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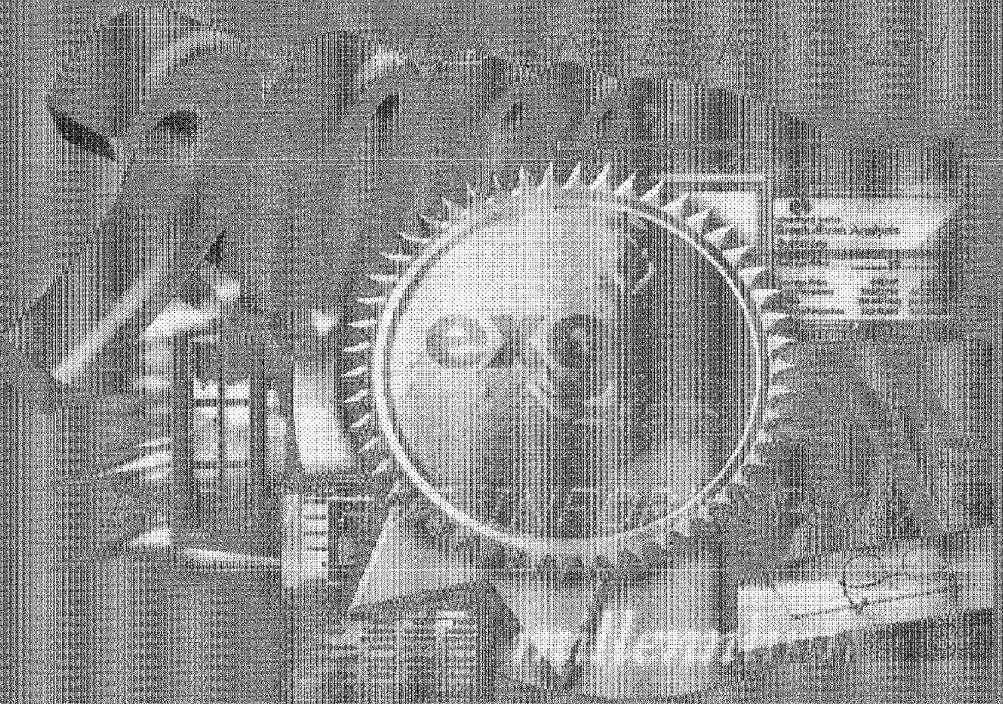
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# Microsoft Excel 2000

# Bible

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- PDF Version of the full book
- Internet Directory

John Walkenbach

# Microsoft® Excel 2000 Bible

John Walkenbach



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## About the Author

**John Walkenbach** is one of the country's leading authorities on spreadsheet software. He holds a Ph.D. from the University of Montana and has worked as an instructor, programmer, and market research manager. He finally found a job he's good at: principal of JWalk and Associates Inc., a one-person San Diego-based consulting firm that specializes in spreadsheet application development. John is also a shareware developer, and his most popular product is the award-winning Power Utility Pak add-in for Excel — which is used by thousands of people throughout the world. John started writing about spreadsheets in 1984, and he has since written more than 250 articles and reviews for publications such as *PC World*, *InfoWorld*, *Windows* magazine, and *PC/Computing*. In addition, he's the author of a dozen other spreadsheet books, including *Excel 2000 Power Programming Techniques*, *Excel Programming For Dummies*, and *Excel 2000 For Windows For Dummies Quick Reference* (all from IDG Books Worldwide). In his spare time, John enjoys digital photography and composing and playing music in a variety of styles. John also maintains "The Spreadsheet Page" on the Web. Pay him a visit at <http://www.j-walk.com>.

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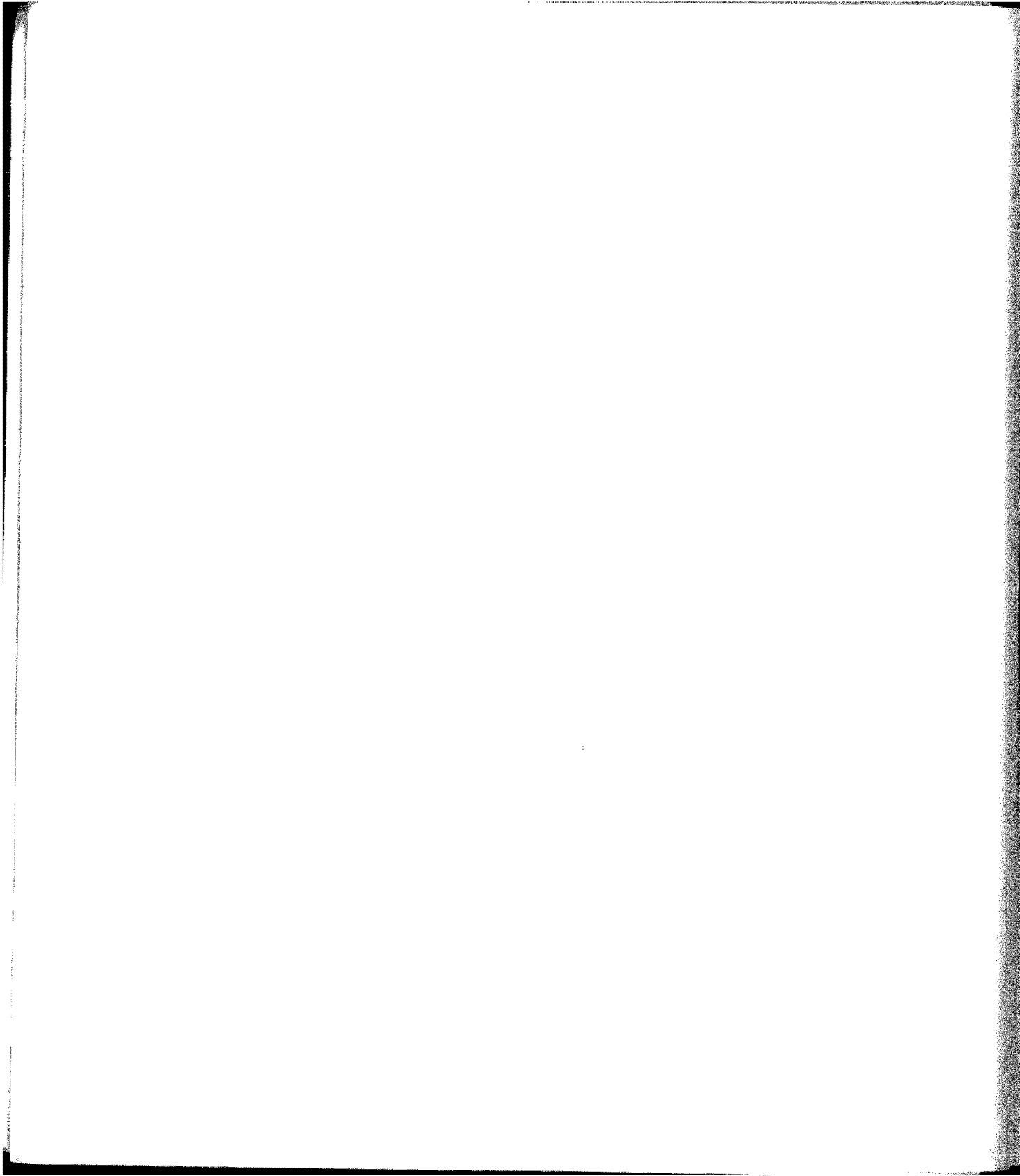
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# Preface

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**T**hanks for purchasing the *Microsoft Excel 2000 Bible* — your complete guide to a powerful and easy-to-use spreadsheet product.

I think that Excel 2000 is the best spreadsheet program on the market (trust me — I've used them all). Excel has been around in various incarnations for almost a decade, and each subsequent release pushes the spreadsheet envelope a bit further — in some cases, a *lot* further. My goal in writing this book is to share with you some of what I know about Excel, and in the process make you more efficient on the job.

The book contains everything that you need to know to learn the basics of Excel and then move on to more advanced topics at your own pace. You find many useful examples as well as some of the tips and slick techniques that I've accumulated over the years.

## Is This Book for You?

The Bible series from IDG Books Worldwide is designed for beginning, intermediate, and advanced users. This book covers all the essential components of Excel and provides clear and practical examples that you can adapt to your own needs.

Excel can be used at many levels — from the simple to the extremely complex. I've drawn a good balance here, focusing on the topics that are most useful to most users. The following answers whether this book is for you:

### **Yes — If you have no spreadsheet experience**

If you're new to the world of spreadsheets, welcome to the fold. This book has everything that you need to get started with Excel and then advance to other topics as the need arises.

### **Yes — If you have used previous versions of Excel**

If you've used Excel 97, you're going to feel right at home with Excel 2000. If you're skipping a few upgrades and moving up from Excel 5 or Excel 95, you have lots to learn, because Microsoft has made many improvements in the past few years. In any case, this book can get you up to speed quickly.



**Yes—If you have used Excel for the Macintosh**

The Macintosh versions of Excel are very similar to the Windows versions. If you're moving over from the Mac platform, you'll find some good background information as well as specific details to make your transition as smooth as possible.

**Yes—If you have used DOS versions of 1-2-3 or Quattro Pro**

If you're abandoning a text-based spreadsheet such as 1-2-3 or Corel's Quattro Pro in favor of a more modern graphical product, this book can serve you well. You have a head start, because you already know what spreadsheets are all about, and you'll discover some great new ways of doing things.

**Yes—If you have used Windows versions of 1-2-3 or Quattro Pro**

If you've tried the other versions and are convinced that Excel is the way to go, this book quickly teaches you what Excel is all about and why it has such a great reputation. Because you're already familiar with Windows *and* spreadsheets, you can breeze through many introductory topics.

## Software Versions

This book is written for Excel 2000 (also known as Excel 9), but much of the information also applies to Excel 97, Excel 95, and Excel 5. If you use any version of Excel prior to Version 5, be aware that the earlier versions are drastically different from the current version.

## Conventions Used in This Book

Take a minute to scan this section to learn some of the typographical conventions that are used in this book.

### Named Ranges and Your Input

Input that you type from the keyboard appears in **bold**. Named ranges may appear in a code font. Lengthy input usually appears on a separate line. For instance, I may instruct you to enter a formula such as the following:

```
= "Part Name: " & VLOOKUP(PartNumber, PartList, 2)
```

## Key Names

Names of the keys on your keyboard appear in normal type. When two keys should be pressed simultaneously, they are connected with a plus sign, like this: Press Alt+E to select the Edit menu. Here are the key names as I refer to them in the book:

Alt	down arrow	Num Lock	right arrow
Backspace	End	Pause	Scroll Lock
Caps Lock	Home	PgDn	Shift
Ctrl	Insert	PgUp	Tab
Delete	left arrow	Print Screen	up arrow

## Functions

Excel's built-in worksheet functions appear in uppercase, like this: Enter a SUM formula in cell C20.

## Mouse Conventions

I assume that you're using a mouse or some other pointing device. You come across some of the following mouse-related terms:

- ◆ **Mouse pointer:** The small graphic figure that moves onscreen when you move your mouse. The mouse pointer is usually an arrow, but it changes shape when you move to certain areas of the screen or when you're performing certain actions.
- ◆ **Point:** Move the mouse so that the mouse pointer is on a specific item. For example, "Point to the Save button on the toolbar."
- ◆ **Press:** Press the left-mouse button once and keep it pressed. Normally, this is used when dragging.
- ◆ **Click:** Press the left mouse button once and release it immediately.
- ◆ **Right-click:** Press the right-mouse button once and release it immediately. The right-mouse button is used in Excel to pop up shortcut menus that are appropriate for whatever is currently selected.
- ◆ **Double-click:** Press the left-mouse button twice in rapid succession. If your double-clicking doesn't seem to be working, you can adjust the double-click sensitivity by using the Windows Control Panel icon.
- ◆ **Drag:** Press the left-mouse button and keep it pressed while you move the mouse. Dragging is often used to select a range of cells or to change the size of an object.

## What the Icons Mean

Throughout the book, you see special graphic symbols, or *icons*, in the left margin. These call your attention to points that are particularly important or relevant to a specific group of readers. The icons in this book are as follows:



This symbol denotes features that are new to Excel 2000.



This icon signals the fact that something is important or worth noting. This may alert you to a concept that helps you to master the task at hand, or it may denote something that is fundamental to understanding subsequent material.



This icon marks a more efficient way of doing something that may not be obvious.



This indicates that the material uses an example file located on this book's companion CD-ROM.



I use this symbol when there is a possibility that the operation I'm describing could cause problems if you're not careful.



This icon indicates that a related topic is discussed elsewhere in this book.

## How This Book Is Organized

Notice that the book is divided into six main parts, followed by four appendixes.

**Part I: Getting Started**—This part consists of three chapters that provide background about Excel. Chapter 2 describes the new features in Excel 2000. Chapter 3 is a hands-on guided tour of Excel, which gives new users an opportunity to get their feet wet immediately.

**Part II: Introductory Concepts**—The chapters in Part II cover the basic concepts with which all Excel users should be familiar.

**Part III: Advanced Features**—This part consists of six chapters dealing with topics that are sometimes considered advanced. Many beginning and intermediate users may find this information useful, as well.

**Part IV: Analyzing Data**—The broad topic of data analysis is the focus of the chapters in Part IV. Users of all levels will find some of these chapters of interest.

**Part V: Other Topics**— This part consists of three chapters that didn't quite fit into any other part. The chapters deal with using Excel with other applications, auditing and proofing your work, and exploring the fun side of Excel (yes, Excel *does* have a fun side).

**Part VI: Customizing Excel**— Part VI is for those who want to customize Excel for their own use or who are designing workbooks or add-ins that are to be used by others. It's a good introduction to Visual Basic for Applications (VBA).

**Appendixes**— The appendixes consist of supplemental and reference material that may be useful to you.

## How to Use This Book

This book is not intended to be read cover to cover. Rather, it's a reference book that you can consult when:

- ◆ You're stuck while trying to do something.
- ◆ You need to do something that you've never done before.
- ◆ You have some time on your hands, and you're interested in learning something new.

The index is quite comprehensive, and each chapter typically focuses on a single broad topic. If you're just starting out with Excel, I recommend that you read the first three chapters to gain a basic understanding of the product, and then do some experimenting on your own. After you've become familiar with Excel's environment, you can refer to the chapters that interest you the most. Some users, however, may prefer to follow the chapters in order. Part II is designed with these users in mind.

Don't be discouraged if some of the material is over your head. Most users get by just fine using only a small subset of Excel's total capabilities. In fact, the 80/20 rule applies here: 80 percent of Excel users use only 20 percent of its features. However, using only 20 percent of Excel's features still gives you *lots* of power at your fingertips.

## About the CD-ROM

You'll find that my writing style emphasizes examples. I know that I learn more from a well-thought-out example than from reading a dozen pages. I've found that this is true for many other people. Consequently, I spent a lot of time developing the examples in this book. These example files are available on the companion CD-ROM.

Appendix D describes the material on the CD-ROM.

## Power Utility Pak Coupon

Toward the back of the book, you'll find a coupon that you can redeem for a copy of my Power Utility Pak software—a collection of useful Excel utilities and new worksheet functions. This product normally sells for \$39.95, but I'm making it available to readers of this book for only \$9.95, plus shipping and handling. I developed this package by using VBA exclusively, and the complete source files are also available for those who want to learn slick VBA techniques.

I think that the Power Utility Pak is extremely useful in your day-to-day work with Excel, and I urge you to take advantage of this offer.

## Contacting the Author

I'm always happy to hear from readers of my books. The best way to contact me is by e-mail at the following Internet address:

`john@j-walk.com`

I get lots of e-mail, so I can't promise a personal reply.

## Visit "The Spreadsheet Page"

For even more information on Excel, be sure to check out "The Spreadsheet Page" on the World Wide Web. The URL is:

`http://www.j-walk.com/ss/`

# Acknowledgments

---

Thanks to everyone at IDG Books Worldwide who played a part in getting this book into your hands. Especially, thanks to Tracy Brown and Valerie Perry; without their able assistance, I'd still be pounding away at my keyboard.

Thanks also to all the people throughout the world who have taken the time to let me know that my books have made an impact. My goal is to write books that go well beyond the material found in competing books. Based on the feedback that I've received, I think I'm succeeding. Writing software books may not be the most glamorous job — but I can't think of anything else I'd rather be doing.



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# Getting Started

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P A R T

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## In This Part

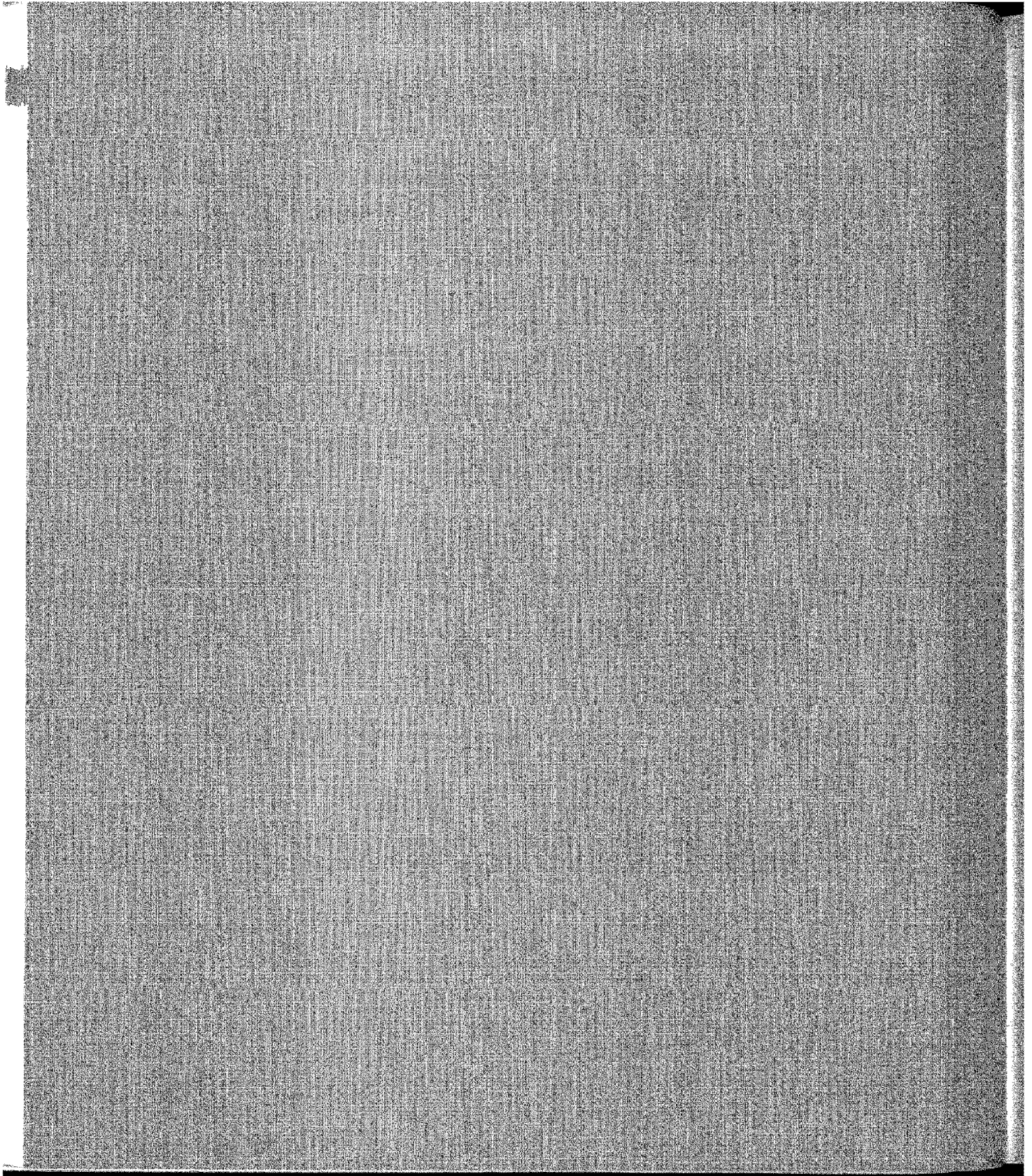
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A Bit of Background

**Chapter 2**  
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2008

**Chapter 3**  
Getting Acquainted  
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# A Bit of Background

---

**E**very book has to start somewhere. This chapter starts from square one by introducing you to the concept of a spreadsheet. Also included is a lot of interesting background information about Excel and Windows.

## What Is Excel?

Excel is a software product that falls into the general category of spreadsheets. Excel is one of several spreadsheet products that you can run on your PC. Others include 1-2-3 and Quattro Pro.

A *spreadsheet* (including Excel) is a highly interactive computer program that consists of a collection of rows and columns displayed onscreen in a scrollable window. The intersection of each row and column is called a *cell*, which can hold a number, a text string, or a formula that performs a calculation by using one or more other cells. Copying and moving cells and modifying formulas is easy with a spreadsheet.

A spreadsheet can be saved in a file for later use or discarded after it has served its intended purpose. The cells in a spreadsheet can be formatted in various ways and printed for hard-copy reference. In addition, groups of numerical cells can be used to generate charts and maps.

The most significant advantage of an electronic spreadsheet is that the formulas recalculate their results if you change any of the cells that they use. As a result, after you set up your spreadsheet by defining formulas, you can use this "model" to explore different possibilities, with very little additional effort. Excel is currently the best-selling Windows spreadsheet — and I hope to explain why in this book.

## CHAPTER

### In This Chapter

What Is Excel?

The Evolution of Excel

Excel's Competitors

What Excel Has to Offer

## The Evolution of Excel

Excel 2000 is actually Excel 9 in disguise.

