folder located in the Word 6 folder. You can attach the macro to your current document by opening File and choosing Templates Attach. You can then run the PresentIt macro to automate the conversion process. If you create many

See “Using Template Wizards,” p. 190
See “Using Macros,” p. 212
presentations, however, you may want to add the PresentIt macro to your Normal template and a corresponding button to your toolbar so this feature is readily available.

To add the PresentIt macro to your normal template, follow these steps:

1. Open File, choose Templates. The Templates and Add-Ins dialog box appears.

2. Click the Organizer command button. The Organizer dialog box appears, as shown in figure 34.8.

3. In the Macros tab, select PresentIt from the In Normal scrolling list on the left, and then click the Copy command button. PresentIt appears in the To Normal (Global Template) list on the right.

4. Click Close to finish copying the macro.

To run the PresentIt macro, follow these steps:

1. Open Tools and choose Macro (see fig. 34.9).

2. Choose the PresentIt macro and click Run.

If you want to display the PresentIt macro with a button representation on the toolbar, follow these steps:

1. Open View and choose Toolbars.

2. Click the Customize button.

3. Choose Macros from the Categories list.

4. Drag the PresentIt macro to the desired position on the toolbar (see fig. 34.10).
Summarizing Data in Excel and Linking a Range to PowerPoint

If you have information in Excel that you want to bring to the presentation, you can copy and paste the information or link the information. If you want the data in the presentation to be updated each time the Excel worksheet changes, link the information from Excel.

Fig. 34.9
The Macro command under the Tools menu enables you to choose and run the Presentlt macro.

Fig. 34.10
Using the customize feature, you can drag the Presentlt macro to the toolbar.

5. Choose the desired button appearance when prompted.

6. Click the Assign button.

Now you’ll be able to quickly convert a Word outline to a PowerPoint Presentation by simply clicking the button you’ve just added to the toolbar.
You first must create a new slide to accept the data. To create a new slide that accepts data from Excel, follow these steps:

1. Open Insert and choose New Slide. Or click the New Slide button in the lower right part of the screen.

2. Highlight the graph layout and click OK (see fig. 34.11). A new slide appears with instructions for adding the title and graph (see fig. 34.12).

3. To remove the graph instructions, click where the slide says Double click to add graph and press delete.

Fig. 34.11
Select the graph style by choosing Insert New Slide, or by clicking the New Slide button in the lower right part of the screen.

Fig. 34.12
Click once in the graph area and press delete to remove the instruction to add a graph.

Now you're ready to copy information from Excel to the slide. To copy the information from Excel, follow these steps:

1. From within PowerPoint, click the Excel button on the Microsoft toolbar (if displayed). Or use the application menu to either switch to Excel or to the finder to open Excel.

2. Open the file containing the information that you want to copy.

3. Drag the mouse pointer (a white cross) to select the range in Excel (see fig. 34.13).
4. Open Edit and choose Copy.

5. Use the application menu to return to PowerPoint.

6. Open Edit and choose Paste Special. The Paste Special dialog box appears (see fig. 34.14).

7. To paste a picture of the Excel range, choose the Paste As command, and then choose Picture in the list box.

Or, to paste the contents of the Clipboard into your presentation (so that you can double-click the worksheet data to enter Excel and edit the worksheet), choose Microsoft Excel 5.0 Worksheet Object.
Chapter 34—Using Office Applications to Create a Presentation

**Note**

If you click the Paste button in the toolbar or open Edit and choose Paste, the spreadsheet is unformatted when it arrives in the slide. For optimal appearance, it's better to use the Paste Special options. The Unformatted Text and Formatted Text options bring the information from the worksheet as text.

8. Click OK in the Paste Special dialog box. The worksheet appears in your slide (see fig. 34.15). Complete the slide as necessary.

**Fig. 34.15**
The worksheet appears in the slide

---

**Troubleshooting**

*When I copy to PowerPoint, the data from my Excel spreadsheet is not lined up.*

Make sure that you select the Picture option in the Paste Special dialog box. Don't open Edit and choose Paste and don't click the Paste button to bring in your copy.

*The Excel worksheet is too big for my PowerPoint slide.*

Try simplifying the worksheet before you copy it to PowerPoint. You also can change the size of the worksheet in PowerPoint by dragging the picture handles, but remember that your viewers must be able to read the slide.

---

**Creating Charts in Excel and Copying to PowerPoint**

Adding an Excel chart to the presentation is essentially the same as adding a worksheet.
To add an Excel chart to a slide, follow these steps:

1. Click the middle of a chart in a worksheet to display handles on the chart (see fig. 34.16).

2. Open Edit and choose Copy.

3. Return to the PowerPoint slide.

4. Open Edit and choose Paste Special. The Paste Special dialog box appears (see fig. 34.14).

5. Click the Paste radio button. Then, in the As list box, select Microsoft Excel 5.0 Chart Object. The object choice enables you to double-click the chart to return to Excel and edit the object. Or, choose Picture to see only the chart.

6. Click OK in the Paste Special dialog box.

You also may need to resize the chart (drag the handles) and add a title to the slide. Figure 34.17 shows the completed slide.

Note
If you want the slide background to match the chart background, make sure that you format the chart in Excel by using the Format Object command. Choose None for Borders and None for Fill.
Chapter 34—Using Office Applications to Create a Presentation

Fig. 34.17
The edited slide appears, containing the Excel chart.

Embedding the Presentation in a Mail Message

If you want to send your finished presentation to others on your network for review, you can embed the presentation in a Mail message. See Chapter 31, "Using Mail with Other Microsoft Office Products," for step-by-step instructions.

From Here...

This chapter shows you how to work with the different applications in Microsoft Office to create documents and presentations. If you want more details about how to create presentations and work with graphics, refer to the following chapters:

- Chapter 10, "Working with Tables, Charts, and Graphics," helps you with these Word features.
- Chapter 16, "Creating and Printing Reports and Charts," shows you how to create and enhance a chart in Excel.
- Chapter 23, "Drawing Shapes, Curves, and Lines," explains how to add additional drawing items to your PowerPoint slides.
- Chapter 26, "Creating Output," shows you how to print your slides or run your PowerPoint presentation on-screen.
Chapter 35
Using Office Applications to Create a Newsletter

by Donna Minarik

Microsoft Office provides powerful and capable tools to create professional-quality newsletters and flyers. For most purposes, page layout software is no longer necessary to prepare basic publications. This chapter focuses on combining text and graphics from various sources in Microsoft Office to design a newsletter.

In this chapter you learn to

- Use Word to create text in multiple columns
- Place page numbers, mastheads, and text in Headers and Footers
- Use section breaks to create headlines
- Add and position Graphics from WordArt, Excel, and PowerPoint

Creating Multiple Columns of Text

A page of text in Microsoft Word can be divided into more than one column to make the text well organized and easy to read. Documents such as books, magazines, catalogs, newsletters, and brochures are often divided into columns. To divide a document into multiple columns of text that flow from one column to the next, follow these steps:
1. Select the text you would like to format in columns or leave text unselected to format the entire document.

2. Choose the Format Columns command. The dialog box shown in figure 35.1 allows you to choose one, two, three, or a wider left or right column. You also can enter the Number of Columns desired in the text box.

Alternatively, you can click the Columns button on the Standard toolbar, and drag to choose the number of columns you want. These will be equal width columns.

Fig. 35.1
This example in the Preview section shows one column wider than the other for effect.

3. Select the desired column numbers and adjust the Width and Spacing. View the result of the choices in the Preview box.

4. If you want a vertical line between the columns, activate the Line Between check box.

5. Click OK.

Note
For best results, divide an 8 1/2-by-11-inch portrait-oriented page into no more than three columns. If you use too many columns or make columns too narrow, the lines of text become too short and are hard to read. Also, use care when choosing space between columns. Too little space makes the text in columns run together; too much space creates wide gaps and makes the text harder to follow.

In Normal view, the document will show only one narrow column on the left side of the window as shown in figure 35.2.
To view multiple columns on the screen, switch to page layout view by choosing the View Page Layout command or clicking on the Page Layout button along the left of the bottom scrollbar (see fig. 35.3).
If you would like to change the column width once the columns are created, you can choose Format Columns and adjust the measurements, or drag the left or right column marker on the horizontal ruler (see fig. 35.3).

**Controlling Sections and Section Breaks**

Word documents are composed of one or more sections. Each section can have its own formatting for such things as columns, headers, and footers. Documents start out as a single section, and you add section breaks to create additional sections.

If you apply column formatting to a selected block of text, Word automatically inserts section breaks before and after the selected text. Figure 35.4 shows the document previewed in figure 35.1 in Normal view with section breaks displayed. Section breaks can be displayed in page layout view by clicking on the Show/Hide button on the toolbar.

![Fig. 35.4](image)

Section breaks are displayed in Normal View, showing where the change in formatting begins and ends.

Section breaks also are useful in creating a headline or title that spans the top of several columns as shown in figure 35.5.
To create the look in figure 35.5, complete the following steps:

1. Type the headline text at the top of the left-hand column, above the rest of the text in the column.
2. Press return so the headline appears in its own paragraph.
3. Select the headline text.
4. Click the columns button and drag to select a single column. Word creates a section break beneath the selected text.
5. Center the text using the Center button on the toolbar and apply the font size or style you want.

At times it is more efficient to add your own section breaks and column breaks to achieve the look you want for your document. Choosing the Insert Break command will display the Break dialog box needed (see fig. 35.6) to add one of the following:

- **Page Break.** Use to break text before the bottom margin, sending any following text to the next page.

- **Column Break.** Use to break text in a column, sending any remaining text in that column to the next column (see fig. 35.7).
Chapter 35—Using Office Applications to Create a Newsletter

- **Section Break.** Use to break text into sections with different formatting possibilities. Next Page, Even Page, Continuous, and Odd Page allow you to choose where the text will continue following the break.

**Fig. 35.6**
Choose the type of break you want in the Break dialog box.

**Fig. 35.7**
Text ends at the column break and wraps to the next column.

**Tip**
To quickly remove section formatting, select the section break and delete it.

---

**Adding Headers and Footers**

A header or footer is text or graphics added to the top or bottom of each page in a document. A header appears at the top of the page and a footer appears at the bottom. In a newsletter consisting of more than one page, you may want to add page numbers or a masthead in the header or footer so it will appear on all the pages in the publication. To attach a page number to the bottom of each page, perform the following steps:

1. Choose the View Header and Footer command. The document shows the header—a text block contained by dotted lines at the beginning of the document or section. The Header and Footer ruler also appears.
2. Click the Switch Between Header and Footer button on the Header and Footer ruler to view the footer as shown in figure 35.8.

![Switch between Header and Footer button](image)

3. The insertion point lines up on the left edge of the footer automatically. If you would like the page number centered, press the tab key once. To align the number to the right, press the tab key twice.

4. Type any preceding text you want, such as the word **Page** in figure 35.8. Then click the Page Number button on the Header and Footer ruler. This inserts a field that will sequentially number each page in your section.

5. From the View menu, return to the original page form.

![The tab key centers the information](image)

### Note

Word allows you to select different formatting for your page numbers. You may choose ABC instead of 123, for example. Use the Insert Page Numbers command and click the Format button to select the desired formatting.

### Fig. 35.8

This footer contains the page number centered on the page.

### Tip

To omit page numbers or other Header and Footer information from the first page, click the Document Layout button in the Header and Footer toolbar, and choose Different First Page on the Layout tab.
While this example illustrates adding page numbers to a footer, the procedure is the same for adding any information or graphics to a header or footer. Text in a header or footer can be formatted like any other text. The Header and Footer ruler provides buttons to add printing date and time fields as well.

Normally, the left and right edges of the Header and Footer areas align themselves with the margins set for the document. Figure 35.9 shows a document that contains a header that has been adjusted horizontally to extend into the margin.

**Fig. 35.9**

This document contains both a Header and a Footer.

Drag the indent markers on the ruler to move the header position into the margin

The page number is centered in the footer

---

**Adding Graphics**

Newsletters, brochures, and flyers are normally more visually pleasing and get more attention if they contain graphics or illustrations. Graphics can come from many sources. They can be drawn using Word's built-in drawing tools, or pasted from PowerPoint or Excel.

**Using Borders and Lines**

Borders are a simple way to draw attention to a block of text, or to divide different newsletter areas. The dividing line previously shown in figure 35.9, for example, was created as a border beneath the paragraph.
To add borders to your document, follow these steps:

1. Select the paragraph or paragraphs to which you want to add a border.

2. Choose Format Borders and Shading. The Paragraph Borders and Shading dialog box appears (see fig. 35.10).

3. Click in the Border box at the desired border locations.

4. Choose a line style and color from the lists on the right.

5. Click OK.

**Drawing with Tools in Word and PowerPoint**

Word's drawing tools allow you to draw shapes and arrange them directly on your document. They can be accessed in one of two ways:

- Choose the View Toolbars command and activate the Drawing option.
- Click the Draw button on the Toolbar.

![Fig. 35.10](image.png)

The Border box displays a representation of selected paragraphs.

See "Working with Tables, Charts, and Graphics," p. 195
Either method will activate the Drawing Toolbar, which normally appears at the bottom of the screen. Figure 35.11 shows the Drawing Toolbar, with the various tools labeled.

**Fig. 35.11**
Word's Drawing Toolbar provides strong graphics capabilities.

To use the drawing tools, follow these steps:

1. Click the desired tool to select it for use.

2. Position your mouse pointer at the location in your document where you want the shape to begin.

3. Drag the shape to the desired size.

After a shape is created, you can control its appearance in several ways:

- Reposition the shape by pointing at its border and dragging to the new position.
- Resize the shape by pointing at any of the size handles on the border and dragging.

- Use the appropriate tools on the toolbar to change the shape's fill pattern, fill color, line pattern, and line color.

PowerPoint contains a nearly identical drawing tool set. A portion of the tools are automatically displayed along the Drawing toolbar on the left side of the screen when the software is opened. Additional tools are available by choosing View Toolbars and choosing the Drawing+ toolbar. Shapes can be created in PowerPoint, if you prefer, and moved to your Word document using the Edit Copy and Paste commands.

**Note**

To wrap text around a draw object, you can select the object and choose Insert Frame. See the section on positioning graphics later in this chapter for step-by-step instructions.

**Formatting Text with Word Art**

Word comes with a supplementary application called WordArt which allows you to create interesting effects to enhance newsletters, flyers, and brochures. Using WordArt, you can arrange any TrueType or Adobe Type Manager (ATM) font into a variety of shapes and alignments, add 3-D effects and more.

To create a special effect with WordArt, complete the following steps:

1. Place the insertion point where you would like the special text to appear.

2. Choose Insert Object.

3. In the Object Type box (see fig. 35.12), choose Microsoft WordArt 2.0.

4. Click OK. The WordArt dialog box shown in figure 35.13 appears.

5. Select the text effect options you want to try from the dialog box. Choose Update Preview to view your text changes. Figure 35.14 shows text using the Button shape.
Fig. 35.12
Select Microsoft WordArt 2.0, an application that uses OLE to add objects to a Word document.

![Object dialog box](image)

Fig. 35.13
Type your text in the WordArt dialog box.

![WordArt 2.0 dialog box](image)

Fig. 35.14
The Update Preview Button allows you to view your effects.

![WordArt 2.0 dialog box](image)

**Tip**
For more information on the text effect options, click the Help button in the WordArt dialog box.

6. When you have created the desired effect, click OK. The WordArt object will automatically be inserted into your document where the insertion point was placed.

Once the object has been placed in your newsletter, you can resize it by dragging the black handles. To edit the text or change the effect once the object
has been placed, double-click it and you will return to the WordArt dialog box. Figure 35.15 shows the WordArt button placed, resized, and positioned. See “Positioning Graphics” later in this chapter for more details.

Fig. 35.15
WordArt 2.0 effects can be used to enhance a newsletter.

Adding Charts and Tables from Excel
Charts and tables are often used in newsletters and other similar publications to illustrate numeric topics in an interesting, understandable way. Chapter 10 of this book discusses using Word’s built-in application Graph. However if you have charts in Excel that you would like to add to your newsletter, follow these steps:

1. Click the middle of a chart in a worksheet to display handles on the chart.

2. Choose the Edit Copy command.

3. Return to the newsletter in Word and place the insertion point where you want the chart to be placed.


5. Choose the Paste as Picture command.

6. Click OK in the Paste Special dialog box.
You also may need to resize the chart (drag the handles) and add a title to the slide. Figure 35.16 shows the chart added to the newsletter.

Fig. 35.16
Adding a pie chart to the newsletter may help readers better understand the information in the text.

Adding Clip Art from Word and PowerPoint
Both Word and PowerPoint contain extensive clip art libraries with graphics on a wide variety of topics. Helpful, professionally designed illustrations such as maps, organizational charts, and even humorous graphics are available.

Word's graphics are stored in the Clip Art Folder inside the Word program folder. To add clip art from Word:

1. Choose the Insert Picture command and locate the Clip Art Folder.
2. Select the Preview Picture check box.
3. In the list of file names, select the name of the file you want to see.
4. When you find the graphic you want, click the Insert button to insert the selected graphic into the document.

To place clip art from PowerPoint's ClipArt Gallery into Word, complete the following steps:

1. Choose the Insert Clip Art command or click the Insert Clip Art button on the toolbar.
2. Select the image you want. See Chapter 21, "Entering Slide Content," for additional details on choosing an image.

3. Click OK. The image now appears on a slide.

4. Select the image.

5. Choose Edit Copy.

6. Use the application menu to return to the newsletter document in Word.

7. Choose Edit Paste.

8. Resize or position the image as necessary.

Positioning Graphics

Graphics placed in your newsletter from any of the sources discussed previously in this chapter can be positioned in the same way. Graphics can be centered, left-, or right-aligned with the text using the text alignment tools on the toolbar. Figure 35.17 shows a graphic that has been centered in the column in this way.

Fig. 35.17
Select the graphic and choose the Centering tool on the toolbar.
Chapter 35—Using Office Applications to Create a Newsletter

You can use a frame when you need more control over a graphics position. To position a graphic using a frame, it's easiest to work in page layout view. Switch to page layout view and complete these steps:

1. Select the graphic.
2. Choose the Insert Frame command.
3. Drag the framed graphic to the desired position. When you release the mouse button, the graphic will move to its new position (see fig. 35.18).

Fig. 35.18
This graphic was resized and dragged into position using a frame in page layout view.

Text can be framed and positioned using a frame also. An example of positioned text is a pull quote. Pull quotes are used in magazines and newsletters to draw the reader's attention to a particular article. To use a frame to create a pull quote and position text, follow these steps:

1. Select the text you would like to frame.
2. Choose the Edit Copy and Edit Paste commands to duplicate the text.
3. Select one copy of the text as shown in figure 35.19.
4. Choose Insert Frame.
5. Resize the frame as necessary.
6. Drag the framed graphic to the desired position. When you release the mouse button, the graphic will move to its new position. Text will wrap around the graphic as shown in figure 35.20.

Fig. 35.19
The sentence is selected and ready for the frame to be inserted.

Fig. 35.20
Text wraps around a pull quote positioned by using a frame.
Chapter 35—Using Office Applications to Create a Newsletter

Note

Tables can be used to caption graphics. Create a one column, two row table as directed in Chapter 10. Paste the graphic in one cell and type the caption in the other. Select and frame the table and position the graphic and the caption.

From Here...

Refer to the following chapters for information related to creating a newsletter.

- Chapter 6, “Proofreading and Printing,” will assist in assuring quality output of your finished product.
- Chapter 21, “Entering Slide Content,” includes details of PowerPoint’s ClipArt Gallery.
- Chapter 33, “Sending a Mass Mailing,” explains how to print labels and envelopes to mail your newsletter.
Part VI

Customizing Microsoft Office

36 Changing Toolbars and Menus
37 Using Visual Basic for Applications
38 Using AppleScript with Office Applications
39 Exchanging Data with Microsoft Windows Versions of the Office Applications
Create PivotTable from:
- Microsoft Excel List or Table
- External Data Source
- Multiple Consolidation Ranges
- Another PivotTable

Tip: To learn more about PivotTables, visit the PivotTable Wizard.
Microsoft Office makes it easy for you to customize application toolbars and menus to meet your needs. You can add, remove, or change the order of the application features in the menus and toolbars. You even can create your own toolbars. Better yet, when you know how to customize toolbars and menus in one application, you can do so in all applications.

In this chapter, you learn to

- Customize Office Manager
- Customize application toolbars
- Customize application menus

**Customizing Office Manager**

You can customize the Office Manager menu to meet your needs. You can add applications or documents to the Office Manager menu. To customize Office Manager, open the Office Manager menu and choose the Customize command. Office Manager displays the Customize dialog box (see fig. 36.1).
**Customizing the Menu**

By default, the Office Manager menu lists the Microsoft Office programs and other Microsoft application programs (refer to fig. 36.1). Select the check boxes to include or exclude an application from the menu.

The New button enables you to add your own menu items. When you click the New button, an Open dialog box appears (see fig. 36.2).

To add menu items, follow these steps:

1. Choose Customize from the Microsoft Office menu. The Office Manager control panel appears.
2. Click the New button.
3. From the Open dialog box, navigate to the application or document file you want to add.
4. Select the file, and then click the Add button.
5. (Optional) Use the Move up or Move down arrows to place the new file where you want in the menu.

6. Close the Customize control panel.

To edit the settings for an existing item, select the item and click the Edit button. The Remove button enables you to remove menu items that you add. When you complete your selections, close the Customize control panel.

**Other Office Manager Customizations**

Directly below the list in the Office Manager control panel are two check boxes. One allows you to disable the Office Manager menu, and the other, when checked, adds the icons of the applications installed to the Office Manager menu.

The QuickSwitch area of the Office Manager control panel lets you turn the QuickSwitch feature on or off. QuickSwitch allows you to cycle through the currently open applications by pressing `Alt+tab`. If desired, QuickSwitch also can tell you information about the memory usage of the program to which you are switching. Turn on QuickSwitch and the QuickSwitch memory info by clicking the appropriate check boxes in the Office Manager control panel.

**Customizing Application Toolbars**

Customizing toolbars in Microsoft Office applications gives you a great deal of flexibility in setting up the applications to meet your particular working style. The applications give you many customizing options.

**Customizing Predefined Toolbars**

Each application comes with several built-in toolbars, some of which appear automatically. For example, by default, Microsoft Word displays the Standard and Formatting toolbars. In addition to these, you can display the following predefined toolbars:

- Borders
- Database
- Drawing
- Forms
Microsoft

■ Word for the Macintosh 5.1

■ Mail

■ PowerBook

Excel and PowerPoint provide sets of predefined toolbars. Excel has 13, and PowerPoint has 7. You can customize any of the built-in toolbars to better meet your needs, or you can create your own toolbar. You could have a toolbar for every type of task you perform (for example, one for mail merges and one for desktop publishing) or a separate toolbar for each user of the computer.

To customize a built-in toolbar, follow these steps:

1. Open the View menu and choose the Toolbars command. The Toolbars dialog box appears (see fig. 36.3).

2. Choose the Customize button. The Customize dialog box appears (see fig. 36.4).
3. To add items to a built-in toolbar, select the category that contains the buttons or other items that you want to add.

4. Drag the desired buttons or items from the Buttons section to the built-in toolbar.

5. To remove items from the built-in toolbar, drag the buttons or items from the toolbar to the Customize Toolbars dialog box.

6. To move buttons or items, drag them to a new location or a different toolbar.

7. To copy buttons or items, press the option key while dragging them to the destination toolbar.

8. Click Close to close the Customize Toolbars dialog box.

**Note**

You can move, delete, or copy a toolbar button without opening the Customize dialog box. To move a button, hold down the `⌥` key and drag the button to the new location. To delete a button, hold down the `⌘` key and drag the button to the document window. To copy a button, hold down the option key and drag the button.

**Creating a Custom Toolbar**

In addition to modifying the default toolbars of Microsoft Office applications, you can create your own custom toolbar (except in PowerPoint, which does not allow you to create new toolbars). For example, you could have a toolbar for every type of task you do, such as one for mail merge and one for desktop publishing.

To create a custom toolbar, follow these steps:

1. Choose the View Toolbars command to display the Toolbars dialog box.

**Note**

For information about each application's Standard toolbar, see Chapter 2, "Using Common Features to Create Documents," or see the chapters pertaining to the individual application.
2. Click the New button. (In Excel, the New button is not available until you enter a name for the toolbar in the Toolbar Name text box.) The New Toolbar dialog box appears (see fig. 36.5).

3. Enter a name for the toolbar in the Toolbar Name text box.

4. In Word, select the template in which you want to store the toolbar from the Make Toolbar Available To pop-up menu.

5. Click OK. The Customize dialog box appears, along with the new (empty) toolbar.

6. Select the category that contains the buttons or other items that you want to add to the new toolbar.

7. Drag the desired buttons or items from the Buttons section to the new toolbar.

8. Repeat steps 6 and 7 until you fill your custom toolbar with the desired features (the toolbar expands to accommodate your selections).

9. Click the Close button to close the Customize dialog box.

**Note**

Although Word screens are used in this section to illustrate the process of creating custom toolbars, the screens in Excel are similar. Any exceptions are noted.

**Troubleshooting**

*The new toolbar I created contains no buttons.*

A new toolbar is empty until you add buttons. With the new toolbar visible on-screen, return to the Customize dialog box. Select the category containing the buttons you want to use, and drag the button images to your custom toolbar.

*Someone customized the default toolbar. I need to get the standard toolbar back.*

Choose the View Toolbars command, select a toolbar, and click the Reset button to return to the built-in version of the selected toolbar.
Customizing Application Menus

Consistency among products is not as good when it comes to customizing the application menus. No interactive method of modifying the application menus exists in Excel or PowerPoint. Excel requires you to use Visual Basic, Application Edition. Currently, only Word provides an interactive method of customizing built-in menus and creating custom menus.

Customizing Word Menus

You can change the organization, position, and content of default Word menus. To do so, follow these steps:

1. Open the Tools menu and choose the Customize command. The Customize dialog box appears (see fig. 36.6).

   ![Customize dialog box](image)

   Fig. 36.6

   Word enables you to customize its built-in menus.

2. Select the Menus tab.

3. Select the category that contains the command you want to use.

4. In the Commands list, select the command.

5. To assign a command to another menu, select the menu name from the Change What Menu pop-up menu.

   The colored toolbars are hard to see on my black-and-white monitor.

   Choose the View Toolbars command, and deselect the Color Toolbars check box at the bottom of the Toolbars dialog box. Deselecting this option gives the toolbar buttons better contrast.
6. To change the position, select the desired position from the Position on Menu pop-up menu. (Select Auto if you want Word to position the menu item for you.)

7. To change the name of the menu item or the shortcut key, edit the text in the Name on Menu text box.

8. In the Save Changes In pop-up menu, select the template in which you want to save the customized menu.

9. Click the Close button when you complete your changes.

Creating Custom Menus

In addition to modifying the built-in menus, you can add your own custom menus to Word's built-in menu bar. The Menus tab of the Customize dialog box provides easy access to this helpful feature.

To create custom menus, follow these steps:

1. Open the Tools menu and choose the Customize command. The Customize dialog box appears.

2. Select the Menus tab.

3. Choose the Menu Bar button. The Menu Bar dialog box appears (see fig. 36.7).

4. In the Name on Menu Bar text box, enter the name of the first menu item.

5. Select a position from the Position on Menu Bar list.

6. Click the Add button.

7. Repeat steps 4 through 6 until you finish creating your menu.
8. Click Close to exit the Menu Bar dialog box. You return to the Customize dialog box.


**Troubleshooting**

I find some of the names of menu items are confusing. I'd like to know how to rename an item to something more meaningful.

As an example, let’s rename the Edit Links menu command. Choose the Customize command from the Tools menu, and then select the Menus tab. From the Category list on the left, select the Edit category and then from the right-hand list, choose the EditLinks menu item. In the Name on Menu text box, enter a name for the new menu item. Choose the Rename button to save your change.

Someone customized the default menus. I need to get the standard menus back.

Open the Tools menu and choose the Customize command. Select the desired template in the Save Changes In drop-down list. Choose the Reset All button to return to the built-in versions of all menus in the selected template.

I pressed `⌘`+option+minus sign (-) and lost a menu item.

You pressed a special shortcut key combination that deletes menu items. Word provides shortcut keys that help you add and delete menu items as you work. Rather than open the Customize dialog box, you can press `⌘`+option+minus sign (-) to delete an item from the selected menu, or `⌘`+option+plus sign (+) to add a menu item to the selected menu. When you press these keys, the cursor turns into a thick minus or plus sign. Then choose a menu command to delete or add a menu item. If you press these keys by mistake, you can press `⌘`+period (.) to cancel the customizing operation. See the preceding troubleshooting item for directions on resetting the menus.

**From Here...**

Now that you are familiar with customizing toolbars and menus, you are ready to begin automating with Visual Basic, Application Edition (VBA), and working with other applications. To learn more about working with Microsoft Office applications, refer to the following chapter:

- Chapter 37, “Using Visual Basic for Applications,” shows you how to use VBA to automate common tasks.
Chapter 37
Using Visual Basic for Applications
by Carman Minarik

The applications of Microsoft Office provide a varied and divergent set of environments for accomplishing business tasks. The binder that ties all these environments together is OLE 2.0, and the program that controls OLE 2.0 is Visual Basic for Applications (VBA). VBA is a programming environment for OLE 2.0 objects that eventually will be the macro language for all the applications in Microsoft Office.

In this chapter, you learn:

- What VBA is
- What makes VBA different from other versions of the Basic language
- How to use VBA to automate tasks
- How to program in VBA language

Understanding VBA

Some form of the Visual Basic language is included in several current Microsoft applications, including Word, Excel, and Project. The implementation of the language differs in each application, however. Microsoft plans to make all its mainstream applications compliant with a single version of Visual Basic known as VBA. Currently, Excel has the most developed VBA capability, so most of the examples in this chapter are developed in Excel. As VBA is implemented in other applications, the procedures developed here can be moved to those other applications with few, if any, changes.
Understanding Why Objects Are Special

The difference between VBA and other Basic programming languages is that VBA is object-oriented. You already have seen objects in action in Microsoft Office. In Chapter 28, “Working with Wizards, Multiple Documents, and Cut, Copy, and Paste,” you embedded graphics (Graphic objects) and Excel ranges (Range objects) into Word documents. These objects possess internal capabilities for control and display, even when they are embedded in another application’s document. VBA takes advantage of this capability to control those objects. This capability to control another application using the other application’s objects is known as OLE automation.

Understanding Objects in VBA

The objects of Visual Basic can be visualized as a series of containers (see fig. 37.1). The largest container is the Application object, which is the current program you are running, such as Excel. In Excel, the Application object contains Menu objects, Control objects, Workbook objects, and so forth. Within the Workbook objects are Sheet objects (worksheets, macro sheets, modules, dialog sheets, and so on), and within the Sheet objects are Range objects (cell ranges). Other applications have similar objects to cover their particular needs. See the documentation and the on-line help for the different applications of Microsoft Office for a list of the objects in each application.

Fig. 37.1
The VBA object model: containers within containers.
Note

Individual cells are not objects in Excel but are accessed as Range objects, which contain a single cell or cell range.

Learning More with On-Line Help

VBA has many more features than this chapter describes, such as the unique syntax and special options of the commands and functions. To learn about the details of these features, use the on-line help system within each application. Choose the Help Microsoft Excel Help command or press the help key, and then look for the "Programming with Visual Basic" section in Excel or Project, or the "Programming with Microsoft Word" section in Word. When you are in the language section of on-line help, you can list all the language elements or select one of the individual language elements' sections to display an alphabetical list of those elements. You also can use the application's search capability to locate specific topics.

Note

You can switch to the help files of other applications without having to start the other application and then choose the help command. Start help in one application, and then use the File Open command in help to switch to some other application's directory, where you can open that application's help file. Most applications have a separate help file for VBA, and you must be in that help file for help's search capability to locate terms related to Visual Basic.

Creating Procedures with the Macro Recorder

The best way to learn how to use VBA is to create procedures with it by using the Macro Recorder as you did in Chapter 18, "Automating with Excel Macros." When you turn on the Macro Recorder and create a worksheet, the recorder writes the Visual Basic code that performs the same actions you are performing by hand. By examining that code, you learn how to use VBA to access and change an application's objects.
In the following sections, you create a simple worksheet that calculates the tax on the cost of an item and then calculates the total cost. The worksheet has an input cell and two calculated output cells. The input cell accepts a cost, and the output cells display the tax and the total cost.

**Starting the Recorder**
To prepare the worksheet and display the Record New Macro dialog box, follow these steps:

1. Open a new workbook by choosing File New.

2. Choose Tools Record Macro Record New Macro, and then click the Options button. The Record New Macro dialog box appears (see fig. 37.2).

3. In the Macro Name field, type **FigureTax**.

4. In the Description field, type **Create a worksheet to calculate the tax on an item**.

5. Leave the other fields at the default values shown in figure 37.2, and click OK.

The Stop Recording button appears in a floating toolbar (see fig. 37.3), and the Macro Recorder records what you do, recording all your keystrokes and mouse clicks until you click the Stop Recording button.

**Recording a Procedure**
You can create the procedure simply by creating the worksheet as you normally do. To create the worksheet, follow these steps:
1. Select cell B4, and type **Cost**.
2. Select cell B5, and type **Tax**.
3. Select cell B6, and type **Total**.
4. Select cell C4, and type **12.43**.
5. Select cell C5, and type **=C4*0.0825**.
6. Select cell C6, and type **=C4+C5**.
7. Select cells C4:C6, choose Format Cells, and select the Number tab. Select the Number format type, select the #,##0.00);(#,##0.00) format, and click OK.
8. Select cell C5, choose the Format Cells command, and select the Border tab.
9. In the Borders dialog box, click the Bottom box and click OK.

The worksheet should look like figure 37.3.

![Status bar indicates a macro is recording](image.png)

### Stopping the Recorder

Stopping the recorder is easy; simply click the Stop Recording button.
Examining the Procedure

To examine your newly created procedure, find the Module1 tab at the bottom of the screen and click it. Your procedure appears on-screen and looks like figure 37.4.

Fig. 37.4
The Macro Recorder places the recorded commands in a module.

The listing of the procedure is:

```
Sub FigureTax()
    Range("B4").Select
    ActiveCell.FormulaR1C1 = "Cost"
    Range("B5").Select
    ActiveCell.FormulaR1C1 = "Tax"
    Range("B6").Select
    ActiveCell.FormulaR1C1 = "Total"
    Range("C4").Select
    ActiveCell.FormulaR1C1 = "12.43"
    Range("C5").Select
    ActiveCell.FormulaR1C1 = "=R[-1]C*0.0825"
    Range("C6").Select
    ActiveCell.FormulaR1C1 = "=R[-2]C+R[-1]C"
    Range("C4:C6").Select
    Selection.NumberFormat = "#,##0.00;‐#,##0.00"
    Range("C5").Select
    Selection.Borders(xlLeft).LineStyle = xlNone
    Selection.Borders(xlRight).LineStyle = xlNone
    Selection.Borders(xlTop).LineStyle = xlNone
    With Selection.Borders(xlBottom)
        Weight = xlThin
        ColorIndex = xlAutomatic
    End With
End Sub
```

FigureTax Macro
Create a worksheet to calculate the tax on an item.
Creating Procedures with the Macro Recorder

```vba
Selection.Borders(xlRight).LineStyle = xlNone
Selection.Borders(xlTop).LineStyle = xlNone
With Selection.Borders(xlBottom)
  .Weight = xlThin
  .ColorIndex = xlAutomatic
End With
Selection.BorderAround LineStyle:=xlNone
End Sub
```

If you examine this listing and compare it with the steps you just took, you see that each step results in one or more lines of code inserted into the procedure. Many extra lines also are in the procedure; these lines set parameters that you did not explicitly set when you recorded the macro. These extra lines result when you click OK in a dialog box that sets several parameters. Although you may change only one parameter in the dialog box, closing the box sets all the parameters displayed in that box and inserts corresponding lines into the procedure being recorded. In the Borders dialog box, for example, you set only the Bottom option (step 9), but eight lines were inserted into the procedure, setting the values of all the other options. In many cases, you can delete these extra lines from the procedure without changing its results.