A bit of rational thinking might lead you to think that this is the ninth version of Excel. Think again! Microsoft may be a successful company, but its version-naming techniques can be quite confusing. As you'll see, Excel 2000 actually is the seventh version of Excel.

### Excel 2

Excel 2 was the original version of Excel for Windows, which first appeared in late 1987. It was labeled Version 2 to correspond to the Macintosh version, which was the original Excel. Because Windows wasn't in widespread use at the time, Version 2 included a *run-time* version of Windows—a special version with just enough features to run Excel and nothing else. This version was quite crude by today's standards and was actually quite ugly.

### Excel 3

At the end of 1990, Microsoft released Excel 3 for Windows. This was a significant improvement in both appearance and features. It included toolbars, drawing capabilities, worksheet outlining, add-in support, 3D charts, workgroup editing, and lots more.

### Excel 4

Excel 4 hit the streets in the spring of 1992. This version made quite an impact in the marketplace, because Windows was becoming more popular. It had lots of new features, many of which made it easier for beginners to get up to speed quickly.

### Excel 5

In early 1994, Excel 5 appeared on the scene. This version introduced tons of new features, including multisheet workbooks and the new Visual Basic for Applications (VBA) macro language. Like its predecessor, Excel 5 took top honors in just about every spreadsheet comparison that was published in the trade magazines.

### Excel 7

Technically, this version was called Excel for Windows 95 (there was no Excel 6). It began shipping in the summer of 1995. On the surface, this version wasn't that

much different from Excel 5, and included only a few major new features. But Excel 7 was significant, because it was the first version to use the more advanced 32-bit code. Excel 7 and Excel 5 used the same file format.

## Excel 8

Excel 8 (officially known as Excel 97) was probably the most significant Excel upgrade ever. The toolbars and menus had a great new look, online help took a dramatic step forward, and the number of rows available in a worksheet quadrupled. Developers were pleased to discover that Excel's programming language (VBA) improved significantly in Excel 97.

## Excel 9

Excel 9 (better known as Excel 2000) is the topic of this book (although most of the material is also relevant to Excel 97). Excel 2000 has quite a few enhancements, but its most significant advancement is the capability to use HTML as a standard file format. Chapter 2 provides a list of all the new features in Excel 2000.

## Excel's Competitors

Although Excel is usually considered the best spreadsheet available, it does have competitors, the two main ones being 1-2-3 and Quattro Pro.

The three leading spreadsheets are similar in their basic capabilities. For example, they all let you work with multiple worksheets in a single file; they all support a wide variety of charts; and they all have macro capabilities to help you automate or customize your work.

Many users, myself included, find that Excel is superior to the other products in both power and ease of use.

## What Excel Has to Offer

Excel is a feature-rich product that can be used at many different levels. Chances are good that you won't need all of Excel's features, but you should become generally familiar with what they can do. Otherwise, you could seek another software product to accomplish a particular task, and not even realize that Excel has a feature that can accomplish it. Or, you could spend lots of time performing a task manually that Excel can handle automatically.

The following is a quick overview of what Excel can do for you. All of these topics are discussed in subsequent chapters of this book.

## Multisheet Files

Excel's files (called *workbooks*) can consist of any number of separate sheets, and you access these sheets by clicking a notebook-like tab. The sheets can be worksheets or chart sheets. This feature makes organizing your work easy. For example, you can keep all of your budgeting spreadsheets in a single workbook.

## Multiple Document Interface

Excel enables you to work with many files simultaneously; you don't have to close a file to consult another file (see Figure 1-1). This capability enables you to transfer information easily between worksheets in different workbooks.

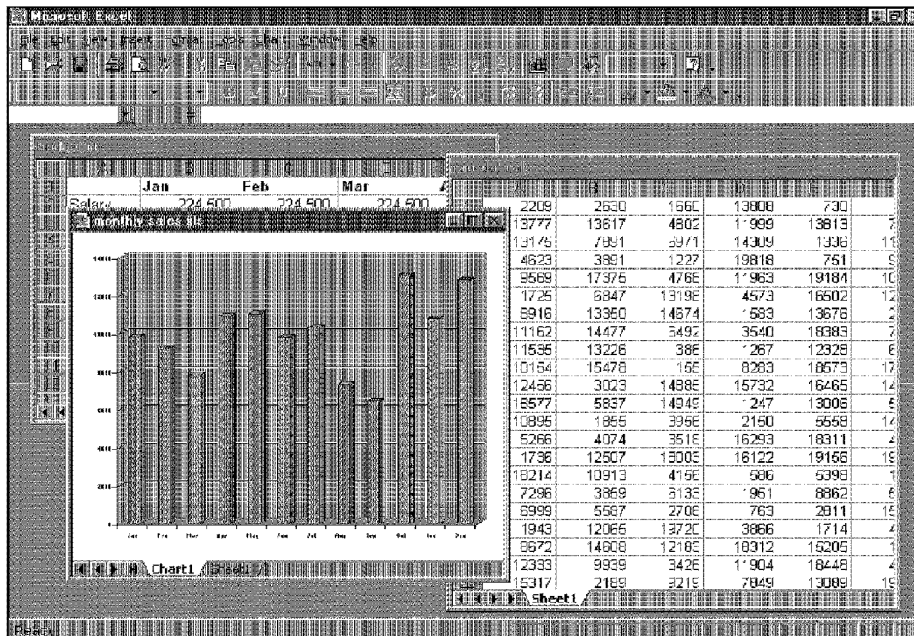


Figure 1-1: Excel enables you to work with as many different files as you need.

## File Compatibility

Excel has its own file format, identifiable by the XLS file extension. In addition, Excel can read files produced by other spreadsheet programs (such as 1-2-3 and Quattro Pro), and it can read text files, dBASE files, and HTML documents.

## Interactive Help

Computer documentation keeps getting better. In the past, users were lucky if the manual that accompanied a software product accurately covered all the features. Nowadays, the trend is away from written manuals and toward online help. Almost all applications, including Excel, emphasize *online help*—in other words, you can get help onscreen while working in Excel. Excel's online help is excellent and extremely detailed.

Figure 1-2 shows the Office Assistant, which serves several purposes, including:

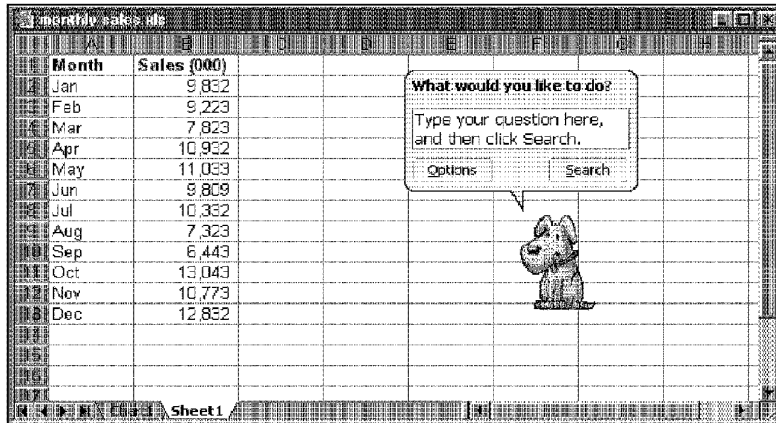
- It observes your actions and stores up a series of tips, which can save you time. You can choose to view these tips whenever you want.
- It provides specific help with certain aspects of the program (for example, creating charts).
- If you enter an invalid formula, it will often make a suggestion on how to correct it.
- It provides an easy way to search for help on a particular topic. Just enter your question in natural language, and the Office Assistant displays a list of relevant help topics.

## Easy-to-Use Features

Excel may well be the easiest-to-use spreadsheet available. It includes many features designed specifically to make commonly performed tasks straightforward and fast for both beginners and experts. The program walks you step by step through several procedures, and basic editing and formatting commands are intuitive and efficient. For example, a single dialog box enables you to change any aspect of formatting for a cell or range, and right-clicking anything brings up a context-sensitive shortcut menu.

## List Management

Among Excel's most significant strengths is how well it works with lists stored in a worksheet. This feature makes it easy to sort, filter, summarize, and manipulate data stored in your worksheet.



**Figure 1-2:** The Office Assistant pops up to provide help when needed.

## Built-in Functions

Excel includes an enormous collection of built-in functions that you can use in your formulas. In addition to common functions, such as SUM and AVERAGE, you can choose functions that perform sophisticated operations that otherwise are difficult or impossible to do. For example, the CORREL function calculates the correlation coefficient for two sets of data. You also can develop other functions by using the VBA macro language (it's not as difficult as you may think).

## Customizable Toolbars

Excel's *toolbars* — groups of buttons representing commands — are real time-savers, enabling you to perform common commands without using the menu. You can customize your toolbars by adding buttons for tasks that you do most often. To find out what a button does, drag the mouse over a toolbar button and pause for a second. Excel pops up a brief description of the button.

Beginning with Excel 97, the menu bar at the top of the screen is actually a toolbar. As such, you can easily customize it or even move it to a different location on the screen.

## Flexible Text Handling

Although Excel's forte is number crunching, it's not too shabby at handling text. You can format or orient text that you put in cells. You also can insert text boxes (which you can move and resize) anywhere on your worksheet.

## Rich Text Formatting

Excel is the only spreadsheet that enables you easily to format individual characters within a cell. For example, if a cell contains text, you can make one letter bold or a different color.

## Great Charts

Excel's charting features — among the best available in any spreadsheet — enable you to modify and augment a wide assortment of graph types. You can insert a chart anywhere in a worksheet or place it on a special chart sheet.

## Integrated Mapping

Excel's mapping feature lets you display your data in the form of a geographic map (see Figure 1-3). For example, you can easily create an attractive map that shows your company's sales volume by state.

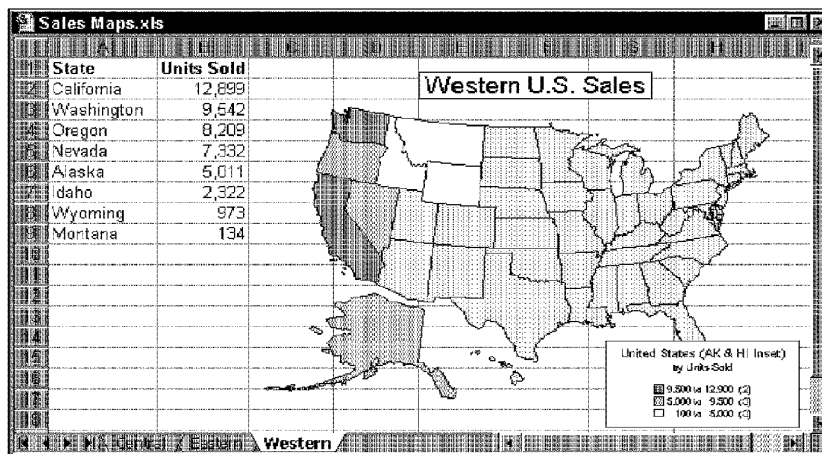


Figure 1-3: This map was generated with only a few mouse clicks.

## Drawing Tools

Excel includes an excellent set of drawing tools that enables you to create attractive diagrams and basic drawings directly on your worksheet or chart. For example, you can include a simple flow diagram along with your numerical analysis.



## Worksheet Outlining

Spreadsheet outlining enables you to collapse hierarchical information to show any level of detail. People who work with multilevel budgets will find this feature particularly valuable.

## Pivot Tables

A pivot table makes it easy to change how you view a table of data. A pivot table can quickly summarize a list or database, and you can use drag-and-drop techniques to change the layout of the table. If you work with multidimensional data, you should check out this powerful feature — which I consider to be one of Excel's major strengths.

## Advanced Analytical Tools

Analytical types will be particularly excited about Excel's unique *array* feature, which enables you to do things that are impossible in other spreadsheets. Excel also includes goal seeking, a powerful Solver feature, and the Analysis ToolPak add-in, which provides extensive statistical, financial, engineering, and scientific functions and procedures.

## Flexible Printing and Print Preview

When you are ready to put your work on paper, you'll be pleased to see how easy it is. Besides normal WYSIWYG (*What You See Is What You Get*) formatting, Excel provides a handy print preview feature. From the preview window, you can easily make last-minute adjustments, including new column widths and margins. In addition, a Page Break Preview mode lets you adjust the page breaks by using simple dragging techniques.

## Worksheet Auditing and Annotation

No one's perfect, but Excel can help you get closer to that goal. Excel provides a variety of auditing tools to help you track down errors and potential errors in your worksheet formulas.

A feature in Excel automatically displays comments attached to cells when the user drags the mouse over a cell that contains a comment. This is an excellent way to remind others (or yourself) what a particular cell represents.

## Scenario Management

Spreadsheets are often used for *what-if analysis*—change one or more assumptions and observe the effects on dependent formulas. Excel simplifies this process with its scenario manager.

You can name scenarios, switch among scenarios (with just a few mouse clicks), and generate reports that summarize the results of your scenarios.

## Spell Checking and AutoCorrect

An integrated spell checker spots spelling errors in your worksheets and charts, so you need never again display a chart titled “Bugdet Review” in a crowded boardroom.

Excel has borrowed a handy feature, AutoCorrect, from Microsoft Word. This corrects many types of input errors as you type. For example, if you enter *Budget* into a cell, Excel automatically changes the second letter to a lowercase *u*. You can also use this feature to develop your own shorthand. For example, you can instruct Excel to replace IWC with International Widget Corporation.

## Templates

If your work tends to fall into a few specific categories, it may be worth your time to set up custom spreadsheet *templates*, which are preconfigured shells that include text, row, and column headings, as well as formats, column widths, macros, and so on. You can use these templates to help create similar spreadsheets.

Excel has a Template Wizard that walks you through the steps required to create a custom template. Excel also includes a few handy templates that you may find useful. An example of such a template is shown in Figure 1-4.

## Database Management

You can work with spreadsheet data as if Excel were a database. Excel features all the standard database commands and enables you to work with databases that are stored in external files.

## XLM Macro Compatibility

In older versions of Excel, you could create macros by using special macro functions in XLM documents. Although Visual Basic for Applications is a much better macro language, Excel 2000 still supports XLM macros. This means that you can continue to run macros that were developed for older versions of Excel (Excel 4 and earlier).

**Expense Statement1**

**COMPANY NAME** State

Company Address  
City, State ZIP Code  
Phone Number fax Fax Number

---

**Employee**

Name Emp #  
SSN Position  
Department Manager

Date	Account	Description	Accoun	Transport	Fuel	Meals	Phone	Entertain

**Figure 1-4:** Expense Statement1 is one of several templates included with Excel 2000.

## Visual Basic for Applications (VBA)

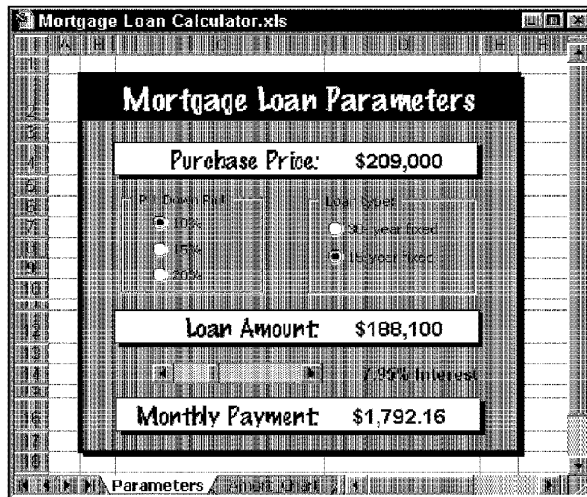
VBA is a powerful programming language that is built right into Excel (as well as several other Microsoft products). After you learn VBA's ropes, you can do magic with your Excel workbooks.

## Custom Dialog Boxes

Excel makes it very easy to create custom dialog boxes (also known as user forms). Custom dialog boxes usually are used in conjunction with VBA macros that you write.

## Worksheet Controls

With Excel, you can insert functional “dialog box” controls (such as buttons, scrollbars, list boxes, and check boxes) directly on your worksheet. You can even link these controls to cells without using macros. Figure 1-5 shows an example of such controls.



**Figure 1-5:** You can add functional controls, such as buttons, scrollbars, list and check boxes, directly to your worksheet to make it easier to use.

## Protection Options

If you need to keep others (or yourself) from modifying your worksheet, you'll find that Excel offers a variety of protection techniques. For example, you can protect cells that contain formulas, to eliminate the possibility of accidentally deleting an important formula.

## Add-In Capability

Excel supports add-ins — a feature that lets you enhance the program's functionality. Excel includes several add-ins, and you can use VBA to create your own add-ins.

## OLE Support

Excel supports Microsoft's Object Linking and Embedding (OLE) technology, which makes data sharing easier than ever. For example, you can embed a Word for Windows document in a worksheet and then access all of the features of Word right in your worksheet.

## Internet Support

Excel 2000 includes a variety of features that make it easy to access Internet documents, save and retrieve documents stored in HTML format, and create hyperlinks directly in your spreadsheet documents.

## Cross-Platform Consistency

Excel runs on the Macintosh and the PC (in Windows); in fact, the versions are very similar across the two platforms. If you learn the Windows version, you can move to a Mac and feel right at home.

## Summary

This chapter introduces the concept of a spreadsheet, presents a brief history of Excel, and examines Excel's evolution within the Microsoft environment. The bulk of the chapter provides an overview of Excel's key features — all of which are covered in subsequent chapters.

• .....

# What's New in Excel 2000?

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**E**very new release of Excel is a big event for Excel fans, and Excel 2000 is certainly no exception. Although it doesn't add too many new features (compared to Excel 97), it's by far the best version yet. In this chapter I provide an overview of what's new, what's gone, and what's changed compared to Excel 97.

## Installation Improvements

If you've installed previous versions of Excel, you'll notice that Excel 2000 provides a new "intelligent" installation wizard. If you have a previous version installed, you'll get a choice to perform either a similar install or a standard installation. If you choose the former, all of your previous settings will be transferred to Excel 2000.

You also have quite a bit more flexibility in selecting which features to install. Even if you omit a few key features during the initial installation, they will still appear on the menus. If you attempt to access an uninstalled component, you'll get a prompt asking you if you want to install it. Even better, if your installation somehow gets messed up — a critical file gets deleted, for example — the new self-repair feature will detect that fact and re-install the missing file.

# 2

C H A P T E R

## In This Chapter

Installation Improvements

New Internet Features

PivotTable Enhancements

Automatic Formula Adjustment

Personalized Menus

## New Internet Features

Most of the new features in Excel 2000 deal with the Internet.

- **HTML file format:** If you like, you can use HTML as a “native” file format for your Excel work. In other words, you can save a workbook as an HTML file and then re-open it without losing anything. Unless your work needs to be on a corporate intranet, you’re much better off sticking with the normal XLS format.
- **Save to a server:** Excel 2000 makes it very easy to save a workbook directly to an intranet or an ISP host. In fact, if the server is running Microsoft’s FrontPage Server Extensions, it’s as easy as saving to a local or network drive. If end users are running Internet Explorer 4.0 or a later version, they can manipulate Excel data (for example, pivot tables, charts, and worksheets) within the browser.
- **Web discussions:** Use the Discussion toolbar to insert and navigate between comments. You can create discussions about the document, or online discussions specific to a paragraph. You can reply, edit, or delete from a right-clicked context menu. Comments are indented as in the threaded discussion model common on the Internet, and are threaded with the contributor’s name, date, and time stamp.
- **Web subscription and notification:** This lets you configure documents and folders to trigger e-mail or Internet Explorer channel updates when a document or related discussion is added, changed, or deleted. You can set notification as daily, weekly, or “within a few minutes.” The message provides the date and time, the name of the editor, the document’s URL, and a link you can click to cancel further notifications. New comments and replies to remote documents are tracked, but you can’t subscribe to e-mail updates on the remote documents and folders themselves.



I discuss these features in Chapter 30.

## New File Dialog Boxes

The dialog boxes that are displayed when you select File • Save or File • Open have been redesigned so you can see more files at one time and access them more quickly. You can use the icons in the new “Look in” bar along the left side to get to the folders and locations you use the most. Click the History icon to see the last 20–50 documents and folders you have worked with, and then click the Back button to easily return to folders you have recently visited.

## PivotTable Enhancements

Excel's PivotTable feature is an extremely useful tool for summarizing data. Excel 2000 adds some new twists:

- **Streamlined PivotTable Wizard:** Creating pivot tables is faster than ever. The new PivotTable toolbar displays the file names, and you can simply drag them to your pivot table.
- **PivotChart:** Pivot tables can also now be charted. PivotChart dynamic views are linked to PivotTable.

## Automatic Formula Adjustment

Excel 2000 will automatically adjust formulas when you insert a new row directly above the formula. For example, assume you have the following formula in cell A5, which sums the values in A1:A4:

```
=SUM(A1:A4)
```

If you insert a new row directly above row 5 and enter a value into cell A5, the formula adjusts automatically to:

```
=SUM(A1:A5)
```



In most cases, automatic formula adjustment is exactly what you want. In other cases, however, this can cause the formula to display an incorrect result.

## See-Through Cell Selection

A common complaint among Excel users has been the fact that selecting a cell or range obscures the colors in the cells. Excel 2000 finally addresses that complaint, and now uses a different way of highlighting selected ranges. Now you can still see the colors when you select a range.

## Personalized Menus

In an attempt to simplify your life, Excel 2000 is capable of adjusting its menus to your work habits. It does so by displaying only the menu items you use most frequently. You still have access to all commands, of course. At the bottom of the drop-down menu are arrows that can be clicked open to reveal additional menu choices.