The procedure appears in color, with comments in green, keywords in blue, and everything else in black. Visible in the procedure window is the Visual Basic toolbar. The toolbar can be floating or docked on any side. Figure 37.5 shows the function of each button in the Visual Basic toolbar.

![Visual Basic toolbar](image)

**Running the Procedure**

To run this procedure, first select an unused worksheet. Make sure that the sheet is unused or has nothing useful in the B4:C6 range because the procedure overwrites that area. Choose the Tools Macro command. The Macro dialog box shown in figure 37.6 appears, showing all procedures available in...
Chapter 37—Using Visual Basic for Applications

this sheet and in the global sheet (currently, none). In the dialog box, select the FigureTax procedure and choose Run. The worksheet appears and the procedure runs, setting the contents and formatting the worksheet cells. The completed worksheet is identical to the one you created by hand.

Fig. 37.6
The Macro dialog box allows you to select and run procedures.

Understanding the Procedure
To learn how the macro works, take a closer look at the listing of the procedure by selecting the Module1 tab. The first few lines of the procedure are comments. Comments are ignored during program execution and can contain any text. Text following a single quotation mark is interpreted as a comment. Comments can appear at the beginning of a line or to the right of any valid VBA statement.

```
' FigureTax Macro
' Create a worksheet to calculate the tax on an item.
```

Following the comments is the procedure header, which names the procedure.

```
Sub FigureTax()
```

Following the procedure header are 12 statements that alternatively select each cell in the range B4:C6 and insert a label or a formula. The last four lines insert formulas, but they are written in the R1C1 style instead of the A1 style of cell addressing. This is the default method for saving inserted formulas, no matter what method was used to create the worksheet while the recorder was running. When this procedure is played back, the formulas are automatically converted into whatever style is the default in the active worksheet.
The next two statements select the range C4:C6 and apply the number format to those cells.

\[
\text{Range("C4:C6") Select}
\]
\[
\text{Selection.NumberFormat = ",,0.00;-$#,##0.00"}
\]

The last nine lines of the procedure are the result of selecting cell C5 and making changes in the Borders dialog box. Notice that you selected only the Bottom box, but the procedure set values for all the options in the dialog box. The values xlNone, xlBottom, xlThin, and so on are built-in Excel constants. See on-line help for a list of the constants available for use with different properties and methods.

\[
\text{Range("C5") Select}
\]
\[
\text{Selection.Borders(xlLeft).LineStyle = xlNone}
\]
\[
\text{Selection.Borders(xlRight).LineStyle = xlNone}
\]
\[
\text{Selection.Borders(xlTop).LineStyle = xlNone}
\]
\[
\text{With Selection.Borders(xlBottom) Weight = xlThin}
\]
\[
\text{.ColorIndex = xlAutomatic}
\]
\[
\text{End With}
\]
\[
\text{Selection.BorderAround LineStyle:=xlNone}
\]

**Note**

The With, End With structure in the procedure is a method of decreasing the size of a procedure and arranging together all statements that apply to a specific object. The With statement works by inserting the object that follows the word With just before the period in each line below it. Thus, the following two blocks of code are equivalent.

\[
\text{With Selection.Borders(xlBottom) Weight = xlThin}
\]
\[
\text{.ColorIndex = xlAutomatic}
\]
\[
\text{End With}
\]
\[
\text{Selection.Borders(xlBottom).Weight = xlThin}
\]
\[
\text{Selection.Borders(xlBottom).ColorIndex = xlAutomatic}
\]
The last statement in the procedure is the *procedure footer*, which marks the end of the procedure.

```
End Sub
```

**Understanding Objects**

Visual Basic for Applications uses an object-oriented programming model. If you understand object-oriented programming (OOP), you easily will understand VBA's implementation of it. If you don't, hang in there—it's not as complicated as it sounds.

Visual Basic for Applications’ *objects* are just a convenient way of storing and hiding data and code in a program. Instead of writing a program to manipulate some data values, you encapsulate the data and the code that manipulates that data in an object. From then on, you have only to access the object to use or display its data. You don't write code to manipulate the data; you send the object a message, and the object does the work for you.

You see this capability in action when you embed an object from one application into another. The embedded object takes care of itself, and the embedding object has only to give the embedded object a place to display itself. When you attach a Visual Basic button to a worksheet, for example, the worksheet does not have to know how to make the button work when you click it—the button handles that. In code, you do much the same thing. You don't try to manipulate an object's data directly—you send messages to the object and let it do the work.

Visual Basic for Applications’ objects include such things as buttons, menu items, ranges of worksheet cells, and even a worksheet itself. Almost everything you can see on-screen while an application is running is an object.

**Accessing Objects**

To access a specific object in VBA, you start with the outermost container object, followed by a period, the next inner container object, another period, and so on until you reach the object you want. To access cell B5 in an Excel worksheet named Sheet3 in a workbook named Book2, for example, you could use the following reference:

```
Application.Workbooks("Book2").Worksheets("Sheet3").Range("B5")
```
Because VBA deals with objects, any application that registers its objects with the Macintosh operating system makes those objects available to VBA. Thus, even if you are running VBA in another application, you still can access an object in Excel in much the same way as you would if you were in Excel itself. The only difference is that you must include the name that the other application used when registering itself, to specify which Application object to use. For example, you could use the following reference in Project to access a cell in Excel:

```vba
Excel.Application.Workbooks("Book2").Worksheets("Sheet3").Range("B5")
```

This reference is somewhat cumbersome, so VBA makes an assumption that enables you to leave out some of these containers. For each container not included on the left side of a reference to an object (such as the workbook or worksheet reference), VBA assumes that the currently active object of that type is the one being referenced.

Thus, you almost always can leave out the application, as well as the workbook. Leaving out the containers has the positive effect of making your procedures more portable. If you leave out all but the Range object, your code always applies to the currently active sheet, so you don’t have to change the sheet name to apply your code to a different sheet. In addition to the named sheets and workbooks, you can use the objects ActiveWorkbook,ActiveSheet, ActiveCell to reference the currently active objects without having to know their names.

**Note**

Keep in mind that if you use specific workbook and sheet names in your procedures, the procedures will work only in those named workbooks and sheets. By leaving out parts of an object's specification, you make your code applicable to all objects of the class you left out.

### Understanding Classes and Collections

A *class* of objects is a reference to a general type or classification of objects. In VBA, for example, each cell or cell range in a worksheet is a Range object, which is an example of the Range class.
If you combine all the objects of a specific class into a group, that group is known as a *collection*. Thus, all the workbooks in the Application object are in the collection Workbooks, and all the worksheets in a workbook are in the collection Worksheets. All the worksheets also are in the collection Sheets, which includes all types of sheets (worksheet, chart, module, and dialog) in a workbook.

**Accessing Collections**

Collections are used to access most objects. To access a specific member of a collection, follow the collection name with either a string containing the object name or an integer in parentheses. Thus, `Worksheets("Sheet1")` refers to the sheet named Sheet1, and `Worksheets(2)` refers to the second worksheet in the collection of all worksheets in the active workbook. If you want to access cell B5 in the third worksheet in a workbook named Book2, you could use the following reference:

```
Workbooks("Book2").Worksheets(3).Range("B5")
```

If you leave out the parentheses and object descriptor in the reference to a collection, the reference is to all the members of the collection.

**Caution**

Be careful when using numbers to select objects in a collection. If you add or delete members of a collection, the numbering of all the other members of that collection can change, and your number may select a different object.

**Understanding Properties**

An object contains data, and data that you can access from outside an object is a *property* of that object. Most properties are readable, but not all can be written or changed. See the VBA section of on-line help for a description of each of the properties. In the description of each object is a list of the properties that apply to it.

For a Range object (one or more worksheet cells), the font, color, font size, contents, and so on are read/write properties, but the location is read-only (cells don’t move). Properties can refer to the direct data contained in an object, such as the value of a cell, or to data values that control how an object looks and behaves, such as color.
Property values can be strings of text, numbers, logicals (True or False), or enumerated lists. An enumerated list is a numbered list of options, where the number is used to select a specific option. For example, the color property of most objects is an enumerated list in which 0 is none, 1 is black, 2 is white, 3 is red, 4 is green, 5 is blue, and so on.

For enumerated lists, VBA and other compliant applications in Microsoft Office contain predefined constants to use in place of the numbers. Using the constants is much more informative than using the numbers. The constants that are applicable to a property are listed in the description of the property in on-line help.

**Accessing Properties**

The easiest way to see what properties to set and what values to set them to is to start the Macro Recorder, perform whatever changes you want to perform, turn off the recorder, and then copy the recorded property changes into your program. Both Excel and Word currently have macro recorders.

Following is the syntax for accessing an object’s properties:

```
object.property
```

In this example, `object` is the object whose properties you want to change or view, and `property` is the name of the property. If the preceding construct is on the right side of a statement, you are reading the value of the property from the object. If the construct is on the left side of a statement, you are setting the value of the property. To set the value of the `Formula` property (the contents of the cell) of cell B5 to `=ABS(B4)` when cell B5 is in the Sheet1 worksheet (which is in the Book2 workbook), you could use the following statement:

```
Workbooks("Book2") . WorkSheets("Sheet1") . Range("B5") . Formula = "=ABS(B4)"
```

To read the same property from the same cell and store it in the variable `myFormula`, you could use this statement:

```
myFormula = Workbooks("Book2") . WorkSheets("Sheet1") . Range("B5") . Formula
```

The rules concerning omitting container objects (described in "Accessing Objects” earlier in this chapter) apply here. Because you must include an object with the property, however, you cannot leave off the `Range` object and thus place the formula in whatever cell is active. For these and similar cases
involving other objects, some special properties return the currently active or selected object. Table 37.1 lists these special properties.

Table 37.1 Special Properties that Return the Active Objects

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ActiveCell</td>
<td>The active cell in the active window</td>
</tr>
<tr>
<td>ActiveChart</td>
<td>The active chart in a workbook</td>
</tr>
<tr>
<td>ActiveDialog</td>
<td>The active dialog sheet in a workbook</td>
</tr>
<tr>
<td>ActiveSheet</td>
<td>The active worksheet, chart, module, or dialog sheet in a workbook</td>
</tr>
<tr>
<td>ActiveWorkbook</td>
<td>The active workbook in an application</td>
</tr>
<tr>
<td>Selection</td>
<td>The currently selected object in the currently selected sheet</td>
</tr>
</tbody>
</table>

**Caution**

Be sure that an object of the expected type is the active object before you try to use the active properties, such as ActiveSheet, in a procedure. If an object of the specified type is not the active object, these properties return nothing, and a procedure that uses them is likely to crash.

To get the formula contained in the active cell of the Sheet3 worksheet, for example, you could use the following statement:

\[
\text{myFormula} = \text{Workbooks("Book2")} . \text{Worksheets("Sheet3").ActiveCell.Formula}
\]

If Book2 and Sheet3 are the currently active workbook and worksheet, you could use this statement:

\[
\text{myFormula} = \text{ActiveCell.Formula}
\]

If Book2 is the active workbook, but Sheet3 is not necessarily the active worksheet, you could use this statement:

\[
\text{myFormula} = \text{Worksheets("Sheet3").ActiveCell.Formula}
\]

If you wanted to access cell B5 in whatever worksheet is active in Book2, you could use this statement:
myFormula = WorkBooks("Book2").ActiveSheet.Range("B5").Formula

Everything to the left of the last period must evaluate to an object or a collection of objects.

**Understanding Methods**

VBA *methods* are the blocks of code stored in an object that know how to manipulate the object’s data. In the Range object, for example, the *calculate* method causes the formulas in the selected cells to be recalculated, and the *Clear* method clears the cell’s contents. Methods do things to objects and the data they contain, as opposed to properties which set values. To learn more about the specifics of different methods, and to find out which methods apply to which objects, see the VBA section of on-line help. You also can use the Object Browser to see which methods are available for certain objects (see “Finding Objects with the Object Browser” later in this chapter).

**Accessing Methods**

You access or execute an object’s methods in nearly the same way that you access an object’s properties. The main difference is that a property always is accessed as part of a formula, but a method must be part of a formula only if it returns a value.

The *Rows* method, for example, returns a collection containing all the rows in the range. To use this method to set the *RowHeight* property of all the rows in the currently selected range to 20, use a formula like the following:

```
Selection.Rows.RowHeight = 20
```

To get the number of rows in the current selection, you could use the Rows method to return a collection and the Count property to return the number of items in the collection, as follows:

```
numRows = Selection.Rows.Count
```

Some methods require arguments to make them work. For example, the *Insert* method, when applied to a range object, needs an argument to tell it how to move the cells that are already in the selection; the *Rows* method needs an index number to select a single row in the collection of rows. If the method is part of a formula, the arguments must go in parentheses. To get the *RowHeight* of the second row in the collection of rows, you could use the following statement:
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theHeight = Selection.Rows(2).RowHeight

If the method is only being executed and is not part of a formula, place the arguments to the right of the reference to the method. To use the Insert method to insert blank cells for the current selection and to move the current selection down to make room, you could use this statement:

Selection.Insert xlDown

The argument actually is an integer, but the built-in constant is used here to make the code more readable. You can view the built-in constants that apply to a method in the description of the method in on-line help. To see the Excel constants, use the Object Browser described in the following section to search the Excel library for the Constants object.

Finding Objects with the Object Browser

The number of available objects can be large, and keeping track of all the names, which properties go with which methods, and which objects are contained in which applications can become difficult and confusing. On-line help is a good reference for the objects and methods in the current application, but if you want to see which applications have made their objects available by registering them with the Macintosh operating system, use the Object Browser in Excel.

Before you can use the Object Browser, you must register any external object libraries (other OLE-compliant applications) with Excel. To register the external libraries, a Module sheet must be active. When you choose the Tools References command, the dialog box shown in figure 37.7 appears.

Fig. 37.7
Use the References dialog box to register other object libraries with Excel.
In the dialog box, mark the check boxes for the object libraries you want to register with Excel, and then click OK. As more applications support OLE automation, they also appear in the References list.

To use the Object Browser, choose the View Object Browser command. The Object Browser dialog box appears, as shown in figure 37.8.

In the Libraries/Workbooks field at the top, you select the object library, such as Excel, Visual Basic for Applications (VBA), external libraries, or other modules in open worksheets.

If you select Excel, as shown in the figure, all the objects and modules contained in Excel appear in the Objects/Modules list on the left side of the dialog box. If you select one of the objects, such as the worksheet object, all that object's properties and methods appear in the Methods/Properties window on the right. If you select one of the methods or properties, such as Range, the method—along with its syntax—appears at the bottom. If you click the question-mark button in the bottom left corner, you go directly to the online help topic that explains that method or property. If you choose the Paste button, the selected object or method is inserted into the active module at the current insertion-point location.

**Understanding Functions and Procedures**

A procedure is the smallest programming object in VBA. VBA uses two types of procedures: Sub procedures and Function procedures.
Sub Procedures

Sub procedures generally are called procedures. Sub procedures can be sent arguments and can make changes to those arguments. The syntax of a procedure is as follows:

```
Sub procedurename()
    Procedure Body
End Sub
```

Sub procedures always start with a procedure header that begins with the keyword Sub, followed by the procedure name and parentheses. The names of any arguments to be passed to the procedure are placed between the parentheses. Arguments are the data values that a calling procedure is passing to this procedure to work on; they also can contain the values that a procedure is passing back to the procedure that called it. Sub procedures must end with the End Sub procedure footer. Between the procedure header and footer is the procedure body, which can contain declarations, statements, and commands that the procedure executes. To execute a Sub procedure, select it in the Macro dialog box, call it from another procedure, or click a button or other object to which the procedure is attached.

For example, a simple procedure to calculate the tax on an item could be written as follows:

```
Sub GetTax(Cost, Tax)
    Const TaxRate = 0.0825
    Tax = Cost * TaxRate
End Sub
```

This procedure receives the cost of an item from the calling procedure, and calculates the tax by multiplying the cost by the tax rate. The calculated tax is then passed back to the calling program in the second argument.

Note

In the GetTax procedure, the constant TaxRate is defined in the procedure by the Const declaration, and then the constant is used in place of the actual number. Although this step may seem unnecessary, it makes the procedure much more readable.
User-Defined Functions

*Function procedures* are similar to Sub procedures except that the function’s name returns a value. These functions are identical in operation to worksheet functions—you can define new functions with VBA and then use them in the worksheet. The main restriction on functions that are used in the worksheet is that they can do only calculations. These functions cannot access and change other cells in the worksheet, nor can they execute menu commands.

Functions have a procedure header and footer similar to that used for Sub procedures, and they must assign a value to the procedure name before completing.

```
Function functionname()
' function body
    functionname = value
End Function
```

After you define a function, you can use it in the worksheet as though it was one of Excel’s built-in functions.

The following example performs the same calculation as the preceding example, but does it as a function. The function accepts the cost of an item as an argument, and then calculates and returns the tax on that cost in the function’s name.

```
' Calculate the tax on an item.
' Function theTax(Cost)
Const TaxRate = 0.0825
theTax = Cost * TaxRate
End Function
```

You can use this type of function in another procedure or in a worksheet as a user-defined function.

To use the preceding function in a worksheet, switch to the workbook used for the Macro Recorder example shown in figure 37.3. Create a module by choosing the Insert Macro Module command. Type the preceding listing into the module as shown in figure 37.9.

Select Sheet1 by clicking the tab at the bottom, and insert the following formula into cell C5:

```
=theTax(C4)
```
The new function now can be used in the worksheet like any of the built-in functions. The worksheet returns the same result as the one shown in figure 37.3, but now the tax is calculated with a user-defined function.

**Event Procedures**

*Event procedures* are regular Sub procedures that are attached to specific events. Events that are attachable to procedures include buttons being clicked, worksheets opening or closing, or values being changed in cells. See the documentation for the specific objects for a list of the events to which procedures can be attached. An object's events that can cause a procedure to be executed are listed as properties of that object. Procedures are attached to an object's events by storing the procedure's name in the property. For example, most objects have an `OnAction` property. Depending on the object, if the object is clicked (button or graphic) or changed (text box or list box), the procedure whose name is stored in the `OnAction` property is executed.

**Understanding Variables and Assignment Statements**

*Variables* are named places in memory for storing data. Like naming cells in a worksheet, using variables to name storage locations in memory makes a program much more readable. You don't have to explicitly name a specific
location in memory to use a variable; VBA takes care of that for you. Simply using a name in a formula causes VBA to define storage for it. After defining a variable, you can use it in assignment statements to store data.

An assignment statement consists of a variable or property name on the left, an equal sign, and a constant value or formula on the right. A formula can consist of a single constant value or a mixture of variables, constants, mathematical operators, and functions. All the following statements are assignment statements:

```
myFormula = ActiveSheet.Range("B5").Formula
Selection.Rows.RowHeight = 20
myVariable = 17
someThing = Log(3.5)
yourVariable = myVariable * 33
```

Creating an Application

Now that you know about objects, properties, and methods, you can start putting some of that information together to create an application. The application you are going to create is a receipt maker, similar to one you might use at a checkout stand where you don’t have a regular cash register. The program inputs data with a dialog box, inserts the data into a form in an Excel worksheet, and prints the form.

The basic structure of this program—input data, store it, do something with it—forms the basis of many programs, such as an inventory program or a personal organizer. You should be able to adapt the methods shown here for many different applications.

The program uses a worksheet and a module. The worksheet contains the receipt form that stores the data until you are ready to print it. The module contains the code that gets the data, stores it in the sheet, and prints it. First, create the worksheet. Don’t worry if you don’t understand what the code does; it will be explained in the next few sections.

To create the worksheet, follow these steps:

1. Select an unused worksheet. Choose Format Sheet Rename, or double-click the tab at the bottom of the sheet and change the sheet’s name to Receipt in the dialog box.
2. Select cell A2, and type *The XYZ Company.*
3. Select cell A3, and type *1127 Somewhere St.*
4. Select cell A4, and type **RightHere, CA 12345**.

5. Select cell B6, and type **Item**.

6. Select cell C6, and type **Cost**.

7. Select cell A7, and type **1**.

8. Select cell A8, and type **2**.

9. Select cells A7:A8, select the fill handle at the bottom right corner, and drag it down to A16 to create the series of numbers from 1 to 10.

10. Select C16, choose Format Cells, select the Border tab, select a thick line style, click the Bottom box, and click OK.

11. Select cells C7:C19, choose Format Cells, select the Number tab, select the Number type, select the format 
    
    \( \#,##0.00 ; (#,##0.00) \)

    and click OK.

12. Select the bar between the B and C column headings, and drag it until the column width is 27 characters.

13. Select cell B7 and name it **TopOfList**, using the Insert Name Define command or the name box at the left end of the edit bar.

14. Select cells A1:D20, and name them **PrintRange**.

15. Choose the File Page Setup command, select the Header/Footer tab, and set both the header and footer to none. Select the Sheet tab, deselect all the check boxes, and click OK.

The worksheet should look like figure 37.10, without the two buttons on the right side.

The next step is to create the procedures in a module and attach those procedures to two buttons in the form.

To create the procedures, perform the following steps.

1. Choose the Insert Macro Module command to insert a new module.

2. Select the module, and rename it **ReceiptMaker** by choosing the Edit Sheet Rename command or by double-clicking the module's name tab.

3. Type the procedures shown in listing 37.1 into the module.
Listing 37.1 The Receipt Maker Program

' Receipt Maker
' A program to make receipts.

Option Explicit 'Force the declaration of all variables.
Dim theSheet As Object 'Pointer to the worksheet.
Dim OutputRange As Object 'Pointer to the list of items.
Const MaxNumItems = 10 'Maximum number of items allowed.

' Get entries.

Sub GetEntries()
Dim theItem As String, theCost As Currency
Dim theRow As Integer, NumItems As Integer
'Define the pointer to the worksheet.
Set theSheet = Application.Workbooks("Examples").Worksheets("Receipt")
' Define the pointer to the top of the table of items.
Set OutputRange = theSheet.Range("TopOfList")
ClearRange OutputRange 'Clear the table of items.
NumItems = 1
' Ask for the name and cost for up to 10 items.
Do While NumItems <= MaxNumItems
' Get the name.
theItem = InputBox("Item Name:", "Make Receipt")
' If the user didn't enter anything, he must be done, so quit.
If theItem = "" Then Exit Do
(continues)
Listing 37.1  Continued

'Get the cost.
theCost = Val(InputBox("Item Cost:", "Make Receipt"))

'Insert the items' name and cost on the worksheet.
OutputRange.Cells(NumItems, 1).Formula = theItem
OutputRange.Cells(NumItems, 2).Formula = Str(theCost)
NumItems = NumItems + 1 'Increment the number of items.
Loop

TotalIt 'Calculate and print the totals.
'Make the TotalIt procedure an event procedure
'attached to the worksheet.
theSheet.OnEntry = "TotalIt" 'Retotal if the user makes changes.
End Sub

' Calculate subtotal and total.

Sub TotalIt()
Dim theRow As Integer
Dim SubTotal As Currency, ItemTax As Currency
Dim theTotal As Currency
SubTotal = 0
'Calculate the total by extracting the values from the worksheet.
For theRow = 1 To MaxNumItems
SubTotal = SubTotal + Val(OutputRange.Cells(theRow, 2).Value)
Next theRow

'Insert the subtotal, tax, and total on the worksheet.
With OutputRange
.Cells(MaxNumItems + 1, 1).Formula = "Subtotal"
.Cells(MaxNumItems + 1, 2).Formula = Str(SubTotal)
.Cells(MaxNumItems + 2, 1).Formula = "Tax"
ItemTax = theTax(SubTotal) 'Calculate the tax.
.Cells(MaxNumItems + 2, 2).Formula = Str(ItemTax)
.theTotal = SubTotal + ItemTax
.Cells(MaxNumItems + 3, 1).Formula = "Total"
.Cells(MaxNumItems + 3, 2).Formula = Str(theTotal)
End With
End Sub

' Clear the output range.

Sub ClearRange(theRange As Object)
Dim theRow As Integer
For theRow = 1 To MaxNumItems + 3
'Clear the cells. Use ClearContents to only clear the values 'and not the formatting.
.theRange.Cells(theRow, 1).ClearContents
.theRange.Cells(theRow, 2).ClearContents
Creating an Application

Next theRow
End Sub
'
' Print the receipt.
'
Sub PrintReceipt()
    theSheet.OnEntry = "" 'Turn off the automatic retotaling.
    theSheet.Range("PrintRange").PrintOut 'Print the worksheet.
End Sub
'
' Calculate the tax on an item.
'
Function theTax(Cost As Currency) As Currency
    Const TaxRate = 0.0825
    theTax = Cost * TaxRate
End Function

4. Switch to the worksheet, and display the Drawing toolbar by choosing the View Toolbars command.

5. Click the Button tool in the Drawing toolbar, and draw the Make Receipt button as shown in figure 37.10. When the Assign To dialog box appears, select GetEntries for the macro and click OK.

6. The button should still be selected; if not, click the Selection tool in the Drawing toolbar and select the button. Select the text on top of the button, and change it to Make Receipt.

7. Create the Print Receipt button, attach it to the macro PrintReceipt, and make the title Print Receipt.

8. Save the workbook as Examples.

The worksheet should look like figure 37.10. If you did everything correctly, you can use the program to create a receipt. Switch to the Receipt worksheet, and click the Make Receipt button. In the first dialog box that appears, type the name of an item and press return. In the second dialog box, type the cost of the item and press return. Continue typing names and costs until you have entered all the items you want to use in this receipt. To end the list, press return or click the Cancel button in the Item Name dialog box. The totals are calculated and displayed in the receipt, as shown in figure 37.11. Click the Print Receipt button to print the receipt.
Using Declarations and VBA Data Types

Not all data values are the same type in VBA. If you don’t declare any variables, all variables have a data type of variant. The variant type is useful because it can store anything from strings to pictures to floating-point numbers. The problem with a variant-type variable is that to hold anything, it must check every time to see what kind of data is being stored in it—and must have a lot of memory available to store that data. Thus, a variable of the variant data type wastes time and memory. For a few small items, this waste won’t matter, but it becomes important if you are storing many data items.

If you declare the type of a variable before you use the variable, VBA does not have to check every time to see what the variable’s data type is and then reserve space for it. If the variable is declared, the type is known and the space is reserved ahead of time.

Another reason to declare all variables is to help ensure that you did not misspell something, which creates a program bug. VBA does not force you to declare everything, but you can do it yourself by placing Option Explicit at the top of a module (refer to the start of listing 37.1). If you do this, VBA forces you to explicitly declare the data type of every variable in that module before you use it.
Note

If you have not yet encountered a program bug, you are living a charmed life. But never fear—you undoubtedly will see many in the near future. A bug in a program actually is an error of some sort caused by using improper syntax (syntax errors), improper calculations or assignments (run-time errors), or improper program logic (logical errors).

VBA has several built-in data types, which are listed in table 37.2. Of these, Variant is the most general but the least conservative in terms of resources. A few things, such as pictures, must be stored in variables with a Variant type, but most numeric and string values should be stored in the appropriate type of variable to save time and space.

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Size (bytes)</th>
<th>Digits</th>
<th>Approximate Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boolean</td>
<td>2</td>
<td>1</td>
<td>True or False</td>
</tr>
<tr>
<td>Integer</td>
<td>2</td>
<td>5</td>
<td>-32,768 to 32,767</td>
</tr>
<tr>
<td>Long</td>
<td>4</td>
<td>10</td>
<td>-2.15E9 to 2.15E9</td>
</tr>
<tr>
<td>Single</td>
<td>4</td>
<td>7</td>
<td>-3.402E38 to 3.402E38</td>
</tr>
<tr>
<td>Double</td>
<td>8</td>
<td>15</td>
<td>-1.797E308 to 1.797E308</td>
</tr>
<tr>
<td>Currency</td>
<td>8</td>
<td>19</td>
<td>-9.22E14 to 9.22E14</td>
</tr>
<tr>
<td>Date</td>
<td>8</td>
<td>19</td>
<td>1/1/100 to 12/31/9999</td>
</tr>
<tr>
<td>String</td>
<td>Number of characters + 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Object</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Array</td>
<td>Depends on type and number of elements</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To declare the type of a variable, use the Dim statement. At the top of a procedure or module, type the keyword Dim, followed by a variable name, and then type the keyword As, followed by the variable's data type. If the type is not specified, the variable is the variant type. You can put multiple variable-type declarations in a single line, separating the declarations with commas. All the following statements are variable declaration statements:
Variables passed as arguments to a procedure are declared in the procedure header. The following procedure header defines the arguments being passed to another procedure as an integer and a string:

```vba
Sub myProcedure(aVariable As Integer, AnotherVariable As String)
```

The type of value returned by a function procedure is declared by placing the type at the right side of the function header. The following function takes a SINGLE type value as an argument and returns a DOUBLE type value:

```vba
Function myFunction(aVariable As Single) As Double
```

### Arrays

Arrays are not really a new data type; they are lists of one of the existing types, such as Integer or String. An **array** is an indexed list of data values, where the array name is followed by one or more integers in parentheses. The integer selects the specific **element** (data value) of the array. The number of integers in the parentheses determines the **dimension** of the array.

A one-dimensional array has a single-integer index and is a sequential list of values. The index selects which element of the list to use, counting from the beginning. For example, the statement

```vba
Dim myArray(10) As Integer
```

declares a list of 11 memory elements for storing integers (elements 0 through 10). In a formula, the value `myArray(3)` selects the fourth integer in that list, and `myArray(7)` selects the eighth.

#### Note

When you examine array indexes, everything may seem to be off by one. This occurs because the default starting point in VBA for an array index is 0, which makes the number of elements in an array one more than the value of the upper limit specified in the `Dim` statement. You can modify the default property by placing an `Option Base 1` statement at the top of a module, which changes the default starting point to 1. You also can use constructions like `Dim anArray(5 to 7)` to force the index to range between specific limits.

A two-dimensional array uses two integers in the parentheses and is a two-dimensional table of numbers, with the first index selecting the row and the
second index selecting the column. Higher-order arrays are allowed, but arrays are a little difficult to imagine when the dimensions exceed three. Following are declarations for arrays:

```vba
Dim anArray(5) As Single, thedigits(50,2) As Integer
Dim another(5,3,10) As Long
```

### User-Defined Types

In addition to the built-in data types, you can define your own data types to make storing data more convenient. Suppose that you want to store five strings and an integer in a personal organizer. You could store these elements in five different variables, but it makes sense to create a new data type that combines them in a single user-defined type. A **user-defined** type is a data type that you create to fit the specific circumstances of whatever program you are creating. A user-defined type can be nearly any combination of the existing data types, including other user-defined types.

To create a user-defined data type, place a `Type` statement at the top of the module that needs the type. The `Type` statement consists of a `Type` header containing the keyword `Type`, followed by the new type name, one or more named subvariables with `As-type` clauses, and an `End Type` statement. An address-book program, for example, stores the names and addresses of a large number of people. It would be confusing to store the Name, Address, City, State, ZIP, and Telephone data in six separate variables, so create a compound variable type that stores all this data in a single variable. Following is a user-defined data type that can accomplish this task:

```vba
Type myType
    Name As String
    Address As String
    City As String
    State As String
    Zip As Integer
    Phone As String
End Type
```

To use this type, you must declare a variable in a `Dim` statement and use the new type name as the type. For example,

```vba
Dim theData(100) As myType
```

creates an array of 101 elements of `myType` variables (remember that array indexes start at 0). To access the parts of a user-defined type, follow the variable name with a period and the part name. To get the ZIP-code part from element number 34, for example, you would use the following variable:

```vba
theData(34).Zip
```
The Scope of Variables

In listing 37.1, some of the variable declarations are placed at the top of the module outside the procedures. The type definitions and variable declarations placed here are available to all the procedures within the module. If the declarations were placed within a procedure, the values stored in the variables would be available only within that procedure. The same variable could be defined in each of the five procedures, and each of those variables would be independent of the other four, even though they have the same name.

If you have more than one module in a program, and you want a variable to be available to all the procedures in all the modules, you must declare that variable at the module level and use Public instead of Dim in the declaration.

Constants

One more declaration appears at the top of the module:

```
Const MaxNumItems = 10
```

An entry of this type declares a constant. When a constant is declared at the top of a module, it is available to all the procedures in that module. If the keyword Public precedes the Const in the constant declaration, the constant is available to all procedures in all open modules. A constant is not a variable, so you cannot change its value in a running program. When you use a constant, it behaves exactly as if you had typed the value of the constant everywhere the name is used. Using constants makes programs easier to understand and easier to change. In the Receipt Maker program, if you want to increase the maximum number of items allowed in a single receipt, you need only change the value of the constant. If you didn’t use the constant, you would have to change the code everywhere the maximum value is used.

Branching and Decision Making

As you read down the listing of the Receipt Maker program, you come across the following line:

```
If theItem = "" Then Exit Do
```

The line is an If statement that tests the value of the Item to see whether it contains an empty string. The variable theItem contains the text name of the item to be added to the receipt. If it is empty, the user is finished entering data, and you execute the Exit Do statement to exit from the Do-Loop structure. Thus, the If statement controls a branch in the structure of the program.
Block If Structures
A block If structure enables you to use a logical condition equation to decide which block of code to execute. The block If structure follows:

```
If condition1 Then
    statements1
ElseIf condition2
    statements2
Else
    statements3
End If
```

When the If statement is executed, condition1 is tested, and if the result is True, the block statements1 is executed. If condition1 is False, condition2 is tested, and if the result is True, the block statements2 is executed. There can be multiple ElseIf clauses, and each is tested in turn, looking for one whose condition is True. If none of the conditions is True, the statements following the Else clause are executed. Only the block of statements following the first condition that returns True is executed; all the others are skipped, even if their conditions would have returned True.

Logical Formulas
The conditions used in the If statements are logical values, formulas that result in a logical value, or numeric formulas that result in a value of zero (False) or nonzero (True). Logical formulas usually are created by comparing two values, using one of the comparison operators shown in table 37.3. Logical expressions also can be combined with the Boolean operators listed in table 37.4. For more information, search for comparison operators and logical in the VBA section of on-line help.

<table>
<thead>
<tr>
<th>Table 37.3 Comparison Operators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operator</strong></td>
</tr>
<tr>
<td>=</td>
</tr>
<tr>
<td>&lt;&gt;</td>
</tr>
<tr>
<td>&gt;</td>
</tr>
<tr>
<td>&lt;</td>
</tr>
<tr>
<td>&gt;=</td>
</tr>
<tr>
<td>&lt;=</td>
</tr>
</tbody>
</table>
### Table 37.4 Logical Operators

<table>
<thead>
<tr>
<th>Operator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>And</td>
<td>Logical and</td>
</tr>
<tr>
<td>Eqv</td>
<td>Logical equivalence</td>
</tr>
<tr>
<td>Imp</td>
<td>Logical implies</td>
</tr>
<tr>
<td>Not</td>
<td>Logical negation</td>
</tr>
<tr>
<td>Or</td>
<td>Logical or</td>
</tr>
<tr>
<td>Xor</td>
<td>Logical exclusive or</td>
</tr>
</tbody>
</table>

### Select Case

The `Select Case` structure performs a function similar to that of the block `If` structure in that an expression is used to select a particular block of statements. In `Select Case`, the expression returns a value, and that value is used to determine which block of statements to execute. The syntax of the `Select Case` structure follows:

```
Select Case expression
  Case list1
    statements1
  Case Else
    statements2
End Select
```

When the `Select Case` statement is executed, `expression` is evaluated. Following the `Select Case` statement are one or more `Case` statements. The value of `expression` is compared with the comma-delimited list of values in `list1`. If one of the values matches, the block `statements1` is executed. Otherwise, that block is skipped, and the next `Case` statement is checked for a match. If none of the `Case` statements results in a match, the block `statements2` following the `Case Else` statement is executed. As with the block `If` structure, only one of the blocks of statements is executed.