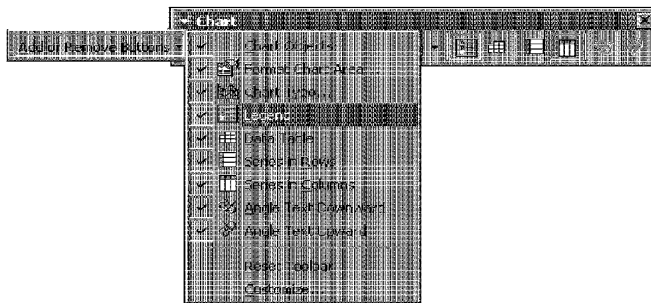


Over time, Excel will learn which application features you use most often and then display them higher on the menu list. Less commonly used features are demoted and eventually disappear.

Although some users may see this as a usability enhancement, I think moving the menu commands around is bound to cause confusion. Fortunately, you can turn this feature off. Select View • Toolbars • Customize, then click the Options tab. Remove the checkmark from the option labeled Menus show recently used commands first.

## Easier Toolbar Customization

Excel, of course, is big on toolbars. If you find that you never use some of the buttons on a particular toolbar, it's very easy to remove them. Toolbars now have a small down-pointing arrow button that, when clicked, displays a button labeled Add or Remove Buttons. Click this button to reveal a list of buttons in the toolbar (see Figure 2-1). Simply remove the checkmark to hide a button.



**Figure 2-1:** Excel 2000 makes it very easy to customize toolbars by showing only the buttons you need.

## Documents on the Windows Taskbar

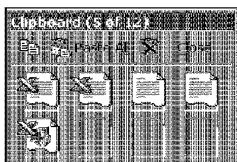
If you use Windows 98, each Excel document appears as a separate task in the Windows taskbar.

## Enhanced Clipboard

Excel 2000 (along with the other members of Office 2000) uses a special Office clipboard. This enhanced clipboard supports a feature known as “collect and

paste” — the ability to store information from several sources and then selectively paste it to a new location.

The Clipboard toolbar (see Figure 2-2) displays icons for each item copied. Unfortunately, this enhanced clipboard only works with the Office applications.



**Figure 2-2:** Excel 2000 lets you store up to 12 separate items on a special enhanced clipboard.

## Euro Currency Symbol

Additional number formats are available with the Euro currency symbol.

## New Image Import Options

Excel 2000 lets you import an image directly from a digital camera or scanner. It's no longer necessary to capture the image to a file and then import the file.

## A New Help System

Online help in Excel 2000 sports a new look. Microsoft abandoned the traditional Windows help system in favor of a new “HTML Help” system. The system works pretty much like the old one. By default, the help display appears along side of Excel.



For more information about Excel's online help system, refer to Appendix A.

## Office Assistant

The Office Assistant, which debuted in Excel 97, makes an appearance in Excel 2000. I've found that people either love this feature or hate it (I'm in the latter group).

The Office Assistant is a bit less obtrusive in Excel 97 and (finally!) it can be configured in such a way that you never see it again (unless you want to). When you install Excel 2000, there is an option to omit the Office Assistant feature.



For more information about the Office Assistant, refer to Appendix A.

## Multilingual Features

Multilingual users should have it a bit easier with Excel 2000. Excel 2000 can change the language used in its interface (the text in menus, dialog boxes, and so on) on the fly. Doing so is as easy as purchasing the Office language pack. Excel automatically detects the language you're typing in and switches among spelling checker, AutoCorrect, and other proofing tools accordingly.

## ModeLess UserForms

Finally, macro programmers will welcome a new feature that lets you display custom dialog boxes (UserForms) in a "modeless" manner. In previous versions, everything ground to a halt while a custom dialog box was displayed. In Excel 2000, a macro programmer can keep the dialog box displayed while the user continues working — perfect for displaying status information.

## Summary

This chapter provides a brief overview of the new features in Excel 2000.

• .....

# Getting Acquainted with Excel

---

**N**ew users sometimes are overwhelmed when they first fire up Excel. They're greeted with an empty workbook, lots of strange buttons, and unfamiliar commands on the menus. This chapter helps you to feel more at home with Excel, explains its main parts, and gives you a chance to do a few things to get better acquainted with it.

## Starting Excel

Before you can use Excel, it must be installed on your system. And before you can install Excel, Microsoft Windows must be installed on your system. Excel 2000 requires a 32-bit operating system, such as Windows 95, Windows 98, or Windows NT. With any luck, Excel is already installed and ready to run. If not, you need to run the Setup program on the Office 2000 CD-ROM.

## Excel's Parts

When Excel starts, your screen looks something like Figure 3-1. This figure identifies the major parts of Excel's window, which are explained in the following paragraphs.

# CHAPTER 3

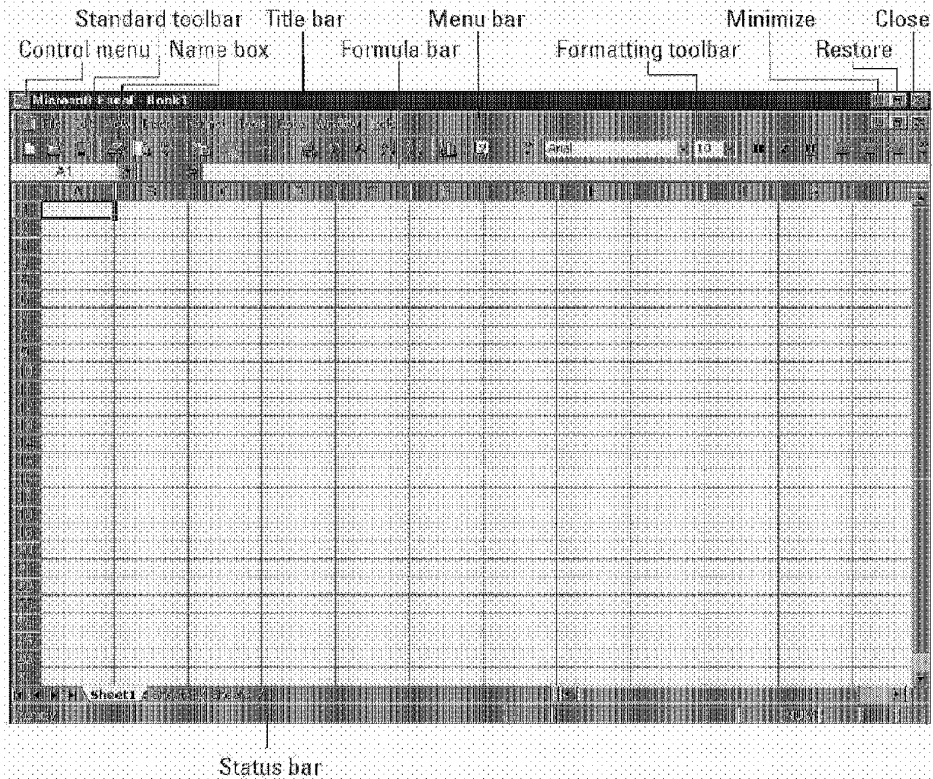
## In This Chapter

Starting Excel

Excel's Parts

Parts of a Workbook Window

A Hands-on Excel Session



**Figure 3-1:** Excel runs in a window, which in this case is maximized so that it occupies the full screen.

Figure 3-1 shows Excel running in VGA mode (800 x 600 pixels). Your screen may look different if you're running Windows in a different video mode that displays more or fewer pixels onscreen.

## Title Bar

All Windows programs have a title bar, which displays the name of the program and holds some control buttons that you can use to modify the window.

## Window Control Menu Button

This button is actually Excel's icon. When you click it, you get a menu that lets you manipulate Excel's window.

## Minimize Button

Clicking this button minimizes Excel's window and displays it in the Windows taskbar.

## Restore Button

Clicking this button "unmaximizes" Excel's window so that it no longer fills the entire screen. If Excel isn't maximized, this button is replaced by a Maximize button.

## Close Button

Clicking this button closes Excel. If you have any unsaved files, you're prompted to save them.

## Menu Bar

This is Excel's main menu. Clicking a word on the menu drops down a list of menu items, which is one way for you to issue a command to Excel.

The menu bar in Excel 2000 is not fixed in place. In fact, it's actually a toolbar. You can drag it to any side of the window or even make it free-floating if you like.

## Toolbars

The toolbars hold buttons that you click to issue commands to Excel. Some of the buttons expand to show additional buttons or commands.

## Formula Bar

When you enter information or formulas into Excel, they appear in this line.

## Name Box

This box displays the name of the active cell in the current workbook. When you click the arrow, the list drops down to display all named cells and named ranges (if any) in the active workbook. Select a name to activate the range or cell. You also can use the Name box to name the selected cell or range.

The Name box also displays the name of a selected object, such as a chart or drawing object. However, you cannot use the Name box to select an object or change the name of an object.

## Status Bar

This bar displays various messages, as well as the status of the Num Lock, Caps Lock, and Scroll Lock keys on your keyboard.

# Parts of a Workbook Window

When you work with Excel, your work is stored in workbooks. Each workbook appears in a separate window within Excel's workspace.

Figure 3-2 shows a typical workbook window with its major parts identified. These parts are described in the following paragraphs. Notice that a workbook window has many parts in common with Excel's window.

## Title Bar

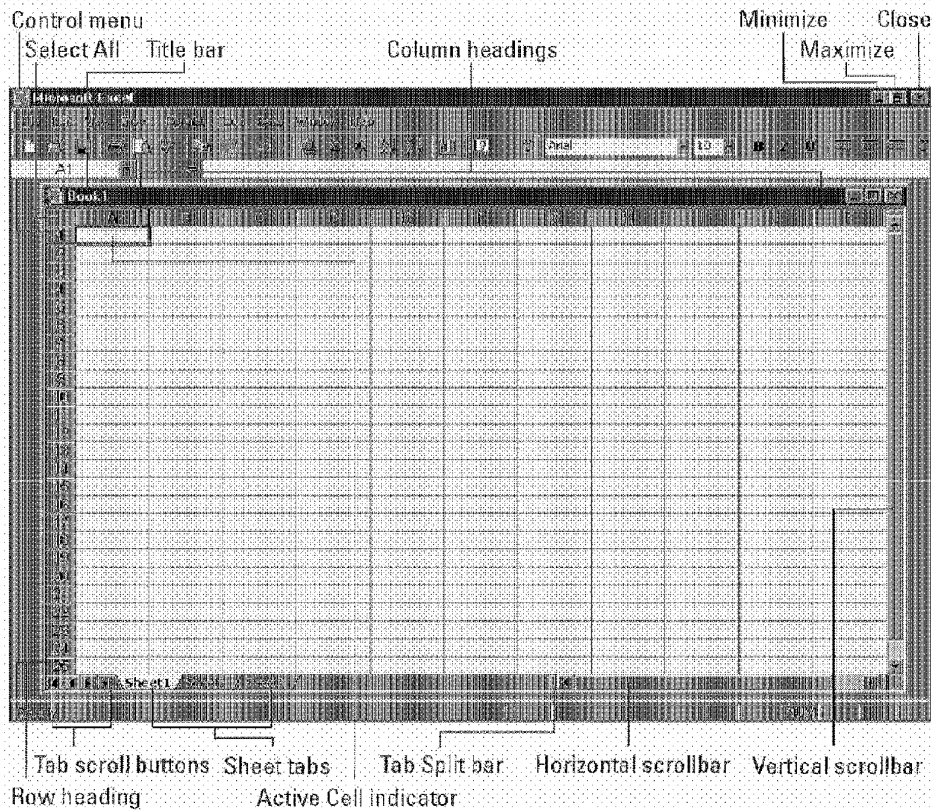
The title bar shows the name of the workbook and holds some control buttons that you can use to modify the window.

## Window Control Menu Button

Clicking this button (actually an icon) displays a menu that lets you manipulate the workbook window.

## Minimize Button

Clicking this button reduces the workbook window so that only the title bar shows.



**Figure 3-2:** An empty Excel workbook, named Book1.

## Maximize Button

Clicking this button increases the workbook window's size to fill Excel's complete workspace. If the window is already maximized, a Restore button appears in its place.

## Close Button

Clicking this button closes the workbook. If you haven't saved the workbook, Excel prompts you to save it.



## Select All Button

Clicking the intersection of the row and column headers selects all cells on the active worksheet of the active window.

## Active Cell Indicator

This dark outline indicates the currently active cell (one of the 16,777,216 cells on each worksheet).

## Row Headings

Numbers ranging from 1 to 65,536 — one for each row in the worksheet. You can click a row heading to select an entire row of cells.

## Column Headings

Letters ranging from A to IV — one for each of the 256 columns in the worksheet. After column Z comes column AA, which is followed by AB, AC, and so on. After column AZ comes BA, BB, and so on until you get to the last column, labeled IV. You can click a column heading to select an entire column of cells.

## Tab Scroll Buttons

These buttons let you scroll the sheet tabs to display tabs that aren't visible.

## Sheet Tabs

Each of these notebook-like tabs represents a different sheet in the workbook. A workbook can have any number of sheets, and each sheet has its name displayed in a sheet tab. By default, each new workbook that you create contains three sheets.

## Tab Split Bar

This bar enables you to increase or decrease the area devoted to displaying sheet tabs. When you show more sheet tabs, the horizontal scrollbar's size is reduced.

## Horizontal Scrollbar

Allows you to scroll the sheet horizontally.

## Vertical Scrollbar

Lets you scroll the sheet vertically.

If you have a Microsoft IntelliMouse, you can use the mouse wheel to scroll vertically.

## A Hands-on Excel Session

The remainder of this chapter consists of an introductory session with Excel. If you've never used Excel, you may want to follow along on your computer to get a feel for how this program works.



The end result of this hands-on session is available on the companion CD-ROM.

This example assumes that you've been asked to prepare a one-page report that shows your company's quarterly sales, broken down by the two sales regions (North and South). This section walks you through the steps required to do the following:

- Enter a table of data (the sales figures) into a worksheet
- Create and copy a formula (to calculate totals)
- Format the data so that it looks good
- Create a chart from the data
- Save the workbook to a file
- Print the data and chart (the one-page report)

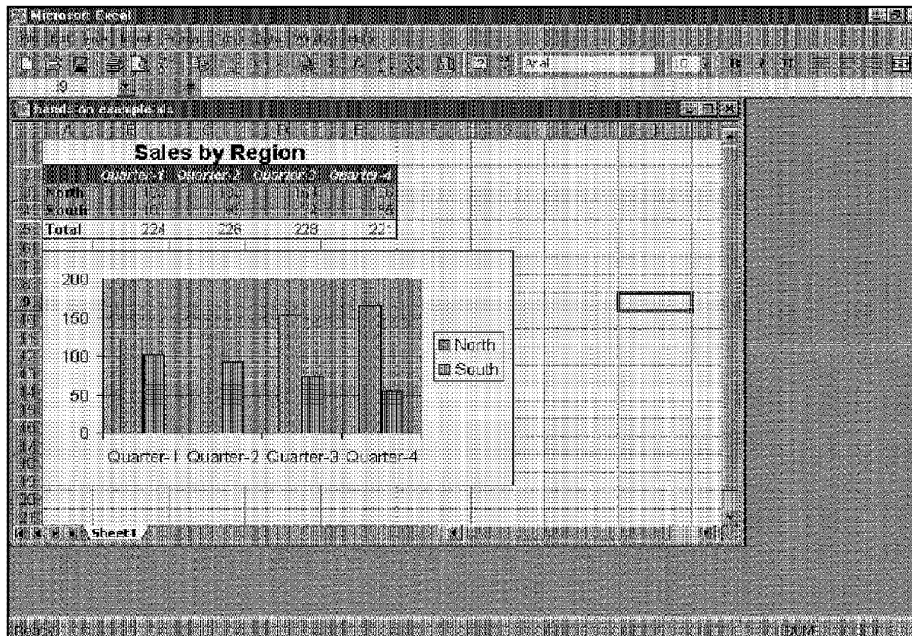
When you're finished, you'll have a worksheet that looks like the one shown in Figure 3-3.



This section is quite detailed and provides every step that you need to reproduce the worksheet shown in Figure 3-3. If you already have experience with a spreadsheet, you may find this section to be a bit *too* detailed. Don't worry. You'll find that the pace picks up in the remainder of the book.

## Getting Ready

As a first stage, you start Excel and maximize its window to fill the entire screen. Then you maximize the blank workbook named Book1.

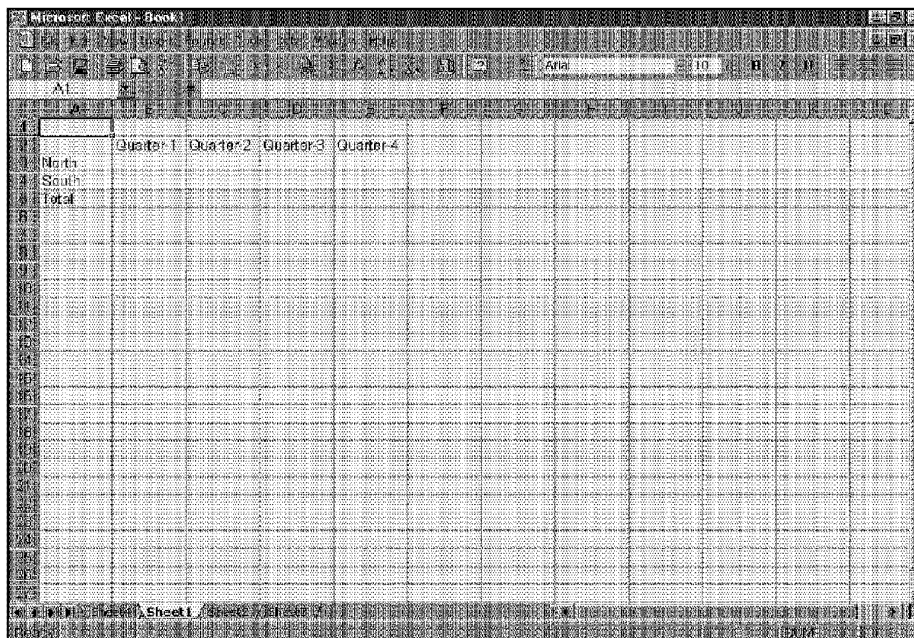


**Figure 3-3:** This is the worksheet that you create in the step-by-step session.

1. If Excel isn't running, start it. You're greeted with a blank window named Book1. If Excel is already running, click its Close button to exit Excel and then restart it so that you see the empty window named Book1.
2. If Excel doesn't fill the entire screen, maximize Excel's window by clicking the Maximize button in Excel's title bar.
3. Maximize the workbook window, so that you can see as much of the workbook as possible. Do this by clicking the Maximize button in Book1's title bar.

## Entering the Headings

In this stage, you enter the row and column headings into the worksheet named Sheet1 in Book1. After you finish the following steps, the worksheet will look like Figure 3-4.



**Figure 3-4:** The worksheet after entering headings for the data.

1. Move the cell pointer to cell A3 by using the direction keys. The Name box displays the cell's address.
2. Enter **North** into cell A3. Just type the text and then press Enter. Depending on your setup, Excel either moves the cell pointer down to cell A4 or the pointer remains in cell A3.
3. Move the cell pointer to cell A4, type **South**, and press Enter.
4. Move the cell pointer to cell A5, type **Total**, and press Enter.
5. Move the cell pointer to cell B2, type **Quarter 1**, and press Enter.  
At this point, you could enter the other three headings manually, but let Excel do the work instead.
6. Move the cell pointer to cell B2 (if it's not already there). Notice the small square at the lower-right corner of the cell pointer. This is called the *fill handle*. When you move the mouse pointer over the fill handle, the mouse pointer changes to a dark cross.

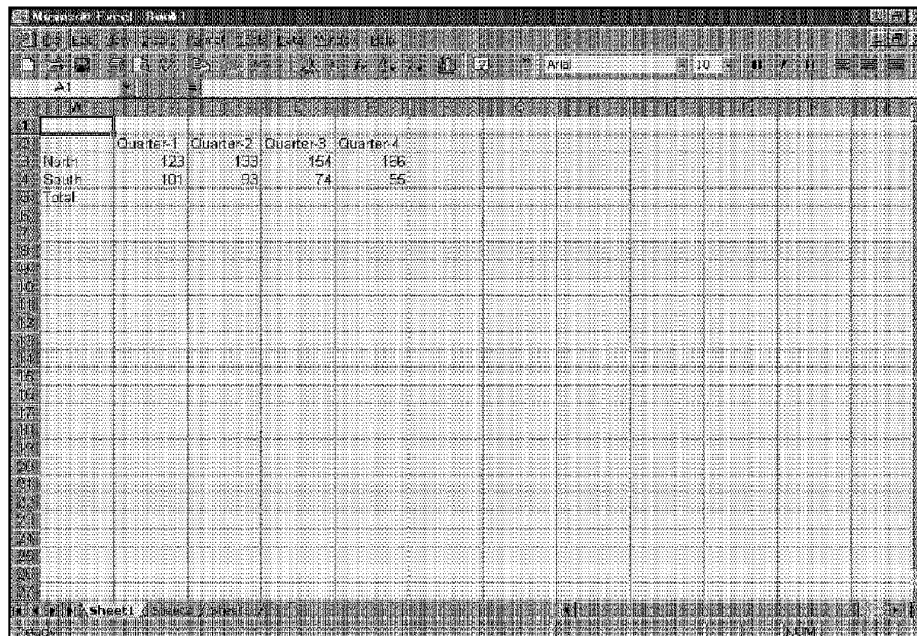
If the cell doesn't have a fill handle, select the **Tools • Options** command and then click the **Edit** tab in the Options dialog box. Place a check mark next to the option labeled **Allow cell drag and drop**. Then click **OK** to close the Options dialog box.