### Accessing Worksheet Cells

In the example, after the user provides an item's name and cost, that information is inserted into cells in the worksheet. Following is the code that performs the insertion:
Set theSheet = Application.Workbooks("Examples")._  
  Worksheets("Receipt")
  'Define the pointer to the top of the table of items.
  Set OutputRange = theSheet.Range("TopOfList")
  .
  .
  'Insert the items name and cost on the worksheet.
  OutputRange.Cells(NumItems, 1).Formula = theItem
  OutputRange.Cells(NumItems, 2).Formula = Str(theCost)

You use a range reference and a Set statement to define an object variable that points to the cell named TopOfList in the worksheet. That range reference is used with the Cells method to select worksheet cells in positions relative to the cell TopOfList. After obtaining a range reference to a cell, use the Value or Formula properties to get or set the value of a cell. Notice that the Value property contains the value of a cell—that is, the result displayed in the worksheet—whereas the Formula property contains what was typed in the cell. In this case, because none of the cells contains a formula, the Value and Formula properties are the same.

The range reference in the OutputRange variable refers to a named cell. This reference is preferable to referencing an explicit cell because you can rearrange the worksheet and the code still gets the value from the correct cell. You can reference the cells by using a cell reference, or reference a cell by row and column by using Cell, which also returns a Range object. The following three statements reference the contents of cell C7 in the example:

```vba
theCost = theSheet.Range("C7").Value
theCost = theSheet.Range("TopOfList").Cells(1, 2).Value
theCost = theSheet.Cells(7, 3).Value
```

The TotalIt procedure demonstrates both reading and changing the values of worksheet cells. The first part of the procedure gets the value in each cell in column C that contains a value and calculates a subtotal.

```vba
SubTotal = 0
  'Calculate the total by extracting the values from the worksheet.
  For theRow = 1 To MaxNumItems
    SubTotal = SubTotal + Val(OutputRange.Cells(theRow, 2).Value)
  Next theRow
```

The For and Next statements form a loop that executes the SubTotal statement one time for each row in the data range of the receipt. The value of the cell is obtained and totaled in the variable SubTotal.
Notice how the Val() function is applied to the contents of the cell to ensure that a number is passed to the variable. Without the Val() function, the user could type into a cell a string that would crash your code if you attempted to store it in a numeric variable. The Val() function converts a string to a number and prevents that potential problem.

The second half of the procedure writes the labels and values for the subtotal, the tax, and the total in the worksheet:

```vbnet
With OutputRange
    .Cells(MaxNumItems + 1, 1).Formula = "Subtotal"
    .Cells(MaxNumItems + 1, 2).Formula = Str(SubTotal)
    .Cells(MaxNumItems + 2, 1).Formula = "Tax"
    ItemTax = theTax(SubTotal) 'Calculate the tax.
    .Cells(MaxNumItems + 2, 2).Formula = Str(ItemTax)
    theTotal = SubTotal + ItemTax
    .Cells(MaxNumItems + 3, 1).Formula = "Total"
    .Cells(MaxNumItems + 3, 2).Formula = Str(theTotal)
End With
```

This block of statements also demonstrates the use of the With statement to block cells together and to save some typing. The statements are logically blocked together because they refer to the same object, and they save some typing because you have to type the first object only once. The object following the With clause (OutputRange) is assumed to attach before the period to all the statements between the With and End With statements.

**Calling Procedures**

The TotalIt procedure is an example of a Sub procedure that is called by other procedures. The GetEntries procedure needs to be able to calculate and display the totals in the worksheet, and it calls the TotalIt procedure to do so.

At the beginning of the GetEntries procedure, any old entries must be cleared from the receipt. The ClearRange procedure is called to perform that action.

```vbnet
Sub ClearRange(theRange As Object)
    Dim theRow As Integer
    For theRow = 1 To MaxNumItems + 3
        'Clear the cells. Use ClearContents to only clear
        'the values and not the formatting.
        theRange.Cells(theRow, 1).ClearContents
        theRange.Cells(theRow, 2).ClearContents
    Next theRow
End Sub
```
The procedure needs one object for an argument named theRange in the ClearRange procedure. In the GetEntries procedure, the ClearRange procedure is called with the following statement:

```
    ClearRange OutputRange  'Clear the table of items.
```

Because this procedure call is not part of a formula, you do not need to include parentheses around the argument.

The function procedure theTax is another procedure that is called from elsewhere in the program.

```
    ' Calculate the tax on an item.
    Function theTax(Cost As Currency) As Currency
        Const TaxRate = 0.0825
        theTax = Cost * TaxRate
    End Function
```

Notice that in this procedure, the argument is a Currency-type variable named Cost. The function is called as part of a formula in TotalIt.

```
    ItemTax = theTax(SubTotal)  'Calculate the tax.
```

In TotalIt, the function theTax is passed to the variable SubTotal as an argument. This variable points to a memory location, and that memory location is passed to the theTax function, where it is named Cost. Both names point to the same memory location, so if the value of Cost were changed in the Tax, the value of SubTotal would be changed in TotalIt when the function completes executing.

In some cases, you want to make sure that a procedure does not change an argument, so you must pass the argument as a value instead of a memory address. You can do this in the procedure heading or in the calling program. In a procedure heading, for example, precede the argument with the keyword ByVal, as follows:

```
    Function theTax(ByVal Cost As Currency) As Currency
```

The other way is to turn the argument in the calling program into a formula. Instead of the addresses of any of the variables, the address where the result of the formula is stored is sent to the procedure. You make a variable into a formula simply by enclosing the variable name in parentheses, as follows:

```
    ItemTax = theTax((SubTotal))  'Calculate the tax.
```

The TotalIt procedure also is an event procedure attached to the worksheet. This attachment is done at the end of the GetReceipt procedure, as follows:
'Make the TotalIt procedure an event procedure attached to the worksheet.
theSheet.OnEntry = "TotalIt" 'Retotal it if the user makes changes

Later in the program, the TotalIt procedure is unattached from the worksheet in the PrintReceipt procedure, as follows:

theSheet.OnEntry = "" 'Turn off the automatic retotaling.

The OnEntry property of a worksheet contains the name of a procedure to be executed whenever the user changes the contents of a worksheet cell. By making the TotalIt procedure an event procedure, the user can make changes in the receipt before printing, and those changes will immediately be included in the totals at the bottom of the receipt.

Using Loops

The TotalIt procedure has to search through the cells in the worksheet and add the contents to calculate the subtotal. If you were to write range references to all 10 of the cells in the worksheet, you could add them up that way, but you probably don't want to spend your time typing the same statement over and over. To handle cases like this, you use loops.

For/Next

The most common loop is the For/Next loop, which executes a block of statements a specified number of times. The syntax of the For/Next loop is as follows:

```
For loopvariable = start To end Step stepval
  .statements
  Next loopvariable
```

In the For/Next loop, loopvariable is a standard variable. The first time the loop executes, loopvariable has the value start, and all the statements down to the Next statement are executed. The second time the loop executes, stepval is added to loopvariable, and that value is compared with end. If loopvariable is greater than end, the loop terminates; otherwise, the statements within the loop are executed again. The Step stepval clause can be omitted, in which case the stepval is 1. If stepval is negative, the loop counts down instead of up until loopvariable is less than end.

The TotalIt procedure uses a For/Next loop to select all the cells that might contain values in the worksheet, and calculates a total for all the values found.
For theRow = 1 To MaxNumItems
    SubTotal = SubTotal + Val(OutputRange.Cells(theRow, 2).Value)
Next theRow

In this example, theRow is the loop variable, and it ranges from 1 to MaxNumEntries. Each time the loop executes, a different worksheet cell is selected using the Cells method.

**Do/Loop**

The Do/Loop loop uses a condition to determine how many times to execute the loop. The condition can be tested at the beginning or the end of the loop, and the loop can continue While the condition is True or Until the condition becomes True (while it is False). Thus, there are four variations of the syntax, as follows:

```
Do While condition   Do Until condition
  .statements   .statements
  .Loop        .Loop

Do   Do
  .statements   .statements
  .Loop While condition   Loop Until condition
```

The GetEntries procedure uses a Do/Loop structure to loop over the 10 allowed lines of input in the receipt. In this case, the Do While construction is used with a condition that remains True until the value of NumItems is less than or equal to MaxNumItems.

```
Do While NumItems <= MaxNumItems
  'Get the name.
  theItem = InputBox("Item Name: ", "Make Receipt")
  'If the user didn't enter anything, he must be done, so quit.
  If theItem = "" Then Exit Do
  'Get the cost.
  theCost = Val(InputBox("Item Cost: ", "Make Receipt"))
  'Insert the items name and cost on the worksheet.
  OutputRange.Cells(NumItems, 1).Formula = theItem
  OutputRange.Cells(NumItems, 2).Formula = Str(theCost)
  NumItems = NumItems + 1 'Increment the number of items.
Loop
```

All the statements between the Do statement and the Loop statement are executed until the condition becomes False. An exception occurs if the user clicks Cancel and the If statement within the loop has a True condition.

```
If theItem = "" Then Exit Do
```
If the condition is True, the Exit Do statement is executed, immediately terminating the loop and starting execution at the statement following the Loop statement. An Exit For statement also exists for exiting a For/Next loop early.

**For Each**

The For Each loop is used to perform some action for all the elements of an array or collection. The syntax is as follows:

```vba
For Each element In group
  statements
Next element
```

The For Each loop applies to arrays and collections only. The loop executes once for each element in the array or collection. This loop is useful when you don’t know (or don’t care) how many elements are in a collection. The loop variable `element` is of the data type of the elements in the `group` collection. Each time the loop is calculated, `element` takes on the value of another member of the collection.

**Accessing Disk Files**

If you have been experimenting with the example, you may have noticed that each time you create a new receipt, all the existing data values are cleared. You might, however, want to know how many items of what type were sold, or you might want to calculate the total receipts for the day to compare with receipts in the cash box. What is missing is a way to save the data so that it can be retrieved and used.

You have at least two options: you could store the data in another worksheet so that the data is saved with the workbook, or you can open a disk file and store the data immediately. These methods have different advantages, depending on what you plan to do with the data. If you save the data in a worksheet, you can apply all Excel database functions to it. If you save the data in a disk file, other programs could open it directly. In this example, you are going to save the data in a disk file. Add code to the `PrintRange` procedure to add the data to the end of a data file, as shown here (the added lines are in bold):

```vba
' Print the receipt.
'
Sub PrintReceipt()
  Dim theRow As Integer
  theSheet.OnEntry = "" 'Turn off the automatic retotaling.
  theSheet.Range("PrintRange").PrintOut 'Print the worksheet.
```
'Save the data from the receipt.
Open "Hard Disk Example Data" For Append As #1
For theRow = 1 To MaxNumItems
  Write #1, OutputRange.Cells(theRow, 1).Value,
  Write #1, OutputRange.Cells(theRow, 2).Value
Next theRow
'Write the subtotal, tax, and total.
With OutputRange
  Write #1, "Subtotal",
  Write #1, .Cells(MaxNumItems + 1, 2).Value
  Write #1, "Tax",
  Write #1, .Cells(MaxNumItems + 2, 2).Value
  Write #1, "Total",
  Write #1, .Cells(MaxNumItems + 3, 2).Value
End With
Close #1
End Sub

In the added lines, the file is opened for appending, using a file number of 1. Appending places each new entry at the end of the file. The loop then copies the data from the worksheet and writes it to the file. The program still appears to work the same, but now the data is saved every time the Print Receipt button is clicked. After you enter the data shown in figure 37.11, the following text is in Example Data:

"Pencils",2.35
"Accounting pad",1.8
"Printer paper box",18.95
,
,
,
,
,
,
Subtotal,23.1
Tax,1.9058
Total,25.0058

Notice that the Write statement delimits the data in the file by placing quotation marks around the strings of text and placing commas between items written to disk. These delimiters make it easy for the Input statement to be used to read the data back into a program for further processing. If you use Print instead of Write, the text and strings are written to the file without delimiters, creating a text file suitable for printing rather than for reading back into another program.

For more information about reading and writing files, search for input in the VBA section of on-line help, and select the topic "Input and Output Keyword Summary."
Using Built-in Dialog Boxes

VBA has two built-in dialog boxes that you can use in your programs to send data to the user and to get data from the user. The two dialog boxes are created with the `MsgBox()` and `InputBox()` functions. You already have used the `InputBox()` function to get data from the user in the Receipt Maker program. The `MsgBox()` function displays a dialog box containing a message and one or more buttons to be clicked to close the dialog box. Both functions take one or more arguments to set the prompt text, box title, number and type of buttons, and so on. See on-line help for a complete list of arguments.

In addition to these two dialog boxes, you can use two Excel dialog boxes to enhance your programs when opening and saving files. The two dialog boxes are displayed with the `GetSaveAsFilename` and `GetOpenFilename` methods.

The `GetSaveAsFilename` method displays the standard File Save As dialog box and gets a file name from the user. The dialog box does not really save anything; it only provides you with a path and file name to use. You then must use the `Open` statement to actually create the file and save something in it. The `GetOpenFilename` method operates in the same way, but it displays the standard File Open dialog box instead.

Creating Custom Dialog Boxes

In addition to the built-in dialog boxes, you can create your own custom dialog boxes and attach them to a VBA program. The Receipt Maker program could use a data-entry form to replace the two dialog boxes necessary to input a single entry.

To make this change, perform the following steps:

1. Open the Examples workbook and save it as Examples 2.

2. Choose the Insert Macro Dialog command. Your worksheet should look like figure 37.12, with a blank custom dialog box and the Forms toolbar. The Forms toolbar can be floating or can be docked at the top or bottom of the page. The tools in the Forms toolbar are listed in table 37.5.
Creating Custom Dialog Boxes

Table 37.5  Tools in the Forms Toolbar

<table>
<thead>
<tr>
<th>Tool</th>
<th>Tool Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Label icon" /></td>
<td>Label</td>
<td>Creates a text label.</td>
</tr>
<tr>
<td><img src="image" alt="Edit Box icon" /></td>
<td>Edit Box</td>
<td>Creates an edit box for inputting data.</td>
</tr>
<tr>
<td><img src="image" alt="Group icon" /></td>
<td>Group</td>
<td>Creates a group frame to visually group other controls and to functionally group option buttons.</td>
</tr>
<tr>
<td><img src="image" alt="Button icon" /></td>
<td>Button</td>
<td>Creates a command button that can execute a procedure.</td>
</tr>
<tr>
<td><img src="image" alt="Check Box icon" /></td>
<td>Check Box</td>
<td>Creates a check box with a label for selecting non-exclusive options.</td>
</tr>
<tr>
<td><img src="image" alt="Option Button icon" /></td>
<td>Option Button</td>
<td>Creates an option button with a label for setting exclusive options. (Create an option-button group with the Group frame.)</td>
</tr>
<tr>
<td><img src="image" alt="List Box icon" /></td>
<td>List Box</td>
<td>Creates a list box for selecting a value from a list of values in a scrollable box.</td>
</tr>
<tr>
<td><img src="image" alt="Pop-up icon" /></td>
<td>Pop-up</td>
<td>Creates a pop-up menu for selecting a value.</td>
</tr>
</tbody>
</table>

(continues)

Fig. 37.12
A custom dialog box before editing.
Table 37.5 Continued

<table>
<thead>
<tr>
<th>Tool</th>
<th>Tool Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="List-Edit" /></td>
<td>List-Edit</td>
<td>Creates a list-edit box (a combination of a list box and an edit box).</td>
</tr>
<tr>
<td><img src="image" alt="Pop-up Edit" /></td>
<td>Pop-up Edit</td>
<td>Creates a pop-up edit box (a combination of a pop-up menu and an edit box).</td>
</tr>
<tr>
<td><img src="image" alt="Scroll Bar" /></td>
<td>Scroll Bar</td>
<td>Creates a scroll bar for inputting a value by sliding a slider.</td>
</tr>
<tr>
<td><img src="image" alt="Spinner" /></td>
<td>Spinner</td>
<td>Creates a spinner for quickly stepping through a list of integer values.</td>
</tr>
<tr>
<td><img src="image" alt="Properties" /></td>
<td>Properties</td>
<td>Displays the Properties dialog box for setting the properties of the selected control.</td>
</tr>
<tr>
<td><img src="image" alt="Edit Code" /></td>
<td>Edit Code</td>
<td>Jumps to the procedure attached to the selected control.</td>
</tr>
<tr>
<td><img src="image" alt="Toggle Grid" /></td>
<td>Toggle Grid</td>
<td>Turns on or off a grid to simplify the alignment of controls in a dialog box.</td>
</tr>
<tr>
<td><img src="image" alt="Run Dialog" /></td>
<td>Run Dialog</td>
<td>Activates the dialog box so that changing values or clicking buttons execute the attached procedures.</td>
</tr>
</tbody>
</table>

3. Select the dialog caption, type **Receipt Maker**, and click a blank portion of the dialog sheet.

4. Choose the Format Sheet Rename command, and change the dialog sheet name to ItemDialog.

5. Using the Label button in the Forms toolbar, draw two labels in the dialog box, as shown in figure 37.13. Select the caption of the first and type **Item Name**: Select the caption of the second and type **Item Cost**:

6. Using the Edit Box button, draw two edit boxes in the dialog box, as shown in figure 37.13.

7. Select the edit box next to the Item Name label, and change its name to ItemNameBox.
To change the name of a control in a dialog sheet, select the control; then click the name box on the left side of the edit bar, type the new name, and press return.

8. Select the edit box next to the Item Cost label and name it ItemCostBox.

9. Choose the Format Object command, and select the Control tab. In the dialog box, choose the Number button in the Edit Validation group, and click OK. This procedure forces the user to type a number in this box before the dialog box closes.