7. Move the mouse pointer to the fill handle until the mouse pointer changes to a cross. Then click and drag to the right until you select the three cells to the right (C2, C3, and C4). Release the mouse button and you'll see that Excel filled in the three remaining headings for you. This is an example of AutoFill.

## Entering the Data

In this stage, you simply enter the values for each quarter in each region.

1. Move the cell pointer to cell B3, type **123**, and press **Enter**.
2. Move to the remaining cells and enter additional data until your worksheet looks like Figure 3-5.



The screenshot shows an Excel spreadsheet with the following data:

	Quarter-1	Quarter-2	Quarter-3	Quarter-4
North	123	133	154	126
South	101	93	74	55
Total				

**Figure 3-5:** The worksheet after entering the sales data.

## Creating a Formula

So far, what you've done has been fairly mundane. In fact, you could accomplish the same effect with any word processor. In this stage, you take advantage of the power feature of a spreadsheet: formulas. You create formulas to calculate the total for each region.

1. Move the cell pointer to cell B5.
2. Locate the AutoSum button on the toolbar below the menu and click it once. The AutoSum button has a Greek sigma on it. The toolbar below the menu is called the Standard toolbar. Notice that Excel inserts the following into the cell:

```
=SUM(B3:B4)
```

This is a formula that calculates the sum of the values in the range B3 through B4.

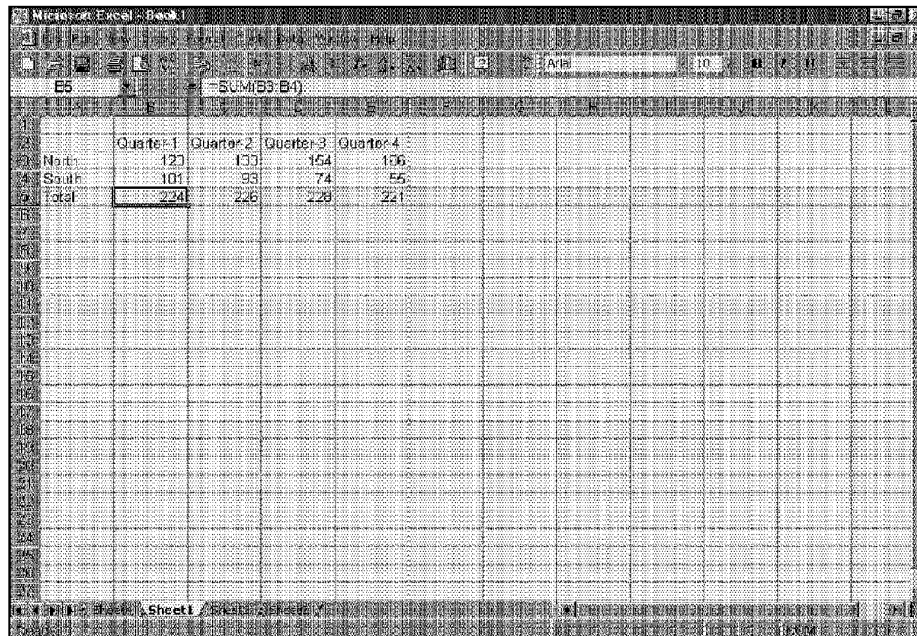
3. Because this formula is exactly what you want (Excel guessed correctly), press Enter to accept the formula. You see that the sum of the two values is displayed in the cell. You could repeat this step for the remaining three quarters, but it's much easier to copy the formula to the three cells to the right.
4. Move the cell pointer to cell B5 (if it's not already there).
5. Move the mouse pointer to the fill handle. When it changes to a cross, click and drag three cells to the right. Release the mouse button and you'll see that Excel copied the formula to the cells that you selected.

At this point, your worksheet should look like Figure 3-6. To demonstrate that these are actual "live" formulas, try changing one or two of the values in rows 3 or 4. You'll see that the cells with the formulas change also. In other words, the formulas are recalculating and displaying new results using the modified data.

## Formatting the Table

The table looks fine, but it could look even better. In this stage, you use Excel's automatic formatting feature to spiff up the table a bit.

1. Move the cell pointer to any cell in the table (it doesn't matter which one because Excel will figure out that table's boundaries).
2. Click the Format menu; it drops down to display its menu items.



The screenshot shows a Microsoft Excel window with a worksheet containing a table. The table has the following data:

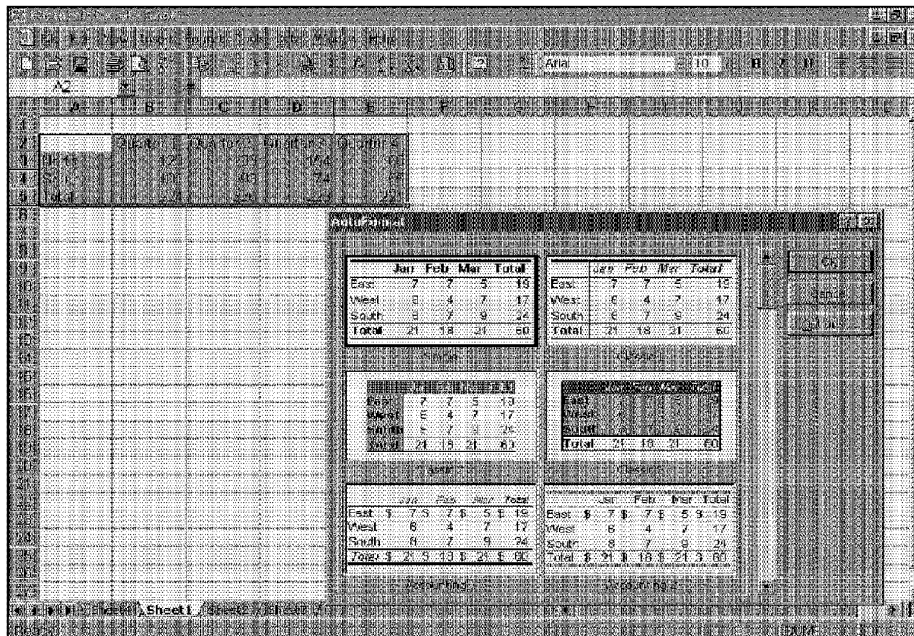
	Quarter 1	Quarter 2	Quarter 3	Quarter 4
North	123	133	154	156
South	101	93	74	55
Total	224	226	228	221

The formula bar at the top shows the formula =SUM(B3:B4) and the active cell is E5.

**Figure 3-6:** The worksheet after inserting a formula and copying it.

3. Select AutoFormat from the list of menu items. Two things happen: Excel determines the table boundaries and highlights the entire table, and it displays the AutoFormat dialog box. Figure 3-7 shows how this looks.
4. The AutoFormat dialog box has 16 “canned” formats from which to choose. Click the table format that you want to apply; this example uses Classic 3.
5. Click the OK button. Excel applies the formats to your table.

Your worksheet should look similar to Figure 3-8.



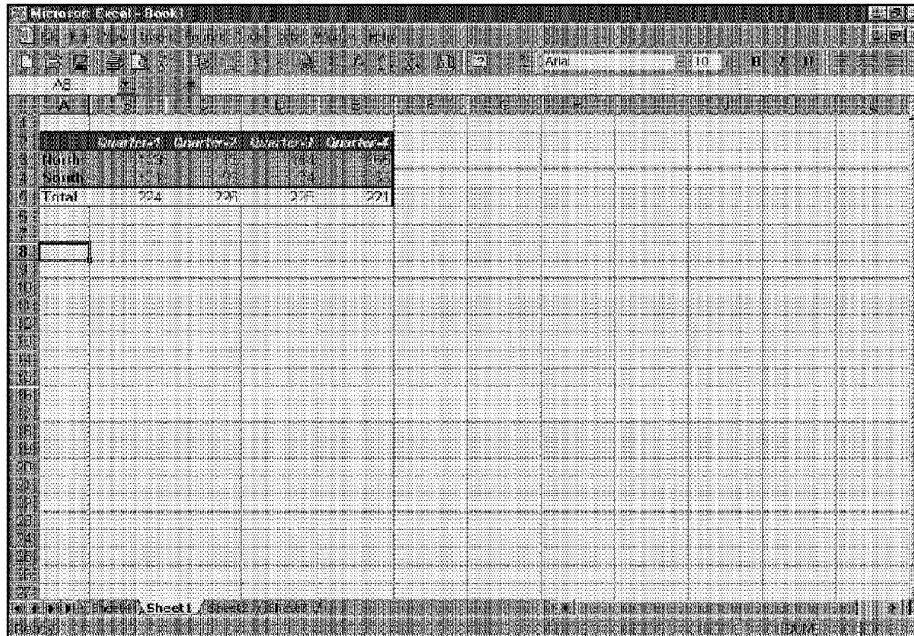
**Figure 3-7:** Excel's AutoFormat dialog box makes it easy to quickly format a table.

Note that Excel automatically made the following formatting changes for you:

- It changed some of the cell background colors
- It changed some of the cell foreground colors
- It made the column headings italic
- It made the row labels bold
- It added borders

You could have performed all of these formatting operations yourself, but it probably would have taken several minutes. The AutoFormat feature can save you lots of time.





	Quarter 1	Quarter 2	Quarter 3	Quarter 4
North				
South				
Total	224	225	226	221

Figure 3-8: Your worksheet after applying automatic formatting.

## Adding a Title

In this stage, you add a title to the table, make the title bold, and adjust it so that it's centered across the five columns of the table.

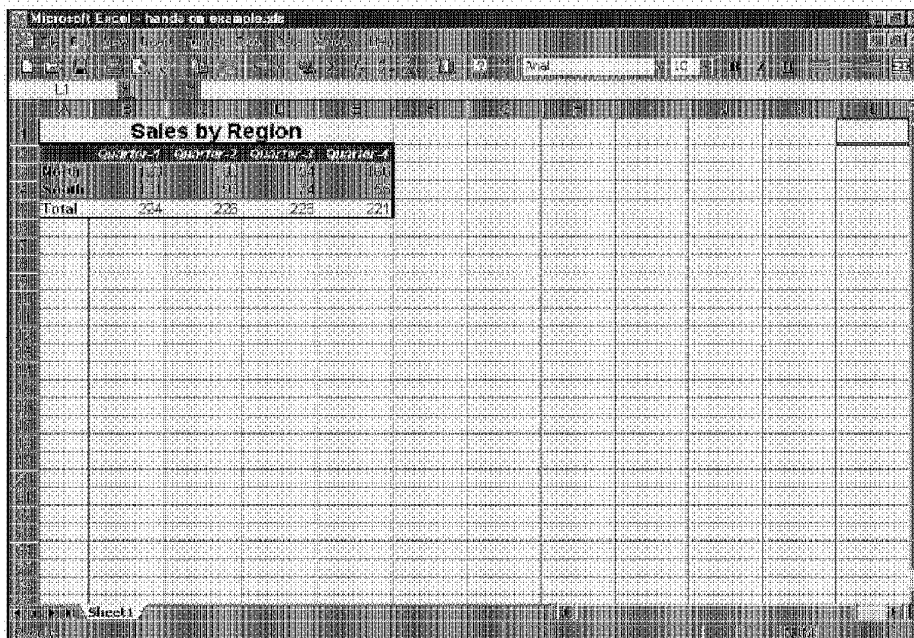
1. Move the cell pointer to cell A1.
2. Enter **Sales by Region** and then press Enter.
3. Move the cell pointer back to cell A1 (if it's not there already) and then click the Bold button on the Formatting toolbar (the Bold button has a large *B*). This makes the text bold.
4. Open the Font Size list box (see Figure 3-9) on the Formatting toolbar and select 14 from the list, to make the text larger.
5. Click in cell A1 and drag to the right until you select A1, B1, C1, D1, and E1 (that is, the range A1:E1). Don't drag the cell's fill handle. You want to select the cells — not make a copy of cell A1.

6. Click the Merge and Center button on the Formatting toolbar (refer to Figure 3-9). Excel centers the text in cell A1 across the selected cells. In fact, clicking the Merge and Center button merges the five cells into one larger cell.



**Figure 3-9:** The Font Size list box and the Merge and Center button appear on the Formatting toolbar.

Your worksheet should look like Figure 3-10.



**Figure 3-10:** Your worksheet after adding a title and formatting it.

## Creating a Chart

In this stage, you create a chart from the data in the table and place it on the worksheet directly below the table.

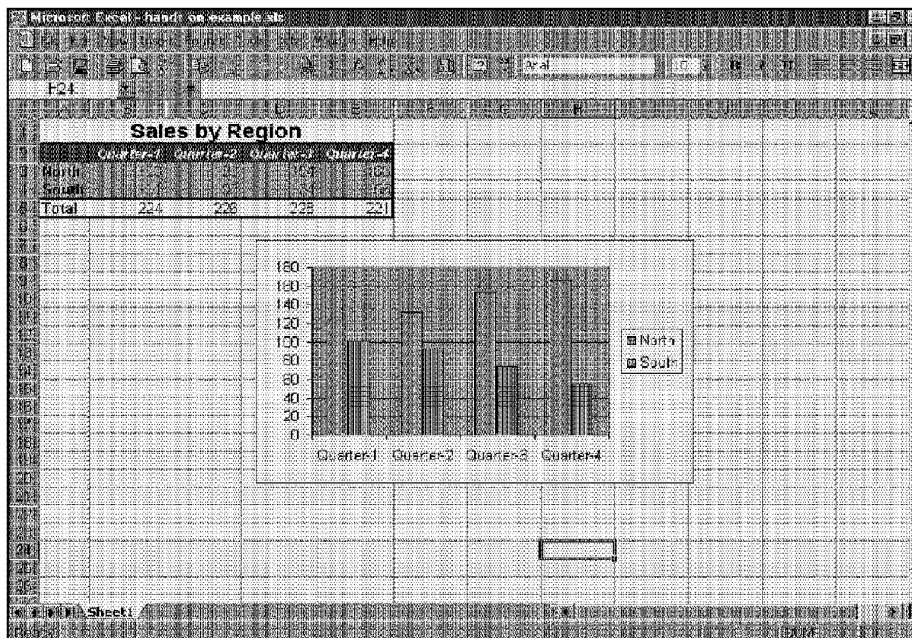
1. Move the cell pointer to cell A2.
2. Click and drag until you've selected all the cells in the rectangle encompassing A2 at the upper left and E4 at the lower right (15 cells in all). Notice that you're not selecting the cells in the row that displays the totals; you don't want the totals to appear in the chart.
3. With the range A2:E4 selected, click the Chart Wizard button on the Standard toolbar (the Chart Wizard button has an image of a column chart). Excel displays the Office Assistant, which offers you help with charting, and the first in a series of dialog boxes that will help you create the chart that you want (refer to Figure 3-11).



**Figure 3-11:** The first of four Chart Wizard dialog boxes that help you create a chart.

4. First, choose the chart type. The default chart, a Column chart, is a good choice for the data in the workbook. At this point, you can either click the Next button and specify lots of additional options for the chart or click Finish and accept all of Excel's default choices. Click the Finish button.

Excel creates the chart and displays it on the worksheet. It also displays its Chart toolbar, just in case you want to modify the chart. To get rid of the toolbar, just click the X in its title bar. Your worksheet should look like Figure 3-12.



**Figure 3-12:** The Chart Wizard inserts the chart on the worksheet.

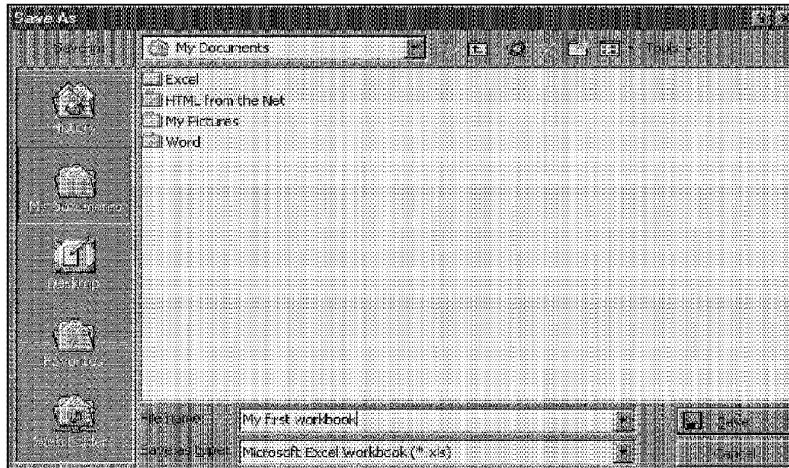
If you want, you can do the following:

- Resize the chart by dragging any of the eight handles on its borders (the handles appear only when the chart is selected)
- Move the chart by clicking and dragging any of its borders

## Saving the Workbook

Until now, everything that you've done has occurred in your computer's memory. If the power should fail, all would be lost, so it's time to save your work to a file. Call this workbook **My first workbook**.

1. Click the Save button on the Standard toolbar. The Save button looks like a disk. Excel responds with the Save As dialog box (see Figure 3-13).
2. In the box labeled File name, enter **My first workbook** and then either click Save or press Enter.



**Figure 3-13:** Excel's Save As dialog box.

Excel saves the workbook as a file. The workbook remains open so that you can work with it some more.

## Printing the Report

As the final step, you print this report, assuming that you have a printer attached and that it works properly. To print the worksheet, just click the Print button on the Standard toolbar (this button has an image of a printer on it). The worksheet (including the chart) is printed using the default settings.

## Quitting Excel

Click the Close button in Excel's title bar to exit Excel. Because no changes were made to the workbook since it was last saved, Excel closes without asking whether you want to save the file.

## Summary

If this was your first time using Excel, you probably have lots of questions about what you just did in the preceding exercise. Those questions are answered in the following chapters.

If you're the adventurous type, you may have answered some of your own questions by trying out various buttons or menu items. If so, congratulations! Experimenting is the best way to get to know Excel. Just remember, the worst thing that can happen is that you mess up a workbook file. And if you do your experimentation using unimportant files, you have absolutely nothing to lose. And, don't forget about the Office Assistant. You can click the Office Assistant at any time and type a question (using natural language). Your chances are excellent that the Assistant will steer you to a help topic that answers your question.

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# Introductory Concepts

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P A R T



## In This Part

**Chapter 4**  
Navigating Through Excel

**Chapter 5**  
Working with Files and  
Workbooks

**Chapter 6**  
Entering and Editing  
Worksheet Data

**Chapter 7**  
Essential Spreadsheet  
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**Chapter 8**  
Working with Cell Ranges

**Chapter 9**  
Creating and Using  
Formulas

**Chapter 10**  
Using Worksheet Functions

**Chapter 11**  
Worksheet Formatting

**Chapter 12**  
Printing Your Work

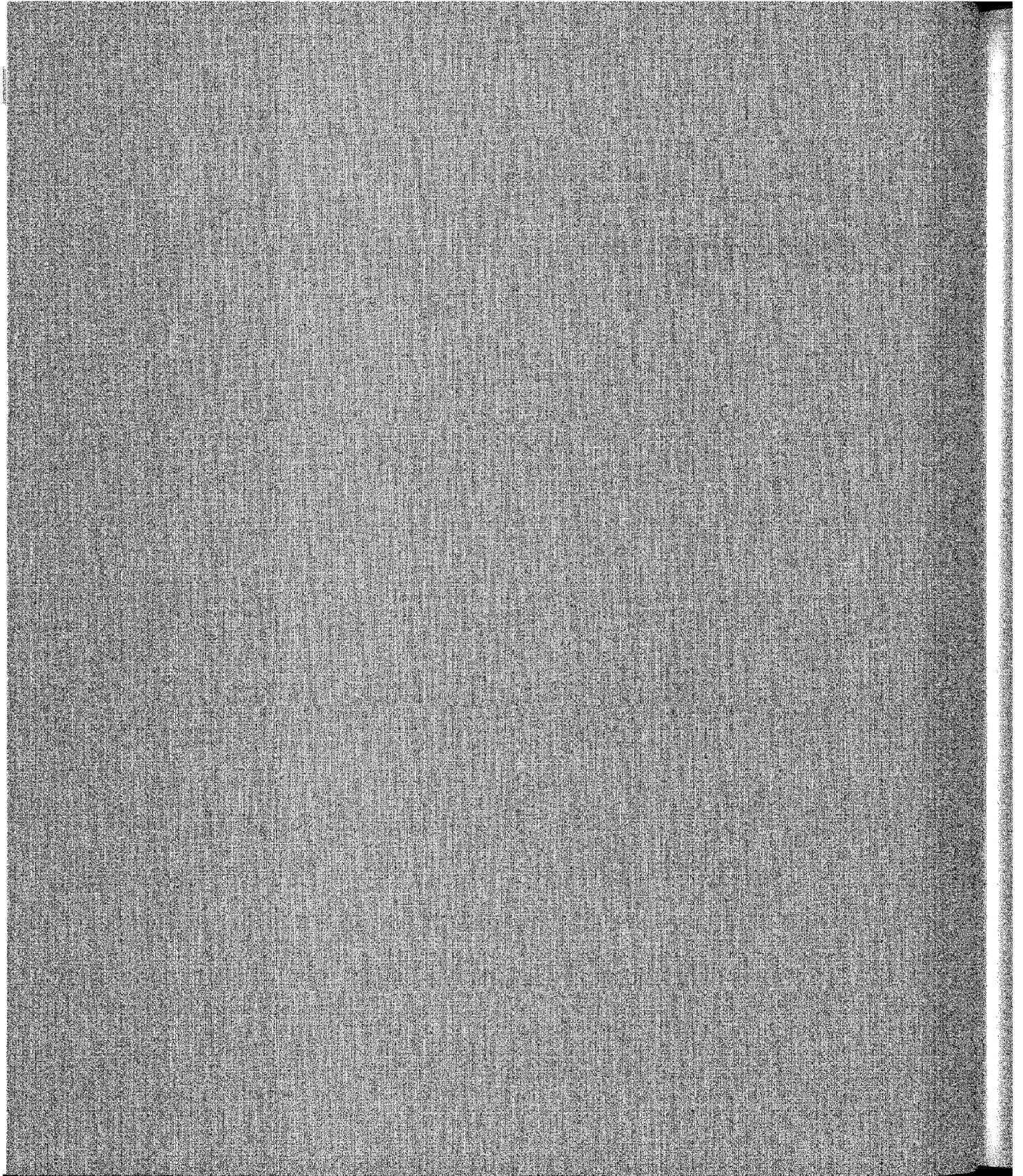
**Chapter 13**  
Chart-Writing Basics

**Chapter 14**  
Enhancing Your Work with  
Pictures and Drawings

**Chapter 15**  
Putting It All Together







# Navigating Through Excel

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**B**ecause you'll spend lots of time working in Excel, you need to understand the basics of navigating through workbooks and how best to use Excel's user interface. If you're an experienced Windows user, some of this information may already be familiar to you, so this is your chance to learn even more.