10. Choose the Tools Tab Order command. Select the ItemNameBox and move it to the top of the list; select the ItemCostBox, and move it just below the ItemNameBox. This procedure makes ItemNameBox the first thing selected when the dialog box appears; ItemCostBox is selected second, when the user presses the tab key. Click OK to complete the change in tab order.

11. Switch to the ReceiptMaker module and make the following changes in the GetEntries procedure (the changes are in bold):

```vba
Sub GetEntries()
    Dim theItem As String, theCost As Currency
    Dim theRow As Integer, NumItems As Integer
    Dim theDialog As Object
    'Define the pointer to the worksheet.
    Set theSheet = Application.Workbooks("Examples 2").Worksheets("Receipt")
    'Define the pointer to the top of the table of items.
    Set OutputRange = theSheet.Range("TopOfList")
    Set theDialog = Application.Workbooks("Examples 2").DialogSheets("ItemDialog")
    ClearRange OutputRange 'Clear the table of items.
```
NumItems = 1
'Ask for the name and cost for up to 10 items.
Do While NumItems <= MaxNumItems
'Clear the edit boxes.
theDialog.EditBoxes("ItemNameBox").Text = ""
theDialog.EditBoxes("ItemCostBox").Text = ""
theDialog.Show
'Get the name.
theItem = theDialog.EditBoxes("ItemNameBox").Text
'If the user didn't enter anything, he must be done, so quit.
If theItem = "" Then Exit Do
'Get the cost.
theCost = Val(theDialog.EditBoxes("ItemCostBox").Text)
'Insert the items name and cost on the worksheet.
OutputRange.Cells(NumItems, 1).Formula = theItem
OutputRange.Cells(NumItems, 2).Formula = Str(theCost)
NumItems = NumItems + 1 'Increment the number of items.
Loop
TotalIt  'Calculate and print the totals.
'Retotal it if the user makes changes.
theSheet.OnEntry = "TotalIt"
End Sub

12. Save the workbook.

The first change in the procedure defines a new object named theDialog that references the dialog sheet. That object is used with the EditBoxes collection to clear the two edit boxes. The Show method is used to display the dialog box. After the user clicks the OK button, the contents of the two edit boxes are returned to the procedure and processed as before.

When you run the program by clicking the Make Receipt button in the worksheet, the dialog box appears, as shown in figure 37.14. Type the item's name, press tab, type the item's cost, and press return. The first item is inserted into the receipt, and the dialog box appears again. To end entry, press return without typing anything in the dialog box. The totals are calculated.

**Fig. 37.14**
The Receipt Maker dialog box.
Using the Debugging Tools

Program bugs are a fact of life for computer programmers. No matter how careful you are, bugs almost always appear; you must find them and remove them from your code.

The simplest bugs are syntax errors, such as placing a comma in the wrong position or using a keyword improperly. Syntax errors normally are found by VBA as soon as you type them.

Run-time errors are caused by using the wrong type of variable or by performing an improper numeric calculation (for example, taking the square root of 1). These errors are found by VBA as soon as the improper statement is executed.

Logical errors result in a program which does not do what you want it to. Logical errors are the most difficult to find because everything seems to work; it just works incorrectly.

VBA has a set of powerful debugging tools to help you find and correct program bugs. For example, you can set breakpoints anywhere in your programs to force them to stop executing at that point. After you stop your program, choose Tools Instant Watch to view the value of any variable or expression. You then can continue executing a program or step through it one statement at a time until you find your problem. You also can set watchpoints that automatically break a program when a variable or expression reaches a certain value.

Break Mode

Break mode is used to halt an executing program with all its variables still intact. Normally, when you end a program, the contents of all the variables are lost. However, break mode actually is a pausing of the executing program, so the contents of the variables that have been assigned values during program execution still are available. A running program enters break mode when it receives the keystrokes `+period or Esc, when it encounters an error, or when it encounters a breakpoint or watchpoint. When a program enters break mode by encountering an error, or when you press `+period or Esc, the Macro Error dialog box appears (see fig. 37.15), giving you the choice to quit, continue, or open the Debug window.
Breakpoints

Breakpoints and watchpoints also put a program into break mode. A breakpoint is a marker in a line of code that forces a program to stop executing when VBA attempts to execute the marked line. A watchpoint is a marker in the value of a variable or a simple formula. When the value of a watchpoint changes in some specific way, the program is stopped and placed in break mode.

To set a breakpoint, open the module containing your procedure, and select the line of code where you want the program to stop. Choose the Run Toggle Breakpoint command to set a breakpoint. Choose the command again to remove a selected breakpoint, or choose the Run Clear All Breakpoints command to remove all breakpoints. Then run your code. When the procedure reaches a breakpoint, it stops and enters break mode. When a procedure enters break mode by encountering a breakpoint or watchpoint, it goes directly to the debug window, which is discussed in the following section.

The Debug Window

If you choose Debug in the Macro Error dialog box, or if the procedure encounters a breakpoint or watchpoint, the Debug window appears (see fig. 37.16). The Debug window is a split window, with the currently executing procedure in the bottom half and the Immediate pane or the Watch pane at the top. In the bottom half of the window, you can select lines of code, add or remove breakpoints, and select code for watchpoints.

The Debug window shown in figure 37.16 shows that the code stopped at a breakpoint set in the If statement highlighted in the Code pane. The Watch pane shows the current value of the Item, the Cost, and the Dialog. EditBoxes("ItemCostBox").Text as watch variables. Notice that the Cost has no value yet because it has not yet been passed the value in the Dialog. EditBoxes("ItemCostBox").Text. At this point, you can continue execution of a procedure, set or delete more watchpoints, examine the value of variables, or step through the procedure one statement at a time.
The Immediate Pane

In the Immediate pane of the Debug window, you can type and execute almost any VBA command. The only restriction is that the command must be only one line long. The Immediate pane also receives any printed values caused by the Debug.Print statement, used to print values from a running program.

The Watch Pane and Watch Expressions

The Watch pane displays the current value of watchpoints and watch expressions. Watchpoints, and watch expressions displayed in the Watch pane, continuously show the current value of variables and expressions. The difference between these two is that although both show a value, a watchpoint can stop your code if the selected value changes in some specified way. The Instant watch is used to show the current value of a variable or expression without placing it in the Watch pane.

Figure 37.17 shows the result of selecting the variable theItem in the Debug window and choosing the Tools Instant Watch command. If you choose the Add button, the Instant watch variable is changed into a watch expression and added to the Watch pane.
The Step Commands

At this point, you can use two step commands to execute one line of your program and stop again in break mode. Those commands are Run Step Into and Run Step Over. The Run Step Into command makes the program execute one line at a time. If the program reaches a procedure call, the next step occurs in that called procedure.

The Run Step Over command is similar, but when it reaches a procedure call, it executes the procedure completely before stopping and going into break mode again. Thus, the Step Over command appears to step over procedure calls in the procedure you are executing.

The Calls Window

The Calls window is on the top right side of the Debug window, shown in figure 37.16. The Calls window shows the name of the procedure that contains the current point of execution. If you select the Calls window, it expands and lists all the active procedures in this program. Active procedures are those that have not finished running, either because they contain the current execution point or because they are among the calling procedures that eventually called the procedure containing the execution point.

From Here...

Now that you understand the basics of VBA, you are ready to begin building programs of your own. To build your own programs efficiently, you need the details of the syntax for all the Visual Basic objects and statements. On-line help is one of the best sources of information about the syntax and usage of the VBA commands and functions. Select the VBA section, and then explore all the different functions and methods.

The Object Browser is another helpful feature because it looks at the actual library files and extracts the real procedure names and properties directly from the procedures themselves.
Other chapters that relate to VBA include the following:

- Chapter 11, "Automating with Macros and Mail Merge," gives you examples of Word Basic code that can be accessed by VBA.

- Chapter 18, "Automating with Excel Macros," shows you several examples of working code that you can examine and run.
Like a macro, AppleScript is a way of saving repetitive steps into a simple move. In this case, the move is called a script. As for many programs offering macro capabilities, a script can be recorded or written.

The new System 7.5 disks or CD-ROM contain everything you need to begin writing scripts, the most important of which is the ScriptEditor. With this application you can write or record scripts for Microsoft Office applications.

The Microsoft Office is AppleScript-savvy—that is, it's scriptable. You can write scripts that any of the applications of Microsoft Office can follow, and you don't have to be a programmer to do it.

In this chapter, you'll learn the basics of AppleScripting—the easy way to create high-end macros. You'll learn to

- Record a script
- Create scripts that are editable or play only
- Use the ScriptEditor to write, check the syntax, and run your scripts
- Edit previously written scripts
Understanding AppleScript

Anyone who has worked with macros or even used a keyboard equivalent has experienced the basics of AppleScripting. This program, which is included with System 7.5 or System 7 Pro, is a low-end programming application or a high-end macro application. You can use AppleScripting to perform repetitive tasks or to perform tasks that are time-consuming while you are away from your computer.

You don’t have to be a programmer to write a script. Some scripts you can record, just as you would record a conversation with a tape recorder. You’ll find similarities between recording a script and recording a macro with an application such as Quickeys.

Scripts can be written for any application that is scriptable. It is a technology that certain companies subscribe to but is not required. Not all applications are scriptable, and even applications that are System 7 savvy may not be. However, Microsoft Office is scriptable.

Scripts written for an application belong to the application and can be used on any document that application creates unless you specify that the script only works with a document of a specific name. You’ll learn later how to direct AppleScript to know which document and which application to work with.

Scriptable and Recordable

The language of scripts is similar to English and not very much like typical programming jargon. This is why even an inexperienced person can write a script. Recorded scripts are even easier. If you can click with the mouse, you can record a script. However, not all scripts are recordable; only those that follow steps can be repeated. You cannot record a script that prompts you for information, such as a dialog box, but you can write a script. There are some steps you just have to write into a script.

There are two types of AppleScript compliance that applications can have. The first level is scriptable. This refers to an application for which you can write a script. The second type is recordable. This denotes an application for which you can record a script. Within these two different types of scripts there also are levels. These levels determine how a script is activated. A script, whether recorded or written, can be saved as an application—making it fully functional on its own. Just double-click its icon and the script goes to work.
There also are scripts called *droplets* that are activated when you “drop” a file onto them. Run-only scripts can be played, but not edited. This is convenient if you’re writing scripts for someone else and you don’t want them to see your wording of the script. Scripters and programmers can be a protective bunch.

The Microsoft Office suite applications are both recordable and contained within the applications. To write scripts for Microsoft Office applications, you should first become proficient in the application to keep from inadvertently recording incorrect steps or becoming frustrated because you don’t know the steps to create. However, because the applications are recordable, it’s feasible to struggle and learn as you go with the types of processes that are recordable.

**Understanding the Language of AppleScript**

If you’ve worked at all in different applications on the Macintosh, you have some idea of how little the different manufacturers of applications agree about the way things should be done. The layout of the menus and the keyboard shortcuts are good examples. Microsoft has nearly eliminated this discrepancy with the Office products, which is a good thing for scripts.

How do you know what words and phrases to use when writing scripts? By looking in the dictionary, of course. All scriptable applications have a dictionary, outlining the collection of terms that the program is capable of understanding and acting out through scripts.

To get a look at the dictionary, you need to launch the AppleScript application called ScriptEditor, which is installed by 7.5 in a folder called Apple Extras. This application, like all Macintosh applications, provides you with a menu bar, windows, and dialog boxes for writing scripts. You will run ScriptEditor concurrently with the Microsoft Office application for which you are writing or recording a script. You don’t need to have the application running to view the dictionary.

Follow these steps if you want to see the dictionary listings for an application:

1. Launch the AppleScript application ScriptEditor (see fig. 38.1), which is found in System 7.5’s Apple Extras folder.

2. From the File menu, choose Open Dictionary. The Open Dictionary dialog box appears.
3. Locate the application whose dictionary you want to view, and double-click the title. The dictionary for that application is opened. In figure 38.2, the dictionary for Microsoft Word 6 is shown.

4. Use the scroll bar at the right of the listings to scroll through the listed words.

5. Click the Close box to dismiss the window.

**Recording Simple Scripts**

During the installation of System 7 Pro or 7.5, you can choose to install the AppleScript supporting software and documentation (ReadMe files). This will create a folder called Apple Extras that contains a folder titled AppleScript, where you’ll find all you need to write and record scripts.

**Recording an AppleScript**

Launch the application for which you want to record a script. Double-click the ScriptEditor icon in the Apple Extras folder to launch that application as...
well. The upper portion of the ScriptEditor window is a large field where you can type information about the script you are writing or recording. For instance, you might type the name, a description, or even some suggestions about the type of requirements that must be met in order to run the script.

Below this field are four buttons: Record, Stop, Run, and Check Syntax. Record and Stop initiate and end a recording session for a script. Just as with the buttons on a tape recorder, click Record to instruct ScriptEditor to begin a recording session for a script. After clicking this button, you perform the steps that you will want to repeat as part of a script, and then click Stop when you finish the steps.

In the following example, you can put these buttons to work by creating a small script for Microsoft Word 6.

Once you launched the application and the ScriptEditor, you can record by following these steps:

1. Click the description field of the ScriptEditor and type a name and description for your script.

2. Click the Microsoft Word window (or the window of the application you're recording in).

3. Select the script type and then select the text you want the script to act on, if any.

4. Click the ScriptEditor window to make it active, and click the Record button.

5. Return to the Microsoft Word (or the application you're recording in) and choose the commands you want to record, making dialog box selections and clicking OK when you're finished.

6. Click the ScriptEditor window to make it active, and then click the Stop button. The recorded script is displayed in the field area at the bottom of the window.

The script in the window can be replayed for as long as it remains in the open AppleScript window by pressing the Run button. Choose Save from the File menu if you would like to keep the script and run it again. In the section “Saving Scripts” later in this chapter, saving options are discussed.

Tip
You'll get the best idea of how things work if you reduce the size of both applications' windows and move them side by side.

Syntax is the structure with which a script sentence is constructed. A script will only operate if it contains proper syntax. This not a concern if you are...
recording a script, because the ScriptEditor automatically interprets your moves and records them properly. If you are writing a script, however, you can use the Check Syntax button to ensure that you have written it correctly.

**Running a Script**

To apply the script that you have recorded, return to the Microsoft Word document and type a new sentence and select it. From ScriptEditor, click the Run button. The steps you recorded are applied to the new sentence. You've now recorded and applied your first script.

**Note**

To prevent a function of your script from operating, comment out by placing two hyphens in front of the line. AppleScript ignores lines that are preceded by two hyphens. To comment out an entire routine, precede the routine with an open parenthesis and an *, and end the routine with an * and a close parenthesis.

**Editing Scripts**

Your ScriptEditor and Microsoft Word windows may look something like the windows shown in figure 38.3. In this figure, bold formatting was added to the third word. If you read the script carefully, you can find where it states that this will happen. To edit this script, select the word **bold** and change it to read *italic*. Select text in the Microsoft Word document and click the Run button again to watch the results.
Formatting and Identifying Parts of a Script

The formatting that Script Editor applies to the parts of a script helps you identify each of the component types. When working in Script Editor, you can change the formatting by choosing AppleScript Formatting from the Edit menu. This displays the window shown in figure 38.4, where you can edit the formatting by clicking a line to make a selection and using the Font and Style menu of Script Editor to choose new attributes. You cannot select single words of your script and change the formatting; you must make the changes here so that they are applied globally throughout the script.

There are eight components you can use when writing scripts. Each of these components has a different job. In table 38.1, these components and their functions are listed. Use this table to help you identify the parts of the script that you recorded. They help you even more as you begin writing scripts.

### Table 38.1 Script Terminology and Functions

<table>
<thead>
<tr>
<th>Term</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Text</td>
<td>Text added to a script that has not yet been saved, run, or had its syntax checked. Also text that will not compile or run due to a syntax error.</td>
</tr>
<tr>
<td>Operators</td>
<td>Characters that perform an operation. A + symbol adds, a – symbol subtracts, and so on. Most operators produce a result; for instance, 1+1 (the operator being the plus symbol) produces the result 2. If you want to view the results of the</td>
</tr>
<tr>
<td>Term</td>
<td>Function</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Function</strong></td>
<td>operators, choose Show Result from the Control menu. (The Result window, shown in fig. 38.5, also is used to display some error messages, so it's a good window to have open when writing and recording scripts.)</td>
</tr>
<tr>
<td><strong>Language Keywords</strong></td>
<td>Scripting terms available to all applications that are built into AppleScript.</td>
</tr>
<tr>
<td><strong>Application Keywords</strong></td>
<td>Scripting terms that are available specifically to the application.</td>
</tr>
<tr>
<td><strong>Comments</strong></td>
<td>Descriptive words, phrases, or sentences embedded into your script that are ignored by the computer and therefore are not considered when compiling the script. You can embed instructions or descriptions in the middle of a script by adding two hyphens in front of the comment. This is called <em>commenting it out</em>. It's placed at this point in the script for clarification but ignored by the script because of the hyphens (similar to an annotation process).</td>
</tr>
<tr>
<td><strong>Values</strong></td>
<td>Characters of information that AppleScript uses. The number of paragraphs in a selection is a <em>value</em>.</td>
</tr>
<tr>
<td><strong>Variables</strong></td>
<td>Terms (numbers or words) that are used as containers for values. Variables usually contain an inner cap so that they are easy to find in the script text. For instance, you might ask the script for the number of paragraphs in a selection and then set that number to <code>numOfgraphs</code>. Though this word in itself is just something made up by the script writer, it is descriptive in and of itself.</td>
</tr>
<tr>
<td><strong>References</strong></td>
<td>Phrases used to identify specific objects so that the script can identify it. For example, <code>word 3 of document 1</code> is a reference. References can be pasted into a script by selecting that object in the source application, copying it, and pasting it into the script. The reference for the object appears when you use the Paste command (the object itself does not appear).</td>
</tr>
</tbody>
</table>
Writing Simple Scripts

Writing an AppleScript is more difficult than recording one. With writing, you're actually doing low-level programming, although some programmers will have more difficulty writing scripts than average users. What programmers know that you might not know (if you're not a programmer) is how to formulate commands, in what order to place commands, and how to nest commands.

The Check Syntax button is your closest ally in writing usable scripts, especially for those of you who are new to scripting. When you write a script, you attempt to match the type of terminology you see when you record a script. If you write the script correctly and click the Check Syntax button, the steps of the script are formatted and compiled, like those you see on the left side of figure 38.6.

To write a script you need to launch the application ScriptEditor. You don't need to launch the program, nor open the document for which you want to write the script, since you can instruct your script to do this for you. However, if you want to apply a script to a specific document, it is usually easier to open the document and the script and click the Run button. Follow these steps for writing a script:

1. Launch the Microsoft Office application and open an existing document or begin a new document.

2. Launch the application ScriptEditor.

3. Type the script in the window of ScriptEditor. Be sure to use only the words listed in the dictionary of the application or of ScriptEditor.
4. Check the syntax of your script as you go along and make the necessary changes.

5. When your script is complete, click the Run button.

If your script does not perform the functions you requested, make the necessary changes. Sometimes you are only missing an operator; sometimes you won't have defined a variable. To a new scripter, many errors are made just in how the instructions are worded.

6. Save the Script by choosing Save from the File menu.

It's also possible to record portions of the script and then write additional information or add subroutines. If you're having trouble writing a routine, try recording a similar sequence in a new ScriptEditor window and look closely at the syntax. Copy and paste the portions of the recorded script that apply into your written script.

<table>
<thead>
<tr>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have written script, but every time I check the syntax, it comes up with an error. How do I know what to type?</td>
</tr>
</tbody>
</table>

Correct syntax is the toughest part about scripting. There are several places you can get help. Table 38.1 has a vocabulary list for ScriptEditor. Check here if you don't understand the meaning of a word in your error dialog box. If the word is not understood by the script, check the dictionary of ScriptEditor or Microsoft to see if you have used the correct phrase or reference. Lastly, try to record a similar sequence to see how the application prefers the syntax.

I am progressing in my scripting and want to save my work, but when I return to the script later I sometimes forget what I was working on and what a routine is supposed to do.
You can embed lines of text to explain a routine or to remind you of its function right in the script. This is called a comment line. A comment line is preceded by two hyphens with no space in between. When Script Editor comes to a line preceded by two hyphens it ignores the information contained in that line or routine. Adding hyphens to a line is called commenting it out.

**Saving Scripts**

After you have a script, you need to save it. Like any document, you should save your work as you go along. When your script is complete, you need to choose a saving method that controls how the script is used or edited in the future. You save a script in the same way as you would any Microsoft Office document, but you have three formatting options. The Save dialog box is shown in figure 38.7. Following are the options:

- **Application.** Can be launched on its own without ScriptEditor and activated like other Macintosh applications.

- **Compiled script.** Can only be opened by ScriptEditor.

- **Text file.** This save method does not require that the script contain proper syntax or that it be Run (compiled), but you do need to hold down the shift key as you select Save from the File menu.

When you save a script as an application, you also can choose Stay Open (the script remains open after it has been run), or Never Show Startup Screen (this is a description of the script displayed in a startup screen).

Another type of script is a Run-Only Script. These scripts can be run but not opened in ScriptEditor. Instead of Save, choose Save As Run-Only from the File menu.

**Tip**

You may find it helpful to write an outline or flowchart about what you want to include in your script. However, you may fare just as well jumping right in to ScriptEditor.

**Tip**

You can copy words from the dictionary of the application and paste them into the script.

---

**Fig. 38.7**

Use the Save dialog box to save a recorded or written script. Choose the type of save method from the pop-up menu at the bottom of the window.
If you’re serious about wanting to write scripts, the documentation on the System 7.5 disks can get you started. The more complex the task, the more complex the scripts will be. Use the documentation and try the examples. They are designed to introduce you slowly to the concept of total automation, but AppleScripting for applications will take some time to master. Try creating simple scripts for setting tabs, or indents, or some other fairly easy task, and then you’ll learn about the syntax through trial and error and become a better programmer.

**From Here...**

Other parts of Microsoft Office are prime targets for AppleScripting. PowerTalk can benefit from a custom script. Text formatting and non-consecutive page printing are functions that are candidates for scripting. Turn to these chapters for more information on those topics.

- Chapter 2, "Using Common Features to Create Documents," can offer you a refresher course on getting around in the Office suite of applications.

- Chapter 16, "Creating and Printing Reports and Charts," takes a look at how to print handouts for PowerPoint, a great scripting place.

Microsoft Office is available both for Macintosh computers and PCs running Microsoft Windows. In many organizations, Macintosh and IBM-compatible versions of the Office package must coexist and exchange information. Home Macintosh users also may need to exchange data with PC users. In this chapter you will explore the various methods of transferring files between the Macintosh and PC computing platforms.

In this chapter, you learn the following:

- The difference between file transfer and file translation
- How to transfer files using floppy disks, networks, or other cabling
- How to use Apple File Exchange to transfer files
- How software utilities can make the file transfer process easier
- Differences between Macintosh and PC file types
Understanding General Concepts

The two questions you must ask yourself when transferring files between a Macintosh and a PC are *How do I move the file from one computer to the other?* and *How do I use the file on the other computer?* While each question raises unique issues, they are rarely addressed independently.

The first step toward exchanging information between a Macintosh and a PC is to physically transfer the file from one machine to the other. While both Macintosh computers and PCs use similar media (hard disks, floppy disks, CD-ROM, and so on) to store information, the manner in which data is arranged on the media is drastically different on each platform.

After the file has been moved to the computer where it is needed, the issue becomes how the file can be made usable. Microsoft Office applications address this issue elegantly. Office applications for Macintosh can open Office for Windows files directly, and Office for Windows applications can open Office for Macintosh files directly.

Transferring Files to Another Platform

File transfer is the process of moving a file from one machine to the other. You can transfer a file using floppy disks, network systems, or direct cable connections between computers.

Transferring from Disks

The most common method of transferring files from one platform to another is to use a floppy disk. Both PCs and Macintosh computers can use a 3.5-inch floppy disk, but the formats are different. If you place a Macintosh-formatted floppy disk in a PC, it can't be read. Similarly, a Macintosh without special software will be unable to read any PC-formatted disk placed in its drive.

To alleviate this problem, Macintosh computers with *high-density* drives can read and write PC-formatted disks. High-density drives are able to use 1.44M disks, and have been standard on all Macintosh models since the SE/30 was introduced. In order for the Macintosh operating system to recognize a PC-formatted disk, however, software such as Apple File Exchange or Macintosh PC Exchange must be loaded.
Using Apple File Exchange

Even though the Macintosh high-density drive is physically able to read PC disks, special software is needed to actually transfer files. The Macintosh comes with an application called Apple File Exchange, which is a software program designed to transfer files between the Macintosh and a PC-formatted floppy disk. Some Macintosh models also ship with Macintosh PC Exchange, which is discussed in detail later in this chapter.

**Caution**

Apple File Exchange must be launched before the PC floppy disk is inserted in the floppy drive. Otherwise, the Macintosh will treat the disk like any other non-Macintosh formatted disk, and prompt you to initialize it. This situation is alleviated if PC Exchange is loaded.

Launch Apple File Exchange by double-clicking its icon. Apple File Exchange is often found in the Utilities folder on the hard disk.

When launched, Apple File Exchange shows a transfer window similar to that shown in figure 39.1.

![Apple File Exchange window](image)

Initially, the left side of this window displays the contents of the Macintosh's hard drive. When a PC disk is placed in the floppy drive, the contents of that disk are displayed in the right side of the window.

**Tip**

Apple File Exchange is not copied to the hard disk automatically as part of the system installation process. You may need to manually copy the application from the Tidbits system installation disk to the hard disk.

**Fig. 39.1**

The Apple File Exchange window allows you to transfer Macintosh, PC, and Apple II files.
Use the following guidelines while working with Apple File Exchange:

- A file can be selected in either window by clicking the desired file.
- Hold down the shift key while clicking files to select a continuous range of files.
- Hold the control key while clicking files to select discontinuous files.
- The arrows on the Translate button confirm the direction of the transfer.
- Click the Translate button to transfer the files.

You can use the standard Macintosh file dialog controls in the Apple File Exchange window to choose other disks, folders, and so on. Be sure you have selected the appropriate folder into which to transfer files.

**Using Commercial File Exchange Utilities**

Apple File Exchange can be used effectively to transfer files from one platform to another. The software is somewhat cumbersome, however, in that you must remember to run the application before you place a PC-formatted disk in the floppy drive. Commercial utility programs exist which allow PC disks to be mounted on the Macintosh desktop in the same way that Macintosh disks are mounted.

The most popular of these utilities are DOS Mounter from Dayna Corporation, Access PC, and Macintosh PC Exchange from Apple. All of these packages allow the Macintosh to mount, format, and copy information to and from PC disks as well as Macintosh disks.

Each of these utilities operate in much the same manner. The software is in the form of a Control Panel which automatically launches at system startup time. The Control Panel extends your operating system's ability to recognize and use floppy disks to include PC-formatted disks as well as Macintosh disks. Figure 39.2 shows a PC-formatted disk as it would appear on a Macintosh with Apple's Macintosh PC Exchange software installed.
Caution

When using floppy disks to transfer files between PCs and Macintosh computers, be sure the disks are formatted properly. High-density PC disks (those with an "HD" stamped on them, and two square corner holes rather than one) must be formatted 1.44M, and standard PC disks must be formatted 720K. If a standard disk is formatted 1.44M, the Macintosh will not be able to read the disk.

Transferring Over a Network

Files also can be transferred from one platform to another using network wiring. If the Macintosh computers and PCs are connected to a compatible network (such as AppleTalk, Novell, or Tops) files can usually be transferred either peer-to-peer or via a file server.

Commercial software such as Farallon's PhoneNET PC allows PC users to connect to Macintosh file servers and transfer files much in the same manner as a Macintosh user would. Products such as Novell's NetWare for Macintosh allow Macintosh users to connect with Novell file servers.

Transferring via Cable or Modem

Other common methods of transferring files include direct cable connection or connection over phone lines using modems.

Utilities such as MacLinkPlus/PC allow direct connection of Macintosh computers and PCs via a special cable and software. Modems can be connected to both Macintosh and IBM-compatible computers allowing files to be transmitted over standard telephone lines. Software to communicate via modem varies greatly, but nearly every communication software package includes standard file transfer options.

Translating Files

Once the Office for Windows documents are transferred to the Macintosh, they can be used in their corresponding Office for Macintosh applications. Documents created using Macintosh and Windows versions of Microsoft Office use the same file type. Therefore, each of the Office for Macintosh applications can directly open documents created by its Windows counterpart. For example, Word for Windows 6.0 documents can be opened directly
Chapter 39—Exchanging Data with Microsoft Windows Versions of the Office Applications

by Word for Macintosh 6.0. Likewise, Excel and PowerPoint documents can be read across platforms. Choosing File Open in any Office application displays a dialog box similar to the one in figure 39.3. Files created in either Macintosh or Windows versions of the Office software will appear in the open dialog file list.

Fig. 39.3
The file named TEST.DOC was created in Word for Windows.

Understanding File Name Differences between Platforms

When transferring a file between Macintosh and PC platforms, keep in mind how to name the file. The Macintosh allows long file names and use of most characters, while PCs have more stringent naming rules. Table 39.1 lists the naming differences on Macintosh and PC systems.

<table>
<thead>
<tr>
<th>File System</th>
<th>Number of Characters</th>
<th>Illegal Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-DOS (PC)</td>
<td>8 maximum with an optional 3-character extension</td>
<td>angle brackets &lt;&gt; asterisk * comma , colon : equal sign = pipe</td>
</tr>
<tr>
<td></td>
<td>null plus sign + quotation marks &quot;&quot; question mark ? slashes /</td>
<td>space</td>
</tr>
<tr>
<td>Macintosh</td>
<td>31 maximum</td>
<td>colon : null</td>
</tr>
</tbody>
</table>

Table 39.1 File Name Conventions
Not only do PCs and Macintoshes require different naming conventions, but they also recognize files in different ways. PCs rely on the three-character extension in a file name to determine which application was used to create the file. Macintosh applications check the file's type and creator information, which is stored within the file itself. Table 39.2 shows the file type equivalents between Macintosh and PC platforms for Office applications.

<table>
<thead>
<tr>
<th>File Type</th>
<th>PC Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Excel Worksheet</td>
<td>.XLS</td>
</tr>
<tr>
<td>Microsoft Excel Chart</td>
<td>.XLC</td>
</tr>
<tr>
<td>Microsoft Excel Workbook</td>
<td>.XLW</td>
</tr>
<tr>
<td>Microsoft Excel Macro Sheet</td>
<td>.XLM</td>
</tr>
<tr>
<td>Microsoft Word</td>
<td>.DOC</td>
</tr>
<tr>
<td>Microsoft PowerPoint</td>
<td>.PPT</td>
</tr>
</tbody>
</table>

**Converting Fonts**

If you create a file using a certain font on one platform and then transfer that file to another platform, the document will look different unless an equivalent font is available.

To address this issue, Microsoft Office for Macintosh is shipped with TrueType versions of many commonly used Windows fonts. Font conversion problems can be kept to a minimum by using fonts in your documents, presentations, and spreadsheets, which are available on both platforms.

If a font is used in a Windows application that has no counterpart on the Macintosh, a similar font will be substituted. The Word and PowerPoint applications provide additional font conversion control.

**Using Word**

In Microsoft Word, follow these steps to control font substitution:

1. Choose Tools Options.
2. Click the Compatibility tab.

3. Click the Font Substitution button. If there are fonts in the active document which are not available on your system, a dialog box similar to the one shown in figure 39.4 appears.

Fig. 39.4
Use this dialog box to select the fonts to be substituted.

4. Choose the missing font for which you want to set a substitute from the list.

5. Select the font to substitute for the missing font from the Substituted Font pop-up list.

Using PowerPoint
PowerPoint also allows control over font substitution. Choose Tools, Replace Fonts to access a dialog box similar to figure 39.5.

The top field shows the fonts used in the current presentation, and the bottom field allows you to choose the desired substitute for each missing font.

Fig. 39.5
Choose the fonts to substitute in this dialog box.
From Here...

In this chapter, you have learned the basics for transferring Office files between the Macintosh and PC platforms. You have seen several methods of transferring files, and have looked at issues impacting the translation of files between platform.

- Chapter 3, “Managing Files and Work Areas,” shows you how to open and save files.

- Chapter 5, “Formatting Text and Documents,” and Chapter 24, “Enhancing a Presentation,” provide information on font use in Microsoft Office applications.
Part VII
Appendixes

A Installing Microsoft Office
B Index of Common Problems
The PivotTable Wizard builds an analysis and summarizes data from Microsoft source.

Create PivotTable from data in:
- Microsoft Excel List or
- External Data Source
- Multiple Consolidation F
- Another PivotTable

Tip: To learn more about PivotTable...
Appendix A

Installing Microsoft Office

The standard edition of Microsoft Office consists of Word, Excel, PowerPoint, and Mail.

If you've already installed an older version of Office but need to update an individual application (from Excel 4.0 to 5.0, for instance, or PowerPoint 3.0 to 4.0), refer to the later section in this appendix, “Updating an Existing Installation.”

In this appendix, you learn how to

- Install Microsoft Office for the first time
- Install Microsoft Office on a network
- Update an existing installation of Microsoft Office

Preparing to Install Office

Before you install Microsoft Office, you should take a few minutes to check your system and back up important system files. Hints for preparing to install Office are described in the sections that follow.

Checking Your System Requirements

Verify that your system can run Microsoft Office. Microsoft Office requires System 7.0 or later (7.1.2 or later for Power Macs), which should already be installed on your computer. The computer must have at least a 68020 CPU and 4M of RAM. If you want faster processing, you should have a 68040-based Macintosh and increase your RAM to at least 8M. The Office applications
can also run on Power Macintoshes under emulation, and native Power Mac versions are also available. If you have a Power Macintosh, you should always run the native-mode version of the Office applications to get the best performance. Power Macs require at least 8M of RAM to run Office.

You'll especially notice the difference that more RAM can make if you run multiple applications simultaneously. The Office applications each require at least 2M of RAM to run. If you run out of real RAM, you can turn on virtual memory in the Memory Control Panel. If you're not familiar with virtual memory, it's a scheme that allows your Mac to use part of its hard disk as though it were RAM. Because disk access is so much slower than RAM access, however, this results in noticeable sluggishness. Everything still runs, but it runs much more slowly than if actual RAM were available.

If you notice lots of drive accesses (and delays) when shifting from one application to another, consider installing additional RAM so that you're less dependent upon your hard disk for virtual memory.

Note

The following Macs, because they are based on the 68000 processor, cannot run Microsoft Office: Mac 128K, Mac 512K and 512KE, Macintosh Plus, SE, Portable, Classic, and the PowerBook 100.

Verifying Your Hard Disk Space
The amount of space you need depends upon how much of the suite you choose to install. If you install everything in the standard package, you need a whopping 73M of disk space.

If you don't have that much disk space free, you can select a portion of Microsoft Office to install now and install the rest later. You'll have to make room for it, of course, by deleting files from your hard drive. If you don't already use a disk compression utility, you can also gain space by installing one. Each application also allows for a partial installation, so you can forego features that you may not need in a particular application. For example, if you're a grammar whiz, you can omit installation of the grammar checker in Word.

Deactivating Other Programs
To be on the safe side, you shouldn't be running any other programs when you install Microsoft Office. Quit any open programs, then choose Restart
from the Special menu in the Finder. As your machine restarts, hold down the shift key to disable any system extensions, such as virus checkers, from running.

**Installing Office for the First Time**

After you have verified that you have enough space and no other programs are running, you are ready to run Microsoft's Setup programs to install Office onto your hard drive.

**Running the Setup Program**

Word, Excel, PowerPoint, Mail, and the Microsoft Office Manager each have their own Setup programs. To install an Office application, insert the Setup Disk for that application into your floppy drive (the floppy disks shipped with the Office package are 1.4M floppies).