If you're new to Excel, some of the information in this chapter may seem confusing. It will become clearer as you progress through the other chapters, however.

## Working with Excel's Windows

The files that Excel uses are known as *workbooks*. A workbook can hold any number of sheets, and these sheets can be either worksheets (a sheet consisting of rows and columns) or chart sheets (a sheet that holds a single chart). A *worksheet* is what people usually think of when they think of a spreadsheet.

Figure 4-1 shows Excel with four workbooks open, each in a separate window. One of the windows is minimized and appears near the top-right corner of the screen (when a workbook is minimized, only its title bar is visible).

Worksheet windows can overlap so that the title bar of one window is a different color. That's the window that contains the *active workbook*.

The workbook windows that Excel uses work much like the windows in any other Windows program. Excel's windows can be in one of the following states:

- **Maximized:** Fills Excel's entire workspace. A maximized window does not have a title bar, and the worksheet's name appears in Excel's title bar. To maximize a window, click its Maximize button.

# 4 CHAPTER

## In This Chapter

Working with Excel's Windows

Moving Around a Worksheet

Giving Commands to Excel

Using Excel's Menus

Using Shortcut Menus

Excel's Toolbars

Shortcut Keys

Working with Dialog Boxes

- **Minimized:** Appears as a small window with only a title bar. To minimize a window, click its Minimize button.
- **Restored:** A nonmaximized size. To restore a maximized or minimized window, click its Restore button. If you work with more than one workbook simultaneously (which is quite common), you have to learn how to move, resize, and switch among the workbook windows.

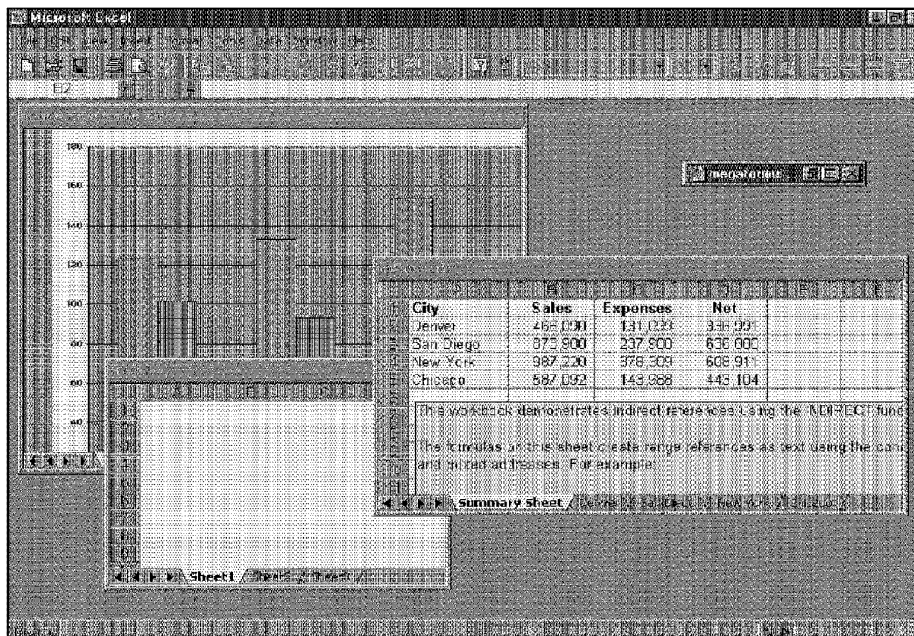


Figure 4-1: Excel with four workbooks open, one of them minimized.

As you're probably aware, Excel itself is contained in a window. Excel's window also can be maximized, minimized, or displayed in a nonmaximized size. When Excel's window is maximized, it fills the entire screen. You can activate other programs by using the Windows taskbar (usually located at the bottom of your screen).

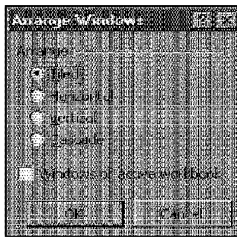
## Moving and Resizing Windows

You *cannot* move or resize a workbook window if it is maximized. You *can* move a minimized window, but doing so has no effect on its position when it is subsequently restored.

To move a window, click and drag its title bar with your mouse. Note that the windows can extend offscreen in any direction, if you want them to.

To resize a window, click and drag any of its borders until it's the size that you want it to be. When you position the mouse pointer on a window's border, the mouse pointer changes shape, which lets you know that you can now click and drag to resize the window. To resize a window horizontally and vertically at the same time, click and drag any of its corners.

If you want all of your workbook windows to be visible (that is, not obscured by another window), you can fiddle around by moving and resizing the windows manually, or you can let Excel do it for you. The Window • Arrange command displays the Arrange Windows dialog box, shown in Figure 4-2. This dialog box has four window-arrangement options. Just select the one that you want and click OK.



**Figure 4-2:** The Arrange Windows dialog box makes it easy to arrange the windows of all open workbooks.

## Switching Among Windows

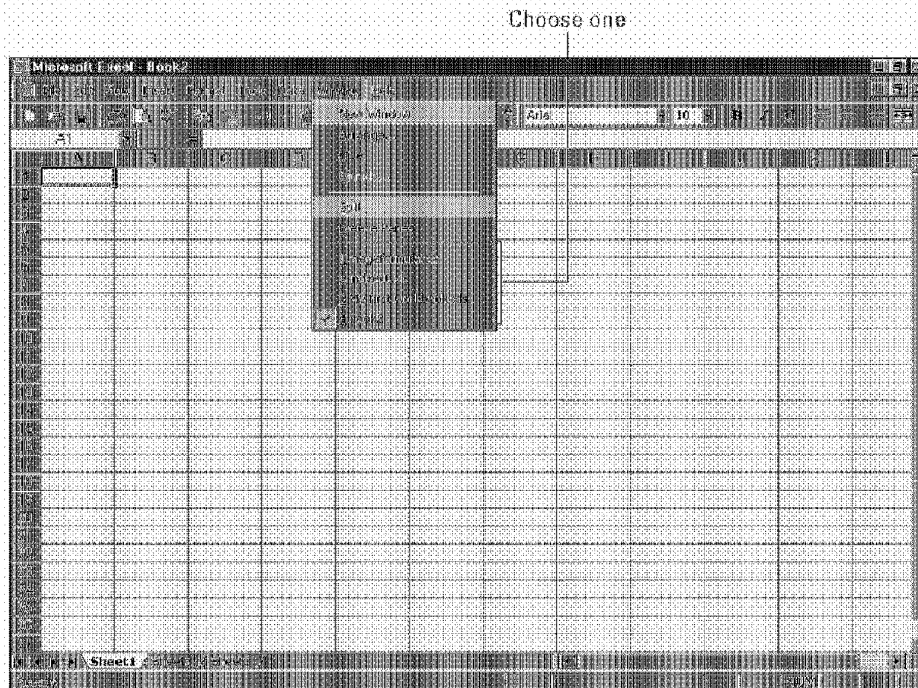
As previously mentioned, at any given time, one (and only one) workbook window is the active window. This is the window that accepts your input, and it is the window on which your commands work. The active window's title bar is a different color, and the window appears at the top of the stack of windows.

The following are several ways to make a different window the active workbook:

- Click another window, if it's visible. The window you click moves to the top and becomes the active window.
- Press Ctrl+Tab to cycle through all open windows until the window that you want to work with appears on top as the active window. Shift+Ctrl+Tab cycles through the windows in the opposite direction.
- Click the Window menu and select the window that you want from the bottom part of the pull-down menu. The active window has a check mark next to it, as shown in Figure 4-3. This window can display up to nine windows. If you have more than nine workbook windows open, choose More Windows (which appears below the nine window names).



Excel 2000 offers another way to make a different window the active workbook: Click the icon in the Windows taskbar that represents the workbook window that you want to view. This feature works only with Windows 98.



**Figure 4-3:** You can activate a different window by selecting it from the pull-down Window menu.

Many users (myself included) prefer to do most of their work with maximized workbook windows. This enables you to see more cells and eliminates the distraction of other workbook windows getting in the way. And besides, it's easy to activate another workbook window when you need to use it.

When you maximize one window, all the other windows are maximized, too (but you can't see them). Therefore, if the active window is maximized and you activate a different window, the new active window is also maximized. If the active workbook window is maximized, you can't select another window by clicking it (because other windows aren't visible). You must use either Ctrl+Tab, the Windows taskbar, or the Window menu to activate another window.

When would you *not* want to work exclusively with maximized worksheet windows? Excel also has some handy drag-and-drop features. For example, you can drag a range of cells from one workbook window to another. To do this type of drag and drop, both windows must be visible (that is, not maximized).



Chapter 8 discusses Excel's drag-and-drop features.

You also can display a single workbook in more than one window. For example, if you have a workbook with two worksheets, you may want to display each worksheet in a separate window. All the window-manipulation procedures described previously still apply.

## Closing Windows

When you close a workbook window, Excel checks whether you have made any changes since the last time you saved the file. If not, the window closes without a prompt from Excel. If you've made any changes, Excel prompts you to save the file, before it closes the window.



You learn more about working with files in Chapter 5.

To close a window, simply click the Close button on the title bar.

## Mouseless Window Manipulation

Although using a mouse to manipulate Excel's windows is usually the most efficient route, you also can perform these actions by using the keyboard. Table 4-1 summarizes the key combinations that manipulate workbook windows.

Table 4-1  
Keystrokes Used to Manipulate Windows

<i>Key Combination</i>	<i>Action</i>
Ctrl+F4	Close a window
Ctrl+F5	Restore a window
Ctrl+F6	Activate the next window
Ctrl+Shift+F6	Activate the previous window
Ctrl+Tab	Activate the next window
Ctrl+Shift+Tab	Activate the previous window
Ctrl+F7	Move a window*
Ctrl+F8	Resize a window*
Ctrl+F9	Minimize a window
Ctrl+F10	Maximize a window
Alt+W[n]	Activate the <i>n</i> th window

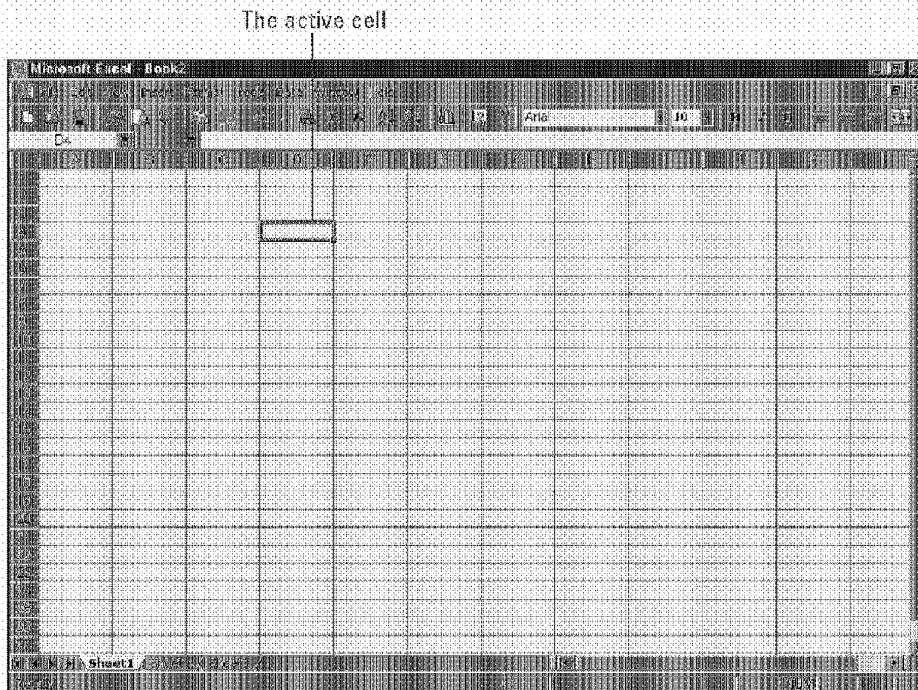
\* Use the direction keys to make the change, and then press Enter.

## Moving Around a Worksheet

You'll be spending a lot of time moving around your worksheets, so it pays to learn all the tricks.

Every worksheet consists of rows (numbered 1 through 65,536) and columns (labeled A through IV). After column Z comes column AA; after column AZ comes column BA, and so on. The intersection of a row and a column is a single cell. At any given time, one cell is the *active cell*. You can identify the active cell by its darker border, as shown in Figure 4-4. Its *address* (its column letter and row number) appears in the Name box. Depending on the technique that you use to navigate through a workbook, you may or may not change the active cell when you navigate.

The row and column headings of the active cell are displayed in bold—making it easy to identify the active cell.



**Figure 4-4:** The active cell is the cell with the dark border; in this case, cell D4.

## How Big Is a Worksheet?

Consider how big a worksheet really is. It has 256 columns and 65,536 rows. Do the arithmetic and you'll find that this works out to 16,777,216 cells. Remember, this is in just one worksheet. A single workbook can hold more than one worksheet – hundreds, if necessary.

If you're using the standard SVGA video mode with the default row heights and column widths, you can see 12 columns and 27 rows (or 324 cells) at a time. This works out to less than 0.001 percent of the entire worksheet. Put another way, more than 100,000 full screens of information are in a single worksheet.

If you started entering a single digit into each cell at a relatively rapid clip of one cell per second, you would take about 194 days, nonstop, to fill a worksheet. Printing the results of your effort would require more than 36,000 sheets of paper.

By the way, don't even think about actually using all the cells in a worksheet. Unless your system is equipped with an unusually large amount of memory, things will slow to a crawl as Windows churns away, swapping information to disk.

## Using the Keyboard

As you probably already know, you can use the standard navigational keys on your keyboard to move around a worksheet. These keys work just as you would expect: the down arrow moves the active cell down one row, the right arrow moves it one column to the right, and so on. PgUp and PgDn move the active cell up or down one full window (the actual number of rows moved depends on the number of rows displayed in the window).



**Tip**

When you turn on Scroll Lock, you can scroll through the worksheet without changing the active cell. This can be useful if you need to view another area of your worksheet and then quickly return to your original location. Just press Scroll Lock and then use the direction keys to scroll through the worksheet. When you want to return to the original position (the active cell), press Ctrl+Backspace. Then, press Scroll Lock again to turn it off. When Scroll Lock is turned on, Excel displays SCRL in the status bar at the bottom of the window.

The Num Lock key on your keyboard controls how the keys on the numeric keypad behave. When Num Lock is on, Excel displays NUM in the status bar, and the keys on your numeric keypad generate numbers. Most keyboards have a separate set of navigational keys located to the left of the numeric keypad. These keys are not affected by the state of the Num Lock key.

Table 4-2 summarizes all the worksheet movement keys available in Excel.



**Table 4-2**  
**Excel's Worksheet Movement Keys**

<b>Key</b>	<b>Action</b>
Up arrow	Moves the active cell up one row
Down arrow	Moves the active cell down one row
Left arrow	Moves the active cell one column to the left
Right arrow	Moves the active cell one column to the right
PgUp	Moves the active cell up one screen
PgDn	Moves the active cell down one screen
Alt+PgDn	Moves the active cell right one screen
Alt+PgUp	Moves the active cell left one screen
Ctrl+Backspace	Scrolls to display the active cell
Up arrow*	Scrolls the screen up one row (active cell does not change)
Down arrow*	Scrolls the screen down one row (active cell does not change)
Left arrow*	Scrolls the screen left one column (active cell does not change)
Right arrow*	Scrolls the screen right one column (active cell does not change)

\* With Scroll Lock on

The actions for some of the keys in the preceding table may be different, depending on the transition options that you've set. Select **Tools • Options** and then click the **Transition** tab in the Options dialog box. If the **Transition Navigation Keys** option is checked, the navigation keys correspond to those used in older versions of Lotus 1-2-3. Generally, using the standard Excel navigation keys is better than using those for 1-2-3.



**Tip**

If you know either the cell address or the name of the cell that you want to activate, you can get there quickly by pressing F5 (the shortcut key for **Edit • Go To**). This command displays the **Go To** dialog box.

Just enter the cell address in the **Reference** box (or choose a named cell from the list), press **Enter**, and you're there.

## Using a Mouse

Navigating through a worksheet with a mouse also works as you would expect it to work. To change the active cell by using the mouse, click another cell; it becomes the active cell. If the cell that you want to activate is not visible in the workbook window, you can use the scrollbars to scroll the window in any direction. To scroll one cell, click either of the arrows on the scrollbar. To scroll by a complete screen, click either side of the scrollbar's scroll box. You also can drag the scroll box for faster scrolling. Working with the scrollbars is more difficult to describe than to do,

so if scrollbars are new to you, I urge you to experiment with them for a few minutes. You'll have it figured out in no time.

When you drag the scrollbar's scroll box, a small yellow box appears that tells you which row or column you will scroll to when you release the mouse button.

If you have a Microsoft IntelliMouse (or a compatible wheel mouse), you can use the mouse wheel to scroll vertically. The wheel scrolls three lines per click at the default rate. Also, if you click the wheel and move the mouse in any direction, the worksheet scrolls automatically in that direction. The more you move the mouse, the faster the scrolling. If you prefer to use the mouse wheel to zoom the worksheet, select Tools • Options, click the General tab, and then place a check mark next to the option labeled Zoom on roll with IntelliMouse.

Using the scrollbars or scrolling with the IntelliMouse doesn't change the active cell. It simply scrolls the worksheet. To change the active cell, you must click a new cell after scrolling.

Notice that only the active workbook window has scrollbars. When you activate a different window, the scrollbars appear.

## Giving Commands to Excel

Excel is designed to take orders from you. You give these orders by issuing commands. You can give commands to Excel by using the following methods:

- Menus
- Shortcut menus
- Toolbar buttons
- Shortcut key combinations

In many cases, you can choose how to issue a particular command. For example, if you want to save your workbook to disk, you can use the menu (the File • Save command), a shortcut menu (right-click the workbook's title bar and click Save), a toolbar button (the Save button on the Standard toolbar), or a shortcut key combination (Ctrl+S). The particular method you use is up to you.

The following sections provide an overview of the four methods of issuing commands to Excel.

## Using Excel's Menus

Excel, like all other Windows programs, has a menu bar located directly below the title bar (see Figure 4-5). This menu bar is always available and ready for your command.

Excel's menus change, depending on what you're doing. For example, if you're working with a chart, Excel's menus change to give you options that are appropriate for a chart. This all happens automatically, so you don't even have to think about it.



**Figure 4-5:** Excel's menu bar displays different options, depending on the nature of your task.

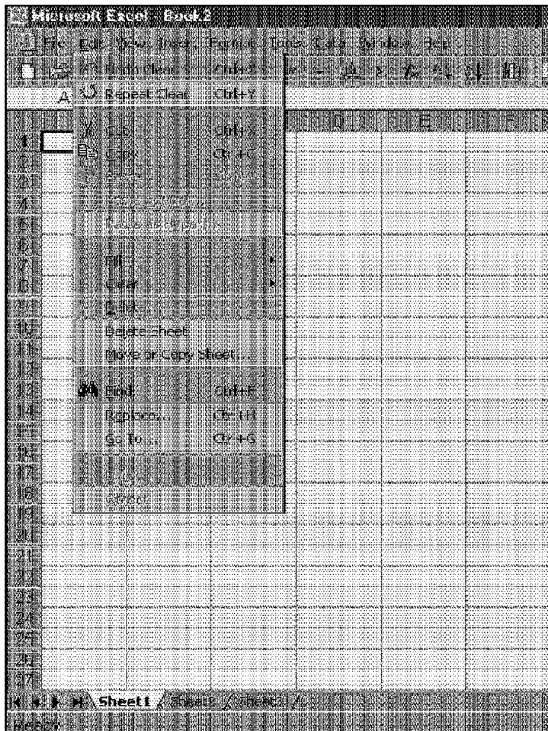


**Note**

Technically, Excel 2000's menu bar is just another toolbar. In Excel 2000, toolbars and menu bars are functionally identical. However, I'll continue to discuss menu bars as if they are something different.

## Using a Mouse

Opening the menu with a mouse is quite straightforward. Click the menu that you want to open and it drops down to display menu items, also called *commands*, as shown in Figure 4-6. Click the menu item to issue the command.