Open the Setup floppy disk by double-clicking its icon, if necessary. Double-click the icon of the Setup application. This icon will be named slightly differently, depending on the application you are installing. For example, it will be named Microsoft Word Setup for Word, Microsoft Excel Setup for Excel, and so on.

After a few moments, you will see the initial Microsoft Office installation screen. The installation screen provides some brief copyright information, as well as options to continue the installation (OK), exit the installation, or get help. Be prepared to wait while Setup checks and prepares your system for installation.

**Entering Your Name, Organization, and Serial Number**

When Setup finishes preparing your system, the Welcome to Setup screen appears. The first time you run the Office Setup programs, you are prompted to enter the name and organization to use for the installation. You can't install the Office applications unless you enter a name here, but the organization name is optional.

This information is written to the installation disk, into the Registration Database file in the Preferences folder inside the System Folder. This file is read on subsequent passes through the Setup program, so that you don't have to enter the information again. The name and organization you enter are displayed on the opening screens when you start a Microsoft Office program.

**Tip**

You can retrieve your serial number in any Office application. Just choose About menu at the top of the Apple menu of the application.
After you have entered the name and organization, your Microsoft Office application's serial number appears.

**Selecting Folders**
You will be prompted for a folder in which to store your Microsoft Office program files. The Setup program will suggest creating a folder called Microsoft (Word, Excel, or PowerPoint) in the top level of your hard disk. You can accept the suggested location or choose another one.

You can choose the Desktop button, and then choose another disk if you want the files to be installed somewhere else, or you can navigate into a folder by double-clicking the folder's name. Whether you choose a folder or a disk, Setup creates a new folder for each Office application.

**Choosing the Installation Type**
Office lets you choose how much of each program you want to install. The choices are for Typical, Complete/Custom, or Minimum configurations. Choose an installation type based on the space available on your hard drive and how much of the programs you need installed. As you proceed with the installation, Setup informs you of how much disk space your selections require.

By default, the Complete/Custom installation installs everything. It gives you the option to deselect portions of each program, so you can omit selected example files, for instance. If you don't want to install part of a program's files, select the category of optional files in the Options list box, and then click the small triangle next to that category of features. An indented list of files in that category appears. Deselect any files you don't want to install, and then scroll down to the next category of files. Repeat this procedure for any other categories for which you want to install only part of the files. When you have only the files you want to install for all the categories, click the Continue button to install the selected items.

The Minimum Installation configuration installs only those files that are absolutely necessary to run the programs. No examples or help files are included. Bare-bones installation of Word requires 5M, Excel needs 6M, and PowerPoint needs 7M.

The Typical installation falls somewhere in between. You get all the files that are minimally sufficient to run the programs, of course, but you also get the Help files and the Microsoft Office Manager. Total disk space needed: about 40M.
You can return to Setup anytime to modify your installation; you don't have
to do everything at one sitting (and, with 36 high-density disks among the
whole Office suite, you may not want to).

If an option is grayed out on the menu and can't be chosen, Setup has deter­
mined that you don't have enough disk space for it. If this happens and you
want to install an Office application according to an option that isn't avail­
able, you don't necessarily have to cancel the installation. Instead, you could
do one of the following:

• Try installing on a different drive that may have more space. Click the
  Desktop button; it permits you to choose another drive.

• Switch to the Finder to free more space on the drive. Click the desktop
  visible behind the Setup window to make the Finder active. Drag files to
  the Trash to delete files until you have enough space. Remember to
  empty the Trash from the Finder's Special menu before you return to
  the Setup program.

If these options don't work, you may have to consider another installation
type, or exit and wait until you can consider your options more completely.

While the custom installation provides the greatest flexibility, each option
gives you some control over what is installed. The minimum configuration
lets you decide only which applications to install. Note that Change Option
is grayed out; there is nothing left to pare away from the minimum installa­
tions of any of the programs.

Installing Office on a Network
Microsoft Office can be installed on a network using the Setup program that
comes with the software. However, before doing so, you must consult
Microsoft and obtain a license agreement.

Installing Office on the Network Server
The Setup program for networks is very similar to the stand-alone installa­
tion. The network administrator should perform a Complete installation onto
the file server. Naturally, you need to have write access to the file server. No
one else should have access to the network during the installation process.

Installing Office from the Network to Workstations
After the network administrator installs Office on the network server, each
user who will use Office needs to run the Setup program to install it on the
workstation. The network administrator needs to contact Microsoft to secure a license for the appropriate number of workstation installations.

The workstation installation will be very similar to the stand-alone installation. You connect to the file server, and then open the folder on the file server that contains the Setup program for the Office application you are installing. The installation will proceed just like the stand-alone installation, choosing any of the installation options (Typical, Complete/Custom, or Minimum Installation).

**Updating an Existing Installation**

Microsoft Office provides for maintenance of existing installations. You can use this to add or remove parts of Office in your installation. If you run an application's Setup program again after an earlier Office installation, you will see the Setup maintenance screen. From this screen, you can choose to add or remove components of the Office application.

**Choosing Installation Options**

If you click the Add/Remove button in the installation maintenance screen, you see a selection menu just like the one used for a custom installation of Microsoft Office. You just select the boxes corresponding to the files you want to add (or remove), and Setup handles the rest.

If you want even finer control, you can click the small triangle next to a file category to determine which of its subcomponents to install.

If an option is not installed, its check box will be blank. To install a new option, select its check box and click OK. Setup then prompts you for the installation disks as needed.

**Removing Programs and Installing Newer Versions**

Each program in Microsoft Office has its own development schedule, so version upgrades of individual programs aren't likely to be issued simultaneously. This makes the purchase of the suite somewhat vexing, since you may not get all the most current versions of each program packaged together. You might have the 680X0-only version of Word or the version that includes installers for both 680X0 and Power Macintosh, for example, depending on when you bought Office.

Many people purchased or upgraded to the previous version of Microsoft Office with the understanding that automatic upgrades (for example, Excel
5.0 and PowerPoint 4.0) would be forthcoming. Others may eventually want to upgrade only various modules of the suite. Managing changing versions of individual Office modules is simplified by the maintenance menu’s Add/Remove option.

If you want to remove an older version of a single program before installing an upgrade, choose Add/Remove from the maintenance menu. You will see which programs are installed on your system. If an item is currently installed, an X is marked in its check box. Otherwise, the box is blank.

However, you may not need to remove older programs before upgrading them. Setup typically lets you install over older installations. If you have Excel 4.0, PowerPoint 3.0, or Word 5.1, run the Setup program that comes with your new version of Excel 5.0, PowerPoint 4.0, or Word 6.0.

At the highest level, you can deselect the single box corresponding to any program in the suite and completely remove it from your system. If you are ready to install the newest version of Excel and want to delete the older one to avoid any possible conflicts between the two versions, for example, deselect the Excel box and click OK. Setup will remove all the Excel files you previously installed with Office.

If you want to remove only certain elements of a program, choose Change Options while that program is highlighted on the menu list. You will see the currently installed options for each program. To delete items, remove their marks. When you click OK, the items you have changed will be removed.

If, for any reason, you want to reinstall all of your Microsoft Office programs (you may have had a problem with your hard drive, for example, and some files were corrupted), choose Reinstall. Setup determines what programs you originally installed, and will reinstall any files that have been lost or damaged.
## Appendix B

### Index of Common Problems

#### All Office Applications and Application Integration

<table>
<thead>
<tr>
<th>If you have this problem...</th>
<th>You’ll find help here...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black circle with slash appears when trying to copy</td>
<td>p. 593</td>
</tr>
<tr>
<td>Copied text appears in middle of existing text</td>
<td>p. 593</td>
</tr>
<tr>
<td>Copy between documents with drag-and-drop didn’t leave original</td>
<td>p. 593</td>
</tr>
<tr>
<td>Copy of unwanted material appears when I paste</td>
<td>p. 44</td>
</tr>
<tr>
<td>Copy with drag-and-drop didn’t leave original</td>
<td>p. 46</td>
</tr>
<tr>
<td>Document file won’t open</td>
<td>p. 705</td>
</tr>
<tr>
<td>Editions are difficult to track; can’t find where they’re stored, which subscribers have been updated, etc.</td>
<td>p. 651</td>
</tr>
<tr>
<td>Excel data doesn’t line up properly in PowerPoint</td>
<td>p. 710</td>
</tr>
<tr>
<td>Excel worksheet too big to fit in PowerPoint</td>
<td>p. 710</td>
</tr>
<tr>
<td>File name doesn’t appear in File List box</td>
<td>p. 65</td>
</tr>
</tbody>
</table>

(continues)
# All Office Applications and Application Integration

<table>
<thead>
<tr>
<th>If you have this problem...</th>
<th>You’ll find help here...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Find File doesn’t find documents with specified text</td>
<td>p. 574</td>
</tr>
<tr>
<td>Find File doesn’t search specified network drive</td>
<td>p. 574</td>
</tr>
<tr>
<td>Find in Field doesn’t find a record I know exists</td>
<td>p. 690</td>
</tr>
<tr>
<td>Formatted with wrong format</td>
<td>p. 48</td>
</tr>
<tr>
<td>Menu descriptions need to be edited</td>
<td>p. 741</td>
</tr>
<tr>
<td>Menu disappears after pressing <code>⌘ + option + minus sign (-)</code></td>
<td>p. 741</td>
</tr>
<tr>
<td>Menus have been customized</td>
<td>p. 741</td>
</tr>
<tr>
<td>Script: is recalling what routines do</td>
<td>p. 803</td>
</tr>
<tr>
<td>Script syntax has error</td>
<td>p. 802</td>
</tr>
<tr>
<td>Source document changes don’t appear in destination document</td>
<td>pp. 608-609</td>
</tr>
<tr>
<td>Standard toolbar has been modified</td>
<td>p. 738</td>
</tr>
<tr>
<td>Toolbar contains no buttons</td>
<td>p. 738</td>
</tr>
<tr>
<td>Toolbars hard to see on a monochrome monitor</td>
<td>p. 739</td>
</tr>
<tr>
<td>Updated information doesn’t match publisher</td>
<td>p. 652</td>
</tr>
</tbody>
</table>

# Word

<table>
<thead>
<tr>
<th>If you have this problem...</th>
<th>You’ll find help here...</th>
</tr>
</thead>
<tbody>
<tr>
<td>AutoCorrect makes additions without running Spell Checker</td>
<td>p. 127</td>
</tr>
<tr>
<td>AutoFormat doesn’t change document’s formatting</td>
<td>p. 190</td>
</tr>
<tr>
<td>AutoFormatting is part of document</td>
<td>p. 190</td>
</tr>
<tr>
<td>Column is missing on-screen when text is formatted in two columns</td>
<td>p. 108</td>
</tr>
<tr>
<td>If you have this problem...</td>
<td>You'll find help here...</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Data from Excel, Microsoft Works, and ClarisWorks: importing into Word</td>
<td>p. 205</td>
</tr>
<tr>
<td>Deleted or cleared text accidentally</td>
<td>p. 98</td>
</tr>
<tr>
<td>Drag-and-drop pointer appears when I do not want it</td>
<td>p. 98</td>
</tr>
<tr>
<td>File Find cannot find desired file with search criteria</td>
<td>p. 147</td>
</tr>
<tr>
<td>File Find: searching in text for a file</td>
<td>p. 147</td>
</tr>
<tr>
<td>File format for saving not listed in file types</td>
<td>p. 101</td>
</tr>
<tr>
<td>Files: copy, delete, or print multiple files</td>
<td>p. 151</td>
</tr>
<tr>
<td>Formatted text with fonts and alignments changes needs to be changed to original formatting</td>
<td>p. 111</td>
</tr>
<tr>
<td>Formatting quickly in more than one place in document</td>
<td>p. 111</td>
</tr>
<tr>
<td>Grammar Checker stops on spelling changes</td>
<td>p. 131</td>
</tr>
<tr>
<td>Grammar Checker: undoing changes</td>
<td>p. 131</td>
</tr>
<tr>
<td>Justified text has large gaps between words</td>
<td>p. 118</td>
</tr>
<tr>
<td>Line spacing needs to change without changing paragraph spacing</td>
<td>p. 118</td>
</tr>
<tr>
<td>Macro folder cannot be found</td>
<td>p. 219</td>
</tr>
<tr>
<td>Macro recording doesn’t record mouse steps</td>
<td>p. 218</td>
</tr>
<tr>
<td>Macro: moving from Normal template to another template</td>
<td>p. 219</td>
</tr>
<tr>
<td>Margins cannot be set accurately with ruler in Print Preview</td>
<td>p. 134</td>
</tr>
<tr>
<td>Outline doesn’t display body text when outline is collapsed</td>
<td>p. 180</td>
</tr>
<tr>
<td>Outline levels: printing only certain levels</td>
<td>p. 182</td>
</tr>
<tr>
<td>Pasted selected text in wrong place</td>
<td>p. 98</td>
</tr>
</tbody>
</table>

(continues)
<table>
<thead>
<tr>
<th>Word Continued</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>If you have this problem...</strong></td>
<td><strong>You’ll find help here...</strong></td>
</tr>
<tr>
<td>Printing an 8 1/2-by-14-inch document</td>
<td>p. 122</td>
</tr>
<tr>
<td>Printing data without printing data form</td>
<td>p. 135</td>
</tr>
<tr>
<td>Printing leaves off edges of text</td>
<td>p. 122</td>
</tr>
<tr>
<td>Printing only selected pages</td>
<td>p. 134</td>
</tr>
<tr>
<td>Printing to a different printer</td>
<td>p. 135</td>
</tr>
<tr>
<td>Saving a document that was created in another file format</td>
<td>p. 101</td>
</tr>
<tr>
<td>Screen doesn’t display enough of document to edit</td>
<td>p. 108</td>
</tr>
<tr>
<td>Screen redraws slowly with many fonts and graphics</td>
<td>p. 108</td>
</tr>
<tr>
<td>Selecting text difficult with mouse</td>
<td>p. 94</td>
</tr>
<tr>
<td>Spell Checker must ignore words with numbers</td>
<td>p. 127</td>
</tr>
<tr>
<td>Spelling dictionary (custom) needs editing</td>
<td>p. 127</td>
</tr>
<tr>
<td>Spinning ball icon on-screen</td>
<td>p. 151</td>
</tr>
<tr>
<td>Summary Info has title even though you didn’t add title</td>
<td>p. 142</td>
</tr>
<tr>
<td>Summary Info limit on number of keywords</td>
<td>p. 142</td>
</tr>
<tr>
<td>Tab and indent settings for a paragraph needed</td>
<td>p. 118</td>
</tr>
<tr>
<td>Table: adding another column at the right side</td>
<td>p. 201</td>
</tr>
<tr>
<td>Table: inserted rows or columns in wrong place</td>
<td>p. 201</td>
</tr>
<tr>
<td>Template’s style names cannot be found</td>
<td>p. 190</td>
</tr>
<tr>
<td>Thesaurus: going back to the last word looked up</td>
<td>p. 129</td>
</tr>
<tr>
<td>Thesaurus: reverting to the original word</td>
<td>p. 129</td>
</tr>
<tr>
<td>Typed text doesn’t appear on-screen</td>
<td>p. 94</td>
</tr>
<tr>
<td>Wizard is not listed in the New dialog box</td>
<td>p. 193</td>
</tr>
</tbody>
</table>
## Excel

<table>
<thead>
<tr>
<th>If you have this problem...</th>
<th>You’ll find help here...</th>
</tr>
</thead>
<tbody>
<tr>
<td>###### appears in a filled cell</td>
<td>pp. 235 &amp; 276</td>
</tr>
<tr>
<td>#NAME? displays in a cell with a formula</td>
<td>p. 319</td>
</tr>
<tr>
<td>#NAME? displays in a cell with a function</td>
<td>p. 311</td>
</tr>
<tr>
<td>Aligning characters vertically hides display of some characters</td>
<td>p. 284</td>
</tr>
<tr>
<td>AutoFill fills the entire range with the same data</td>
<td>p. 245</td>
</tr>
<tr>
<td>AutoFill fills with wrong increment</td>
<td>p. 245</td>
</tr>
<tr>
<td>AutoFill won’t copy a range of data</td>
<td>p. 257</td>
</tr>
<tr>
<td>AutoFormat displays a message saying it cannot detect a table</td>
<td>p. 289</td>
</tr>
<tr>
<td>AutoSum does not produce a total</td>
<td>p. 311</td>
</tr>
<tr>
<td>Cell entry isn’t displayed after color change</td>
<td>p. 289</td>
</tr>
<tr>
<td>Centering a selection across a range doesn’t work</td>
<td>p. 284</td>
</tr>
<tr>
<td>Chart commands with chart embedded in worksheet</td>
<td>p. 352</td>
</tr>
<tr>
<td>Chart formats are lost when using AutoFormat</td>
<td>p. 352</td>
</tr>
<tr>
<td>Chart needs to display without legend</td>
<td>p. 352</td>
</tr>
<tr>
<td>Column headings are sorted with data in list</td>
<td>p. 365</td>
</tr>
<tr>
<td>Data Form command displays error message that no list was found</td>
<td>p. 360</td>
</tr>
<tr>
<td>Date converted to a number</td>
<td>p. 237</td>
</tr>
<tr>
<td>Drag-and-drop copies cells instead of moving them</td>
<td>p. 258</td>
</tr>
<tr>
<td>Drag-and-drop won’t copy data</td>
<td>p. 256</td>
</tr>
<tr>
<td>Error in a formula</td>
<td>p. 305</td>
</tr>
<tr>
<td>Filtered list doesn’t display any records</td>
<td>p. 365</td>
</tr>
</tbody>
</table>

(continues)
<table>
<thead>
<tr>
<th><strong>If you have this problem...</strong></th>
<th><strong>You’ll find help here...</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula appears as a cell label instead of calculating</td>
<td>p. 237</td>
</tr>
<tr>
<td>Formula used to calculate range doesn’t calculate properly</td>
<td>p. 236</td>
</tr>
<tr>
<td>Formula with name treated as a text entry</td>
<td>p. 320</td>
</tr>
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