**Figure 4-6:** Opening Excel's Edit menu displays its menu items.

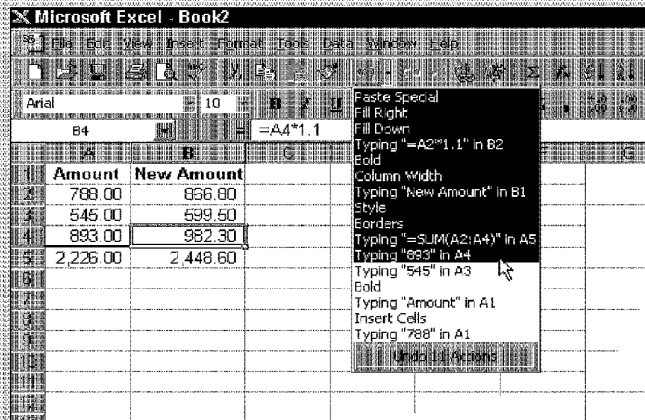
## Changing Your Mind

When you issue a command to Excel by using any of the available methods, Excel carries out your command. However, just about every command can be reversed by using the Edit • Undo command. Select this command after issuing a command, and it's as if you never issued the command.

Beginning with Excel 97, the Undo feature became much more useful. Excel 97 and later supports up to 16 levels of Undo. This means that you can reverse the effects of the last 16 commands that you executed! You may not fully appreciate this feature until you someday make a major error (such as deleting a column of formulas) and don't discover it until quite a bit later. You can use Edit • Undo repeatedly (up to 16 times) until your worksheet reverts to the state that it was in before you made your error.

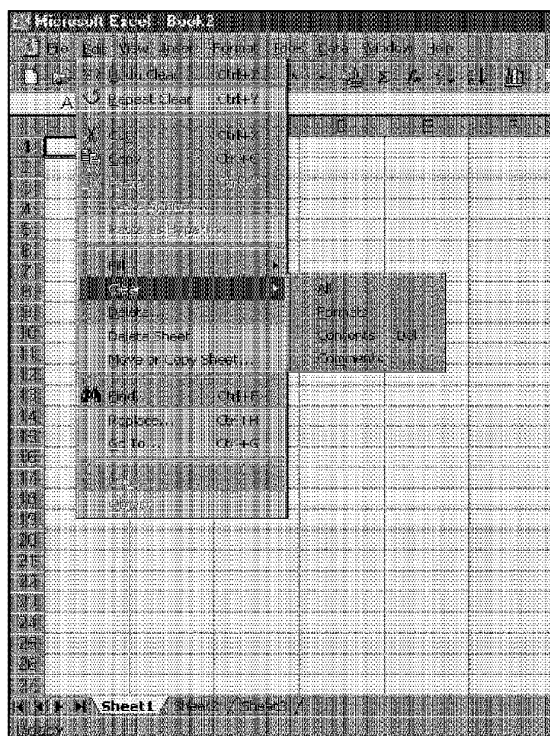
Rather than use Edit • Undo, you may prefer to use the Undo button on the Standard toolbar. If you click the arrow on the right side of the button, you can see a description of the commands that are "undoable" (see the accompanying figure). The Redo button performs in the opposite direction of the Undo button: Redo repeats commands that have been undone.

So, as you're working away in Excel, don't forget about Undo. It can be a real lifesaver.



Some menu items lead to an additional *submenu*; when you click the menu item, the submenu appears to its right. Menu items that have a submenu display a small triangle. For example, the Edit • Clear command has a submenu, shown in Figure 4-7. Excel's designers incorporated submenus primarily to keep the menus from becoming too lengthy and overwhelming to users.

Some menu items also have shortcut keys associated with them. The ones that do usually display the key combination next to the menu item. For example, the Edit • Find command's shortcut key combination is Ctrl+F.



**Figure 4-7:** The submenu of the Edit • Clear command.

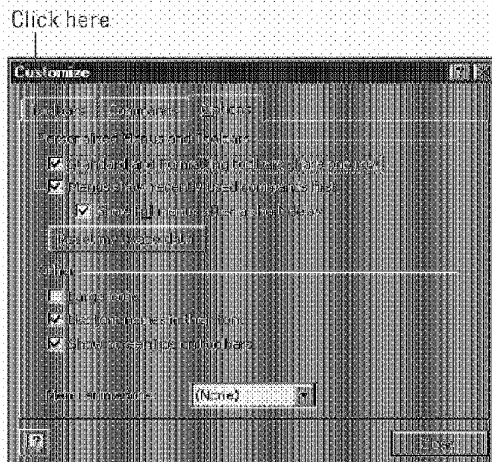
Sometimes, you'll notice that a menu item appears *grayed out*. This simply means that the menu item isn't appropriate for what you're doing. Nothing happens if you select such a menu item.

Menu items that are followed by an ellipsis (three dots) always display a dialog box. Menu commands that don't have an ellipsis are executed immediately. For example, the Insert • Cells command results in a dialog box, because Excel needs more information about the command. The Insert • Rows command doesn't need a dialog box, so Excel performs this command immediately.



In Excel 2000, your menus may behave differently than they did in previous versions of Excel. When you open a menu, you may see the most recently used commands first. After a few moments, or if you click the arrow at the bottom of the menu, you'll see the rest of the commands for that menu. After you choose a command by clicking the arrow at the bottom of the menu, Excel leaves that command in the list of "recently used" commands; that is, you'll see it immediately among the available commands the next time that you open the menu. To find it again, you won't need to click the arrow at the bottom of the menu or wait until all the commands appear.

Personally, I think this "automatic menu customization" is one of the worst ideas ever — and is practically guaranteed to cause confusion among beginners. I highly recommend that you turn this feature off immediately. Choose Tools • Customize and click the Options tab. Then, remove the check from the check box titled *Menus show recently used commands first* (see Figure 4-8). Note: Changing this behavior in Excel changes the behavior for *all* Office applications.



**Figure 4-8:** Change menu behavior to show all commands by clearing this check box.

## Using the Keyboard

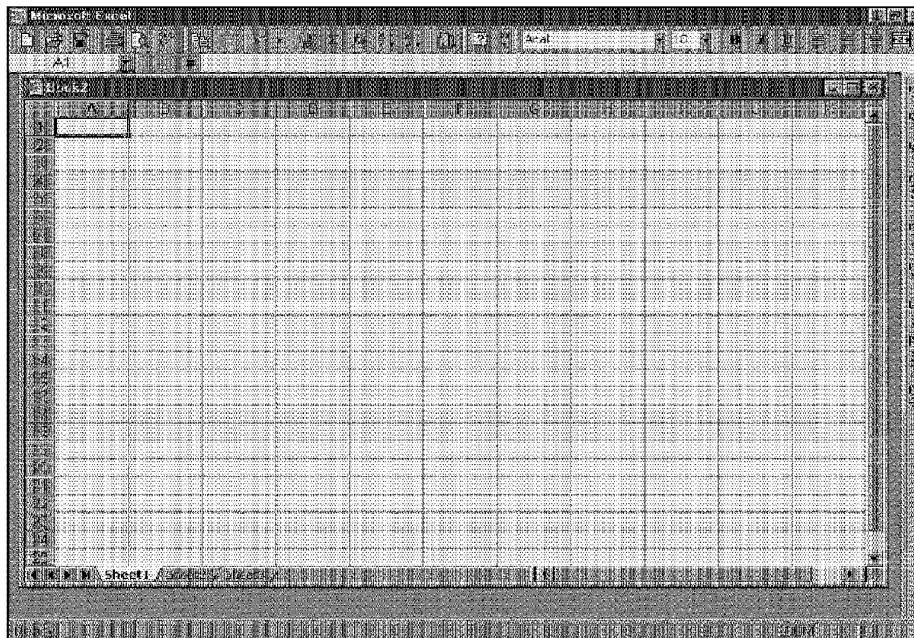
You can issue menu commands by using the mouse or the keyboard. Although most users tend to prefer a mouse, others find that accessing the menus with the keyboard is more efficient. This is especially true if you're entering data into a worksheet. Using a mouse means that you have to move your hand from the keyboard, locate the mouse, move it, click it, and then move your hand back to the keyboard. Although this takes only a few seconds, those seconds add up.

To issue a menu command from the keyboard, press Alt and then the menu's *hot key*. The hot key is the underlined letter in the menu; for example E is the hot key of the Edit menu. After you open the menu, you can press the appropriate hot key for a command on the menu. For example, to issue the Data • Sort command, press Alt, press D, and then press S.

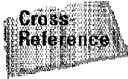
You also can press Alt alone, or F10. This selects the first menu (the File menu). Next, you use the direction keys to highlight the menu that you want, and then press Enter. In the menu, use the direction keys to choose the appropriate menu item, and press Enter again.

## Moving the Menu

In Excel 2000, a menu bar is the same as a toolbar. Because the menu bar is a toolbar, you can move the menu to a new location, if you prefer. To move the menu, just click and drag it to its new location. This can be a bit tricky, because you must click the menu in a location that doesn't contain a menu item, such as to the right of the Help menu. You can drag the menu to any of the window borders or leave it free-floating. Figure 4-9 shows the menu after relocating it to the left side of the window.



**Figure 4-9:** You can move Excel's menu to a new location.

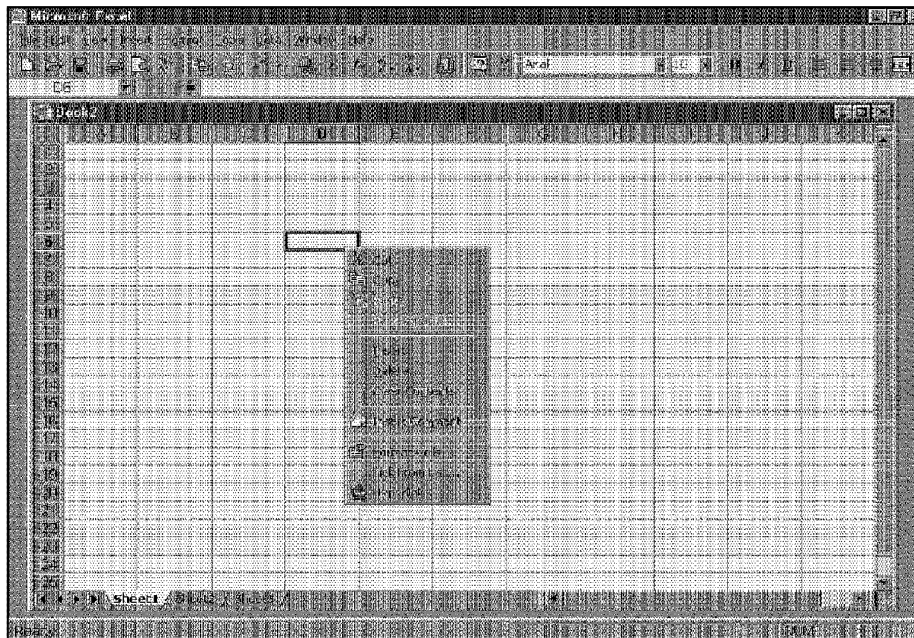


Learn how to customize Excel's menus (and toolbars) in Chapter 33.

## Using Shortcut Menus

Besides the omnipresent menu bar, discussed in the preceding section, Excel features a slew of *shortcut menus*. A shortcut menu is *context-sensitive*—its contents depend on what you're doing at the time. Shortcut menus don't contain *all* the relevant commands, just those that are most commonly used for whatever is selected. You can display a shortcut menu by right-clicking just about anything in Excel.

As an example, examine Figure 4-10, which shows the shortcut menu (also called a *context menu*) that appears when you right-click a cell. The shortcut menu appears at the mouse-pointer position, which makes selecting a command fast and efficient.



**Figure 4-10:** Right-clicking a cell displays this shortcut menu.

The shortcut menu that appears depends on what is currently selected. For example, if you're working with a chart, the shortcut menu that appears when you right-click a chart part contains commands that are pertinent to what is selected.



## Instant Help for Commands

Excel's toolbars can be a bit daunting at times, especially for newcomers. One approach—the best approach, in my opinion—is simply to try out things to see what happens (and don't forget about the Edit • Undo command). If you're not that adventurous, an easy way exists to determine the function of a particular menu command or toolbar button.

Drag the mouse pointer over a toolbar button (but don't click it). A small box appears that tells you the name of the button. Often, this provides enough information for you to determine whether the button is what you want.

For context-sensitive help on a menu command or toolbar button, choose the Help • What's This? command (or, press Shift+F1). The mouse pointer turns into an arrow with a question mark beside it. Now, select any menu command or toolbar button, and Excel displays a description of the item. Note that the command itself won't be issued when you click a menu item or toolbar button.

**Tip**

Although shortcut menus were invented with mouse users in mind, you also can display a shortcut menu by pressing Shift+F10.

## Excel's Toolbars

Excel, like all leading applications, includes convenient graphical toolbars. Clicking a button on a toolbar is just another way of issuing commands to Excel. In many cases, a toolbar button is simply a substitute for a menu command. For example, the Copy button is a substitute for Edit • Copy. Some toolbar buttons, however, don't have any menu equivalent. One example is the AutoSum button, which automatically inserts a formula to calculate the sum of a range of cells. Toolbars can be customized to include menu commands as well as buttons.

By default, Excel displays two toolbars (named *Standard* and *Formatting*). Technically, it displays three toolbars, because the menu bar is actually a toolbar named *Worksheet menu bar*. All told, Excel 2000 has 23 built-in toolbars, plus the menu bar. You have complete control over which toolbars are displayed and where they are located. In addition, you can create custom toolbars, made up of buttons that you find most useful.

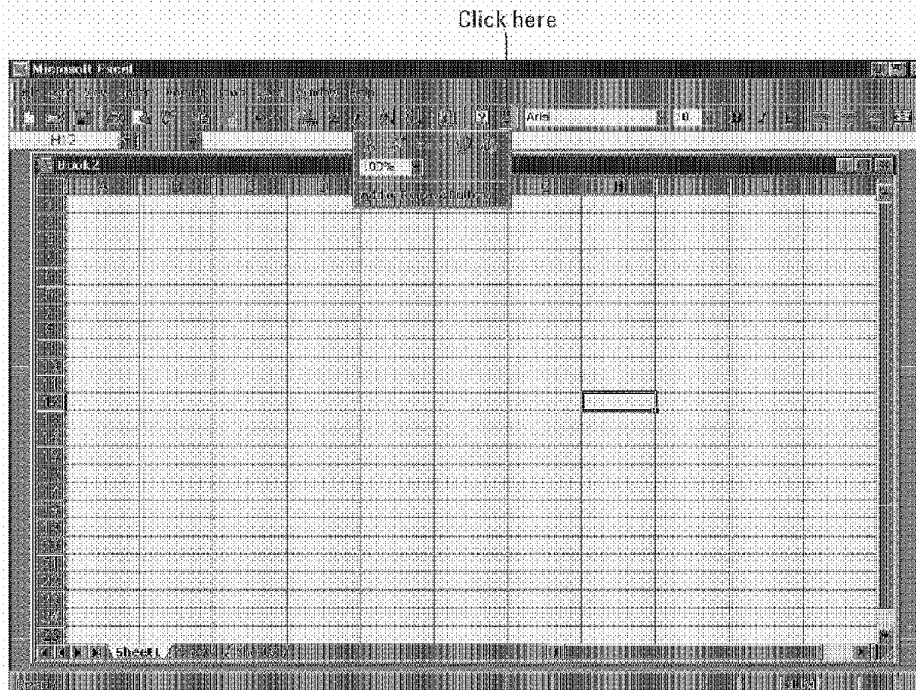
**Cross Reference**

Learn how to customize toolbars and create new toolbars in Chapter 33.

**EXCEL  
2000**

In Excel 2000, the Standard and Formatting toolbars may appear side by side just below the menu bar. In prior versions, these toolbars appeared separately. Because the toolbars appear side by side, you can't see all the tools on either toolbar; Excel displays those tools on each toolbar that you are most likely to use frequently. If you want to use one of the "missing tools," you must click the arrow that appears at the edge of the toolbar to display all the tools available on that toolbar (see Figure 4-11). After you choose a tool from the "missing tools," Excel continues to display that tool, because you recently used it.

If you prefer to see all the tools on a toolbar, you can drag one of the toolbars to a different location. If you want to display one below the other (as previous versions of Excel did), drag one below the other or choose Tools • Customize. Click the Options tab and remove the check from the check box labeled Standard and Formatting toolbars share one row. This check box *is not* available if either toolbar is hidden or both toolbars are floating (you'll learn more about "floating toolbars" later in this chapter). Changing this behavior in Excel affects only Excel.



**Figure 4-11:** Click the arrow to display more tools on the Standard toolbar.

Table 4-3 lists all of Excel's built-in toolbars.

<b><i>Toolbar</i></b>	<b><i>Use</i></b>
Standard	Issue commonly used commands
Formatting	Change how your worksheet or chart looks
Pivot Table	Work with pivot tables
Chart	Manipulate charts
Reviewing	Tools to use workbooks in groups
Clipboard	Tools to copy and paste multiple Clipboard selections between Office applications
Forms	Add controls (buttons, spinners, and so on) to a worksheet
Stop Recording	Record macros
External Data	Perform queries on external database files
Auditing	Identify errors in your worksheet
Full Screen	Toggle in and out of full-screen view (one tool only)
Circular Reference	Obtain assistance in identifying circular references in formulas
Visual Basic	Write macros in Visual Basic for Applications
Web	Access the Internet from Excel
Control Toolbox	Add ActiveX controls to a workbook or form
Exit Design Mode	Toggle in and out of design mode (one tool only)
Worksheet Menu Bar	The menu that appears when a worksheet is active
Chart Menu Bar	The menu that appears when a chart is selected
Drawing	Insert or edit drawings on a worksheet
Word Art	Insert or edit a picture composed of words
Picture	Insert or edit graphic images
Shadow Settings	Insert or edit shadows that appear behind objects
3D Settings	Add 3D effects to objects



The Clipboard toolbar (and the way the Clipboard functions in Office 2000 applications) is new in Excel 2000.



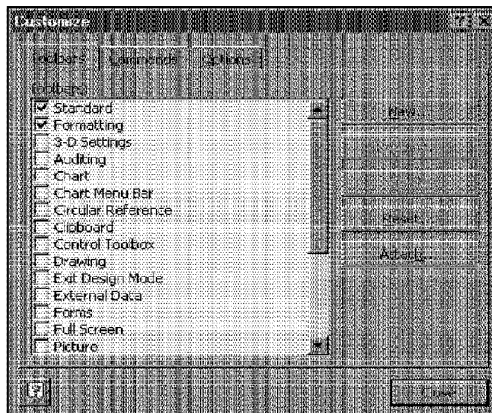
See Chapter 8 for more information on the Clipboard.

Sometimes, Excel automatically pops up a toolbar to help you with a particular task. For example, if you're working with a chart, Excel displays its Chart toolbar.

## Hiding or Showing Toolbars

To hide or display a particular toolbar, choose **View • Toolbars**, or right-click any toolbar. Either of these actions displays a list of common toolbars (but not all toolbars). The toolbars that have a check mark next to them are currently visible. To hide a toolbar, click it to remove the check mark. To display a toolbar, click it to add a check mark.

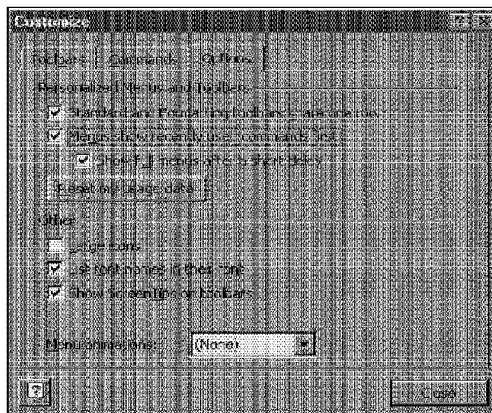
If the toolbar that you want to hide or show does not appear on the menu list, select **View • Toolbars • Customize** (or select **Customize** from the shortcut menu that appears when you right-click a toolbar). Excel displays its **Customize** dialog box, shown in Figure 4-12. The **Toolbars** tab of this dialog box shows a list of all toolbars that are available—the built-in toolbars, plus any custom toolbars. The toolbars that have a check mark next to them are currently visible. To hide a toolbar, click it to remove the check mark. To display a toolbar, click it to add a check mark. When you're finished, click the **Close** button.



**Figure 4-12:** Choose which toolbars to display in the **Customize** dialog box.

The **Customize** dialog box has some other options with which you may want to experiment. Click the **Options** tab to display these options (see Figure 4-13). The check boxes at the top of the **Options** tab were discussed earlier in the chapter. The button labeled **Reset my usage data**, in the middle of Figure 4-13, works in conjunction with the check box titled **Menus show recently used commands first**.

Excel determines the commands to show based on the commands that you use most often. Clicking the Reset my usage data tells Excel to ignore your past usage and reset the menu commands to the defaults that shipped with the product. If you leave the check in the Menus show recently used commands first check box after resetting usage, Excel starts the “monitoring” process over again to determine which commands you’re using most often.



**Figure 4-13:** The Options tab of the Customize dialog box provides some options for toolbars.



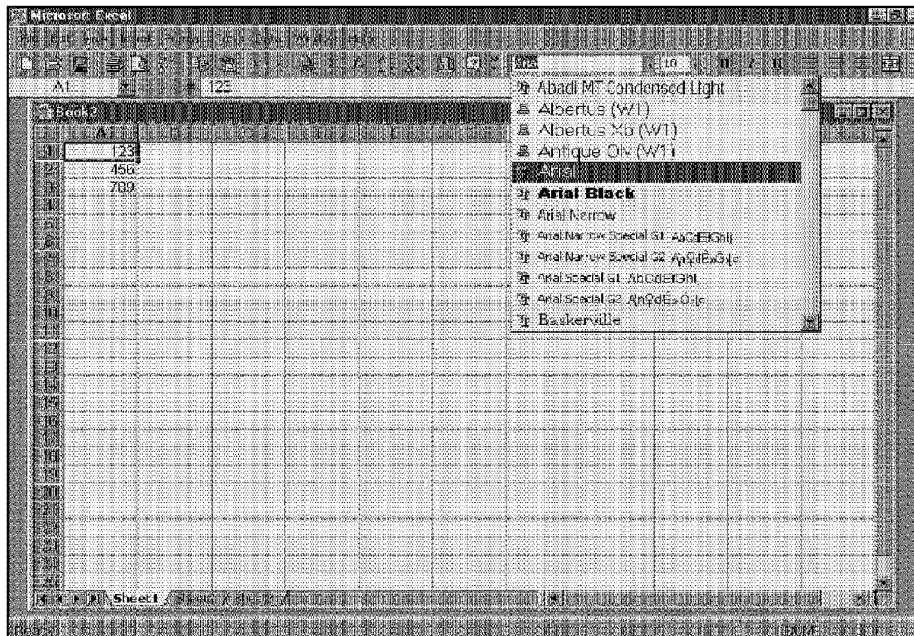
Chapter 33 discusses the Commands tab of the Customize dialog box.

If you prefer larger buttons, check the Large icons check box. By default, when you open the Font list box, font names provide a sample of the font (see Figure 4-14). This is useful, but it also slows things down quite a bit. For a faster font list, remove the check from the check box titled List font names in their font. And if you find those pop-up screen tips distracting, uncheck the Show ScreenTips on toolbars check box. You can also specify what type of animation you prefer for the menus.

## Moving Toolbars

Toolbars can be moved to any of the four sides of Excel’s window, or can be free-floating. A free-floating toolbar can be dragged onscreen anywhere that you want. You also can change a toolbar’s size simply by dragging any of its borders. To hide a free-floating toolbar, click its Close button.

Because Excel 2000 menu bars are actually toolbars, this discussion also applies to the menu bars.



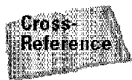
**Figure 4-14:** By default, font names provide a sample of the font.

When a toolbar isn't free-floating, it's said to be *docked*. A docked toolbar is stuck to the edge of Excel's window and doesn't have a title bar. Therefore, a docked toolbar can't be resized.

To move a toolbar (docked or free-floating), click and drag anywhere on the background of the toolbar (that is, anywhere except on a button). When you drag it toward the window's edge, it automatically docks itself there. When a toolbar is docked, its shape changes to a single row or single column.

## Learning More About Toolbars

Describing all the toolbar buttons available would take many pages, so I won't even try. You are charged with discovering this handy feature on your own. But, throughout the rest of the book, I point out toolbar buttons that may be useful in particular situations.

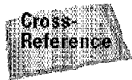


Chapter 33 discusses toolbars in more detail, including how to customize toolbars.

## Shortcut Keys

This chapter mentioned earlier that some menu commands have equivalent shortcut keys. Usually, the shortcut key combination is displayed next to the menu item—providing a built-in way for you to learn the shortcuts as you select the commands.

Throughout the book, shortcut keys are examined that are relevant to any particular topic.



Appendix C lists all the shortcut keys available in Excel.

## Working with Dialog Boxes

As previously stated, menu items that end with an ellipsis (three dots) result in a dialog box. All Windows programs use dialog boxes, so you may already be familiar with the concept.

### About Dialog Boxes

You can think of a dialog box as Excel's way of getting more information from you about the command that you selected. For example, if you choose **View • Zoom** (which changes the magnification of the worksheet), Excel can't carry out the command until it finds out from you what magnification level you want. Dialog boxes can be simple or much more complicated. Dialog boxes are made up of several items, known as *controls*.

When a dialog box appears in response to your command, you make additional choices in the dialog box by manipulating the controls. When you're finished, click the OK button (or press Enter) to continue. If you change your mind, click the Cancel button (or press Escape) and nothing further happens—it's as if the dialog box never appeared.

If a dialog box obscures an area of your worksheet that you need to see, simply click the dialog box's title bar and drag the box to another location. The title bar in a dialog box has two controls: a Help button (Question-mark icon) and a Close button. When you click the Help button, the mouse pointer displays a question mark. You can click any part of the dialog box to get a description of that part's purpose. Clicking the Close button is the same as clicking the Cancel button or pressing Escape.

Although a dialog box looks like just another window, it works a little differently. When a dialog box appears, you can't do anything in the workbook until the dialog box is closed. In other words, you must dismiss the dialog box before you can do anything.

## Navigating Dialog Boxes by Using the Keyboard

Although dialog boxes were designed with mouse users in mind, some users prefer to use the keyboard. With a bit of practice, you'll find that navigating a dialog box directly from the keyboard may be more efficient in some cases.

Every dialog box control has text associated with it, and this text always has one underlined letter (a *hot key* or *accelerator key*). You can access the control from the keyboard by pressing the Alt key and then the underlined letter. You also can use Tab to cycle through all the controls on a dialog box. Shift+Tab cycles through the controls in reverse order.

When a control is selected, it appears with a darker outline. You can use the spacebar to activate a selected control.

## Dialog Box Controls

Most people find working with dialog boxes to be quite straightforward and natural. The controls usually work just as you would expect, and they can be manipulated either with your mouse or directly from the keyboard.

The following sections describe the most common dialog box controls and show some examples.

### Buttons

A button control is about as simple as it gets. Just click it and it does its thing. Most dialog boxes have at least two buttons. The OK button closes the dialog box and executes the command. The Cancel button closes the dialog box without making any changes. If an ellipsis appears after the text on a button, clicking the button leads to another dialog box.

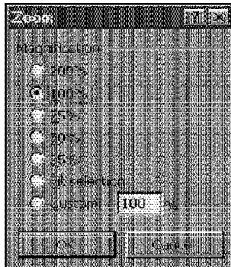
Pressing the Alt key and the button's underlined letter is equivalent to clicking the button. Pressing Enter is the same as clicking the OK button, and pressing Esc is the same as clicking the Cancel button.

### Option buttons

Option buttons are sometimes known as *radio* buttons, because they work like the preset station buttons on an old-fashioned car radio. Like these car radios, only one option button at a time can be "pressed." Choosing an option button is like choosing a single item on a computerized multiple-choice test. When you click an option button, the previously selected option button is unselected.

Option buttons usually are enclosed in a group box, and a single dialog box can have several sets of option buttons. Figure 4-15 shows an example of a dialog box with option buttons.

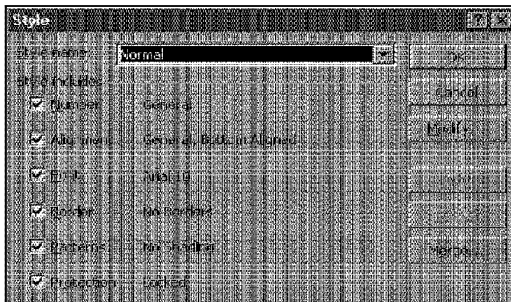




**Figure 4-15:** This dialog box has seven option buttons.

### Check boxes

A check box control is used to indicate whether an option is on or off. This is similar to responding to an item on a True/False test. Figure 4-16 shows a dialog box with several check boxes. Unlike option buttons, each check box is independent of the others. Clicking a check box toggles on and off the check mark.



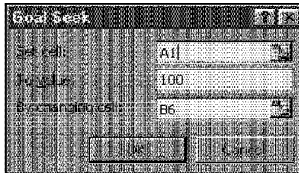
**Figure 4-16:** An example of check boxes in a dialog box.

### Range selection boxes

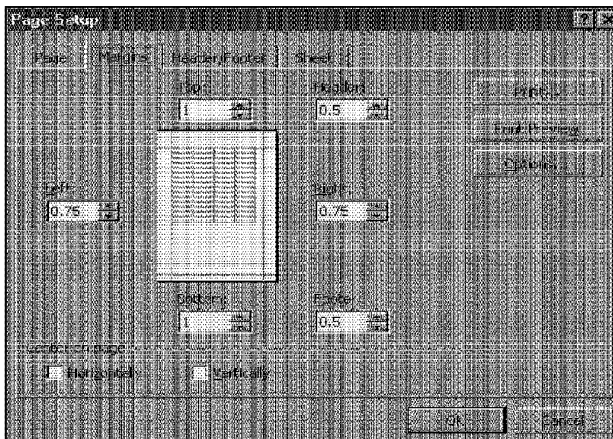
A range selection box enables you to specify a worksheet range by dragging inside the worksheet. A range selection box has a small button that, when clicked, collapses the dialog box, to make it easier for you to select the range by dragging in the worksheet. After you select the range, click the button again to restore the dialog box. Figure 4-17 shows a dialog box with two range selection box controls. The control in the middle is a standard edit box.

### Spinners

A spinner control makes specifying a number easy. You can click the arrows to increment or decrement the displayed value. A spinner is almost always paired with an edit box. You can either enter the value directly into the edit box or use the spinner to change it to the desired value. Figure 4-18 shows a dialog box with several spinner controls.



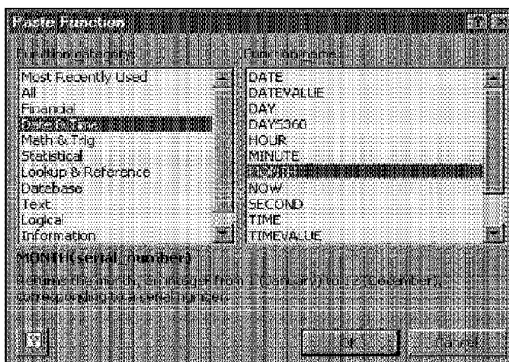
**Figure 4-17:** A range selection box enables you to specify a worksheet range by dragging in the worksheet.



**Figure 4-18:** This dialog box has several spinner controls.

## List boxes

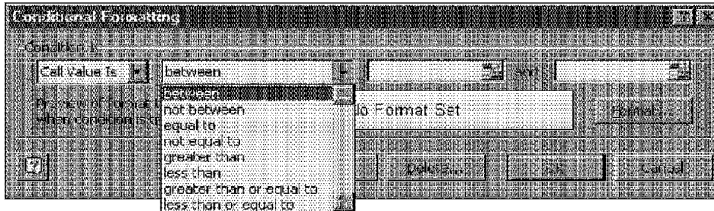
A list box control contains a list of options from which you can choose. If the list is longer than will fit in the list box, you can use its vertical scrollbar to scroll through the list. Figure 4-19 shows an example of a dialog box that contains two list box controls.



**Figure 4-19:** Two list box controls in a dialog box.

## Drop-down boxes

Drop-down boxes are similar to list boxes, but they show only a single option at a time. When you click the arrow on a drop-down box, the list drops down to display additional choices. Figure 4-20 shows an open drop-down box control.

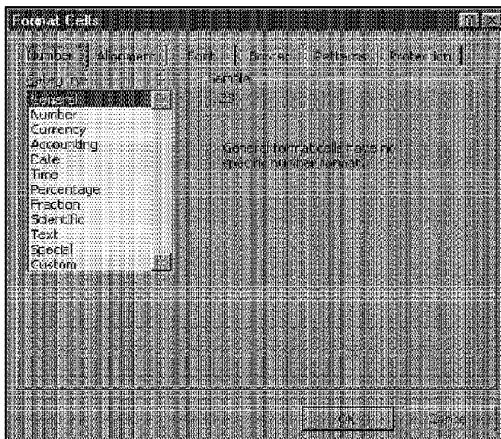


**Figure 4-20:** A drop-down box control in a dialog box.

## Tabbed Dialog Boxes

Many of Excel's dialog boxes are "tabbed" dialog boxes. A tabbed dialog box includes notebook-like tabs, each of which is associated with a different panel. When you click a tab, the dialog box changes to display a new panel containing a new set of controls. The Format Cells dialog box, which appears in response to the Format • Cells command, is a good example. This dialog box is shown in Figure 4-21. Notice that it has six tabs, which makes it functionally equivalent to six different dialog boxes.

Tabbed dialog boxes are quite convenient, because you can make several changes in a single dialog box. After you make all of your setting changes, click OK or press Enter.



**Figure 4-21:** The Format Cells dialog box is an example of a tabbed dialog box.

**Tip**

To select a tab by using the keyboard, use Ctrl+PgUp or Ctrl+PgDn, or simply press the first letter of the tab that you want to activate.

## Summary

This chapter covers background information that is essential to using Excel efficiently. It discusses methods to manipulate windows (which hold workbooks), as well as several techniques used to move around within a worksheet by using the mouse or the keyboard. It also discusses the various methods used to issue commands to Excel: menus, shortcut menus, toolbar buttons, and shortcut key combinations. This chapter concludes with a general discussion of dialog boxes—an element common to all Windows programs.

• ..... •



# Working with Files and Workbooks

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**C**omputer users won't get too far without understanding the concept of files. Every computer program uses files, and a good understanding of how to manage files stored on your hard drive will make your job easier. This chapter discusses how Excel uses files and what you need to know about files to use Excel.

## Some Background on Files

A *file* is an entity that stores information a disk. A hard disk is usually organized into directories (or folders) to facilitate the organization of files. For example, all the files that comprise Excel are stored in a separate folder on your computer. And, your system probably has a directory named Personal (located in your Windows directory) that is used as the default location for storing Excel workbooks.

Files can be manipulated in several ways. They can be copied, renamed, deleted, or moved to another disk or folder. These types of file operations are usually performed by using the tools in Windows (although you also can perform these operations without leaving Excel).

Computer programs are stored in files, and programs also store information that they use in files. Some programs (such as Excel) use files by loading them into memory. Others (such as database programs) access selective parts of a file directly from the disk and don't read the entire file into memory.

Windows makes it easy to access *properties* of files. Properties include information such as file type, size, date created, its read-only status, and so on. Excel enables you access some additional custom properties of files that can help you to

# 5 CHAPTER

## In This Chapter

Some Background on Files

How Excel Uses Files

Essential Workbook File Operations

Using Template Files

Protecting Your Work

locate and categorize your files. For example, you can store information that enables you quickly to locate all workbook files that apply to a particular client.

## How Excel Uses Files

When you installed Excel (or the entire Microsoft Office suite) on your system, the Setup program copied many files to your hard disk and created several new folders to hold the files. These files consist of the files that are needed to run Excel, plus some sample files and Help files. The Setup program also made (or modified) some entries in the Windows *Registry*. The Registry is a master database of sorts that keeps track of all configuration information for the operating system and the software installed on your system, and also associates Excel's data files with Excel.

### Excel's Data Files

Excel's primary file type is called a *workbook* file. When you open a workbook in Excel, the entire file is loaded into memory, and any changes that you make occur only in the copy of the file that's in memory. If the workbook is large, your system may not have enough memory to hold the file. In such a case, Windows uses disk-based virtual memory to simulate actual memory (this slows things down considerably). When you save the workbook, Excel saves the copy in memory to your disk, overwriting the previous copy of the file.

Table 5-1 lists the various types of files that Excel supports directly.

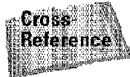
**Table 5-1  
Data Files Used by Excel**

<i>File Type</i>	<i>Description</i>
BAK	Backup file
XLA	Excel add-in file (several add-ins are supplied with Excel, and you can create your own add-ins)
XLB	Excel toolbar configuration file
XLC	Excel 4 chart file*
XLL	Excel link library file
XLM	Excel 4 macro file*
XLS	Excel workbook file
XLT	Excel template file
XLW	Excel workspace file

\* These files became obsolete beginning with Excel 5. However, Excel can still read these files for compatibility with previous versions.

## Foreign File Formats Supported

Although Excel's default file format is an XLS workbook file, it also can open files generated by several other applications. In addition, Excel can save workbooks in several different formats. Table 5-2 contains a list of file formats that Excel can read and write.



Chapter 22 covers file importing and exporting in detail.

**Table 5-2**  
**File Formats Supported by Excel**

<i>File Type</i>	<i>Description</i>
WKS	1-2-3 Release 1 spreadsheet format**
WK1	1-2-3 Release 2 spreadsheet format***
WK3	1-2-3 Release 3 spreadsheet format***
WK4	1-2-3 for Windows spreadsheet format
WQ1	Quattro Pro for DOS spreadsheet format
WB1	Quattro Pro for Windows spreadsheet format**
DBF	dBASE database format
SLK	SYLK spreadsheet format
WB1	Quattro Pro for Windows spreadsheet format
HTM, HTML	Hypertext Markup Language files
CSV	Comma-separated value text file format
TXT	Text file format
PRN	Text file format
DIF	Data interchange format

\*\* Excel can open files in this format, but not save them.

\*\*\* When you open one of these files, Excel searches for the associated formatting file (either FMT or FM3) and attempts to translate the formatting.



Excel 2000 lets you use HTML as a "native" file format. HTML is the file format used by Web browsers. You can save and retrieve files using this format, with no loss of information.



This new HTML feature is discussed in Chapter 30.



## Essential Workbook File Operations

This section describes the operations that you perform with workbook files: opening, saving, closing, deleting, and so on. As you read through this section, keep in mind that you can have any number of workbooks open simultaneously, and that at any given time, only one workbook is the active workbook. The workbook's name is displayed in its title bar (or in Excel's title bar if the workbook is maximized).

### Creating a New Workbook

When you start Excel, it automatically creates a new (empty) workbook called Book1. This workbook exists only in memory and has not been saved to disk. By default, this workbook consists of three worksheets named Sheet1, Sheet2, and Sheet3. If you're starting a new project from scratch, you can use this blank workbook.

You can always create another new workbook in either of three ways:

- Use the File • New command
- Click the New Workbook button on the Standard toolbar (this button has an image of a sheet of paper)
- Press the Ctrl+N shortcut key combination

If you choose the File • New command, you're greeted with a dialog box named New (see Figure 5-1). This is a tabbed dialog box that enables you to choose a template for the new workbook. If you don't have any custom templates defined, the General tab displays only one option: Workbook. Clicking this gives you a plain workbook. Templates that are included with Excel are listed in the Spreadsheet Solutions tab. If you choose one of these templates, your new workbook is based on the selected template file.



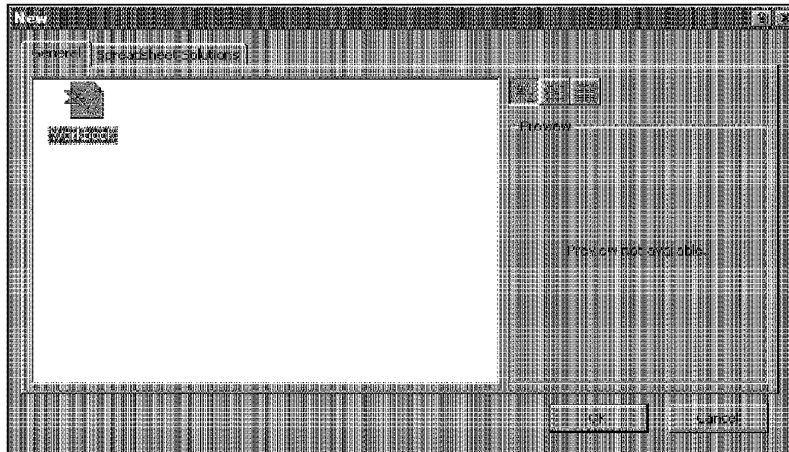
Templates are discussed later in this chapter, and Chapter 33 discusses this topic in detail.

Pressing Ctrl+N or clicking the New button on the Standard toolbar bypasses the New dialog box and creates a new default workbook immediately. If you want to create a new workbook based on a template, you must use the File • New command.



If you find that you almost always end up closing the default Book1 workbook that appears when you start Excel, you can set things up so that Excel starts without an empty workbook. To do so, you need to edit the command line that you use to start Excel. For example, if you start Excel by using a shortcut on your Windows desktop, right-click the shortcut icon and choose Properties from the menu. Click the Shortcut tab and add `/e` after the command line listed in the Target field. The following is an example of a command line modified in this manner (the actual drive and path may vary on your system):

```
C:\Program Files\Microsoft Office\Office\excel.exe /e
```



**Figure 5-1:** The New dialog box enables you to choose a template upon which to base the new workbook.

## Opening an Existing Workbook

The following are the ways to open a workbook that has been saved on your disk:

- Use the File • Open command
- Click the Open button on the Standard toolbar (the Open button has an image of a file folder opening)
- Press the Ctrl+O shortcut key combination

All of these methods result in the Open dialog box, shown in Figure 5-2.

You also can open an Excel workbook by double-clicking its icon in any folder window. If Excel isn't running, it starts automatically. Or, you can drag a workbook icon into the Excel window to load the workbook.

If you want to open a file that you've used recently, it may be listed at the bottom of the drop-down File menu. This menu shows a list of files that you've worked on recently. Just click the filename and the workbook opens for you (bypassing the Open dialog box).



You select the number of files to display in the recent file list—from zero up to nine. To change this setting, use Tool • Options. In the Options dialog box, click the General tab and make the change to the Recently used file list setting.

The Open dialog box has a new look in Excel 2000. It provides icons along the left side so that you can quickly activate certain folders. For example, clicking the Desktop icon activates your Windows\Desktop directory—which contains the file and shortcuts displayed on your desktop.

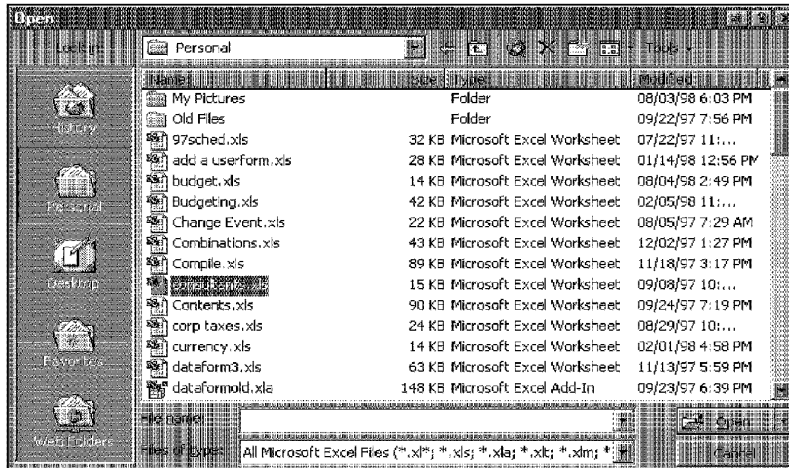


Figure 5-2: The Open dialog box.

To open a workbook from the Open dialog box, you must provide two pieces of information: the name of the workbook file (specified in the File name field) and its folder (specified in the Look in field).

This dialog box may be a bit overwhelming at first. You can ignore most of it, because many of the controls deal with locating files. If you know what folder the file is in, you simply specify the folder and then select the filename (and don't forget about the new icons on the left side of the Open dialog box). Click Open and the file opens. You also can just double-click the filename to open it.

In Excel 2000, the Open button is actually a drop-down list. Click the arrow and you see the additional options:

- **Open:** Opens the file normally.
- **Open Read Only:** Opens the selected file in read-only mode. When a file is opened in this mode, changes cannot be saved to the original filename.
- **Open as Copy:** Opens a copy of the selected file. If the file is named `budget.xls`, the workbook that opens is named `copy of budget.xls`.
- **Open in Browser:** Opens the file in your default Web browser.



You can hold down the Ctrl key and select multiple workbooks. When you click OK, all the selected workbook files will open.

Right-clicking a filename in the Open dialog box displays a shortcut menu with many extra choices. For example, you can copy the file, delete it, modify its properties, and so on.

### Specifying a folder

The Look in field is actually a drop-down box. Click the arrow and the box expands to show your system components. You can select a different drive or directory from this list. The Up One Level icon (a file folder with an upward arrow) moves up one level in the folder hierarchy.

As noted previously, you can also click any of the following icons to activate a particular directory:

Icon	Folder
History	c:\windows\recent
Personal	c:\windows\personal
Desktop	c:\windows\desktop
Favorites	c:\windows\favorites
Web Folders	c:\windows\web folders

### Filtering by file type

At the bottom of the Open dialog box, the drop-down list is labeled Files of type. When this dialog box is displayed, it shows All Microsoft Excel Files (\*.xl\*, \*.xls, \*.xla, \*.xlt, \*.xlw). This means that the files displayed are filtered, and you see only files that have an extension beginning with the letters XL. In other words, you see only standard Excel files: workbooks, add-ins, templates, and workspace files.

If you want to open a file of a different type, click the arrow in the drop-down list and select the file type that you want to open. This changes the filtering and displays only files of the type that you specify.

### File display preferences

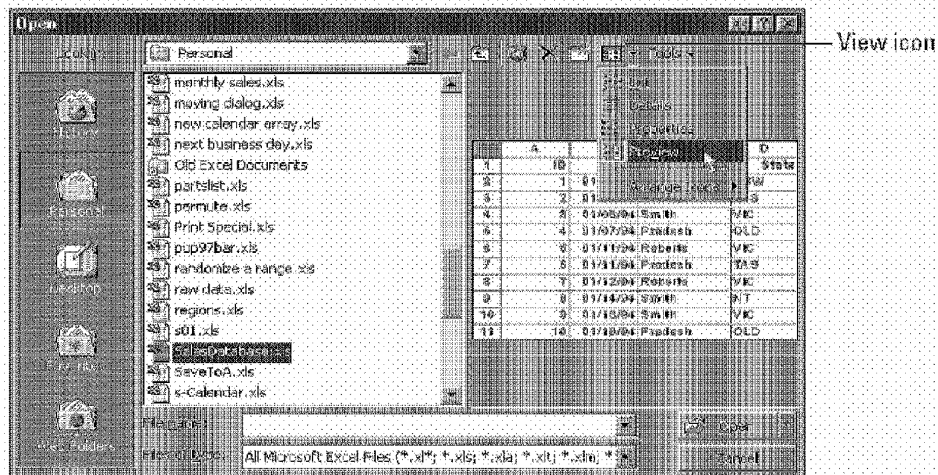
The Open dialog box can display your workbook filenames in four different styles:

- **List:** As a list of filenames only, displayed in multiple columns
- **Details:** As a list of filenames, with details about each file (its size, file type, and when it was last modified)
- **Properties:** As a list of filenames, with file properties displayed in a separate panel for the selected file
- **Preview:** As a list of filenames, with a preview screen displayed in a separate panel for the selected file

You control the style by clicking the View icon and then selecting from the drop-down list. The View icon is located in the upper-right section of the Open dialog box (see Figure 5-3). The style that you choose is entirely up to you.

Tip

If you display the files by using the Details style, you can sort the file list by any of the columns displayed (name, size, type, or date). To sort the file list, click the appropriate column heading.



**Figure 5-3:** The View icon enables you to change the way files are listed in the Open dialog box.

### The Tools menu

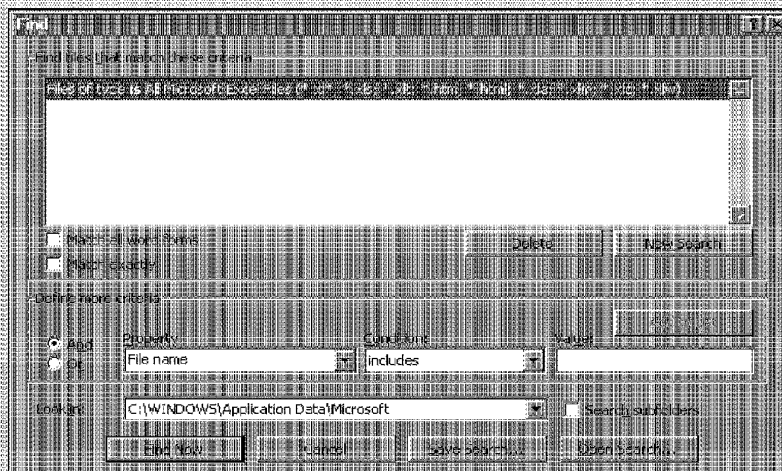
Clicking the Tools menu, listed last in the upper-right section of the Open dialog box, displays a shortcut menu. The following are the menu items displayed and what they do:

- **Find:** Opens a new dialog box that enables you to search for a particular file. See the sidebar “Finding Lost Workbooks” in Excel 2000.
- **Delete:** Deletes the selected file(s).
- **Rename:** Enables you to rename the selected file.
- **Print:** Opens the selected file, prints it, and then closes it.
- **Add to Favorites:** Adds to your Favorites directory a shortcut to the selected file.
- **Map Network Drive:** Displays a dialog box that enables you to map a network directory to a drive designator.
- **Properties:** Displays the Properties dialog box for the selected file. This enables you to examine or modify the file’s properties without actually opening it.

## Finding Lost Workbooks in Excel 2000

A common problem among computer users is “losing” a file. You know that you saved a file, but you don’t remember the folder that you saved it in. Fortunately, Excel makes it fairly easy to locate such lost files by using the Open dialog box.

The procedure for finding files is much different in Excel 2000—and also much easier. Select File • Open, and then click Tools • Find (or just press Ctrl+F). You’ll see the Find dialog box



Although this dialog box looks a bit complicated, its purpose is to collect two pieces of information from you:

- Search criteria (what to look for)
- Where to look (the search scope)

You can search for files based on virtually any criteria (or combination of criteria) you can think of, including name, size, file type, contents, and so on. And after you define a search, you can save it, so that you can search later by the same criteria. When searching for a file, your search scope can be very broad (a complete hard drive) or very narrow (a specific folder).

If your searches aren’t very complex, you may find it faster to use the Windows Find feature. You can search by filename, date, size, and even contents. Click the Windows Start button and then select Find • Files or Folders. Enter your search criteria and click Find Now. A list of matching files will be displayed. To open a file in Excel, just double-click it.

## Opening Workbooks Automatically

Many people find that they work on the same workbooks day after day. If this describes you, you'll be happy to know that you can have Excel open specific workbook files automatically whenever you start Excel.

The XLStart folder is located within the Microsoft Office folder. Any workbook files (excluding template files) that are stored in this folder open automatically when Excel starts. If one or more files open automatically from this folder, Excel won't start up with a blank workbook.



**Tip**

You can specify an alternate startup folder in addition to the XLStart folder. Choose Tools • Options and select the General tab. Enter a new folder name in the field labeled Alternate Startup File Location. After you do that, when you start Excel, it automatically opens all workbook files in both the XLStart folder and the alternate folder that you specified.

## Saving Workbooks

When you're working on a workbook, it's vulnerable to day-ruining events, such as power failures and system crashes. Therefore, you should save your work to disk often. Saving a file takes only a few seconds, but re-creating four hours of lost work takes about four hours.

Excel provides four ways to save your workbook:

- Use the File • Save command
- Click the Save button on the Standard toolbar
- Press the Ctrl+S shortcut key combination
- Press the Shift+F12 shortcut key combination

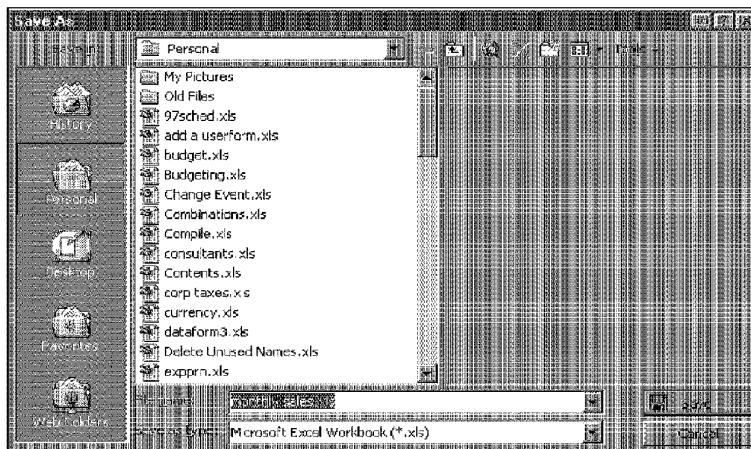
If your workbook has already been saved, it's saved again using the same filename. If you want to save the workbook to a new file, use the File • Save As command (or press F12).

If your workbook has never been saved, its title bar displays a name such as Book1 or Book2. Although Excel enables you to use these generic workbook names for file-names, it's not recommended. Therefore, the first time that you save a new workbook, Excel displays the Save As dialog box (see Figure 5-4) to let you provide a more meaningful name.

The Save As dialog box is somewhat similar to the Open dialog box. Again, you need to specify two pieces of information: the workbook's name and the folder in which to store it. If you want to save the file to a different folder, select the desired folder in the Save in field. If you want to create a new folder, click the Create New Folder icon in the Save As dialog box. The new folder is created within the folder that's displayed in the Save in field.

After you select the folder, enter the filename in the File name field. You don't need to specify a file extension—Excel adds it automatically, based on the file type specified in the Save as type field.

If a file with the same name already exists in the folder that you specify, Excel asks whether you want to overwrite that file with the new file. Be careful with this, because you can't recover the previous file if you overwrite it.



**Figure 5-4:** The Save As dialog box.



Remember, saving a file *overwrites* the previous version of the file on disk. If you open a workbook and then completely mess it up, don't save the file! Instead, close the workbook without saving it, and then open the good copy on disk.



## File Naming Rules

Excel's workbook files are subject to the same rules that apply to other Windows 95 (or later) files. A filename can be up to 255 characters, including spaces. This enables you (finally) to give meaningful names to your files. You can't, however, use any of the following characters in your filenames:

- \ (slash)
- ? (question mark)
- :
- \* (asterisk)
- " (quote)
- < (less than)
- > (greater than)
- | (vertical bar)

You can use uppercase and lowercase letters in your names to improve readability. The filenames aren't case-sensitive, however. If you have a file named My 1999 Budget and try to save another file with the name MY 1999 BUDGET, Excel asks whether you want to overwrite the original file.

If you plan to share your files with others who use Excel 5 or earlier, you should make sure that the filename is no longer than eight characters, with no spaces. Otherwise, the filename will appear rather strange. For example, a file named My 1999 Budget will appear as MY1999~1.XLS, because Windows assigns every file an eight-character filename to be compatible with pre-Windows 95 operating systems.

### The default file location

When you save a workbook file for the first time, the Save As dialog box proposes a folder in which to save it. Normally, this is the Personal folder (located within your \Windows folder). If you want, you can change the default file location. To do so, choose Tools • Options and click the General tab in the Options dialog box. Then, enter the folder's path into the field labeled Default File Location. After doing so, the Save As dialog box defaults to this folder.

Note, however, that if you override the default folder in the Save As dialog box, the new folder becomes the default folder for the current Excel session. So, if you use the File • Save As command to save another workbook, Excel proposes the new default folder.

## File saving options

The Save As dialog box has a drop-down menu labeled Tools. When you click this menu, one of the options displayed is labeled General Options. Selecting this item displays the Save Options dialog box, shown in Figure 5-5. This dialog box enables you to set the following options:

- **Always create backup:** If this option is set, the existing version of the workbook is renamed as a BAK file before the workbook is saved. Doing this enables you to go back to the previously saved version of your workbook. Some users like to use this option because it adds another level of safety. Just be aware that your worksheet files will take up about twice as much disk space, so it's a good idea to delete the backup files occasionally.
- **Password to open:** If you enter a password, the password is required before anyone can open the workbook. You're asked to enter the password a second time to confirm it. Passwords can be up to 15 characters long and are case-sensitive. Be careful with this option, because it is impossible to open the workbook (using normal methods) if you forget the password.



**Figure 5-5:** The Save Options dialog box.

- **Password to modify:** This option enables you to specify a password that will be required before changes to the workbook can be saved under the same filename. Use this option if you want to make sure that changes aren't made to the original version of the workbook. In other words, the workbook can be saved with a new name, but a password is required to overwrite the original version.
- **Read-only recommended:** If this option is checked, the file can't be saved under its original name. This is another way to ensure that a workbook file isn't overwritten.



File security is not one of Excel's strong points. Saving a workbook with a password is not a foolproof method of protecting your work. Several utilities exist that are designed to "crack" passwords in Excel files. Therefore, if you need to keep your work absolutely confidential, Excel is not your best software choice.

## Saving Your Work Automatically

If you're the type who gets so wrapped up in your work that you forget to save your file, you may be interested in Excel's AutoSave feature. AutoSave automatically saves your workbooks at a prespecified interval. Using this feature requires that you load an add-in file. This add-in is included with Excel, but normally it's not installed. To load the AutoSave add-in, select Tools • Add-Ins. This displays a dialog box. Click AutoSave in the list of add-ins and then click OK. The add-in will be loaded every time that you run Excel. If you no longer want to use AutoSave, repeat the process and uncheck the AutoSave add-in.

When AutoSave is loaded, the Tools menu has a new menu item: AutoSave. Selecting Tools • AutoSave displays the dialog box shown in the accompanying figure.



The AutoSave dialog box enables you to specify the time interval for saving. In general, you should specify a time interval equal to the maximum amount of time that you're willing to lose. For example, if you don't mind losing 15 minutes of work, set the interval for 15 minutes.

Option buttons let you choose between saving all open workbooks or just the active workbook. Another option enables you to specify whether you want to be prompted before the save takes place. If you choose to be prompted, you have the opportunity to cancel the save if you're in the middle of something important.

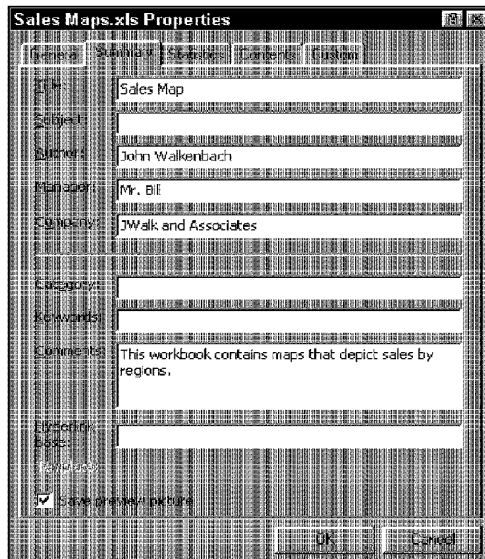


Using AutoSave can be helpful, but it can also be risky. When an Excel workbook is saved, the Undo stack is reset. Therefore, if you make a mistake (such as deleting a range of data) and AutoSave kicks in and saves your file, you won't be able to use Undo to reverse your mistake.

### Workbook summary information

When you save a file for the first time by closing the Save As dialog box, Excel may prompt you for summary information by displaying the Properties dialog box, shown in Figure 5-6. This dialog box enables you to specify lots of descriptive information about the workbook, and also displays some details about the file.

The Properties dialog box may or may not appear, depending on how Excel is configured. To specify whether to display the Properties dialog box automatically, select Tools • Options, click the General tab, and adjust the setting of the Prompt for File Properties check box.



**Figure 5-6:** You can provide all sorts of information about your workbook in the Properties dialog box.

The Properties dialog box has the following five tabs:

- **General:** Displays general information about the file — its name, size, location, date created, and so on. You can't change any of the information in this panel.
- **Summary:** Appears by default when you first save the file. It contains nine fields of information that you can enter and modify. You can use the information in this panel to locate workbooks quickly that meet certain criteria. This is discussed later in the chapter.
- **Statistics:** Shows additional information about the file, and can't be changed.
- **Contents:** Displays the names of the sheets in the workbook, arranged by sheet type.
- **Custom:** Can be quite useful if you use it consistently. Basically, it enables you to store in a sort of database a variety of information about the file. For example, if the workbook deals with a client named Smith and Jones Corp., you can keep track of this bit of information and use it to help locate the file later.

You also can access the Properties dialog box for the active workbook at any time by selecting File • Properties from the menu. In addition, you can view the properties of a workbook from the Open dialog box. Right-click the file in which you're interested and choose Properties from the shortcut menu.

### Saving files in older formats

If your colleagues also use Excel, you may find yourself exchanging workbook files. If so, it's important that you know which version of Excel they use. Excel 97 and Excel 2000 use the same file format, but previous versions of Excel use different file formats. Generally, newer versions of Excel can open files created in older versions, but older versions of Excel cannot open files created in newer versions.

If you send a workbook to someone who uses a version of Excel prior to Excel 97, you must remember to save the file in a format that the earlier version can read.



Even though Excel 97 and Excel 2000 use a common file format, this does not ensure complete compatibility. If your workbook makes use of any features new to Excel 2000, these features won't be available if the file is opened in Excel 97.

Excel 5 was the first version to use multisheet workbooks. Prior to Excel 5, worksheets, chart sheets, and macro sheets were stored in separate files. Consequently, if you share a multisheet workbook with someone who still uses one of these older versions, you must save each sheet separately—and in the proper format.

The Save As dialog box has a field labeled Save as type that enables you to choose the format in which to save the file. The Excel file formats are listed in Table 5-3.



Excel 2000 has an option that enables you to specify the default format for saved workbooks. To change the default setting, select Tools • Options, click the Transition tab, and then choose the file type from the drop-down list labeled Save Excel files as.

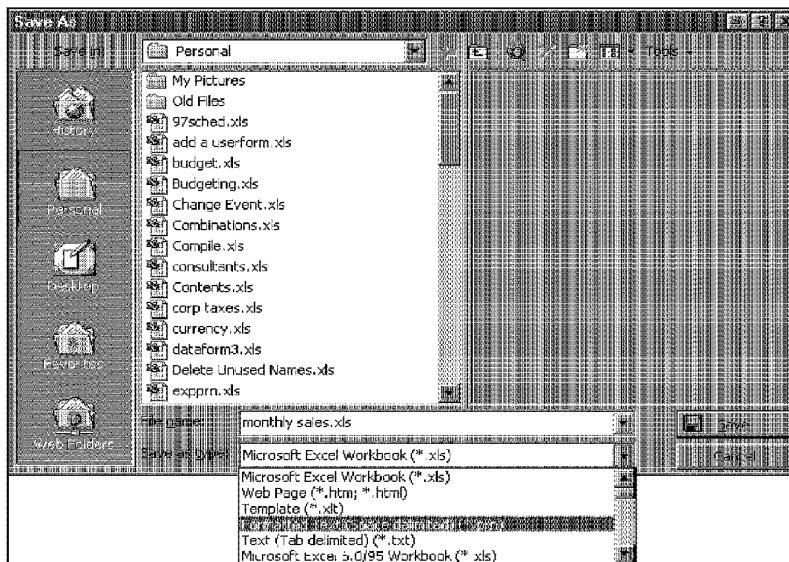
This is improved over the Excel 97 version of the same feature, which prompts users on every file save if this option is enabled.

**Table 5-3**  
**Excel File Formats**

<i>Format</i>	<i>What It Does</i>
Microsoft Excel Workbook	Saves the file in the standard Excel 2000 file format (which is identical to the Excel 97 file format)
Microsoft Excel 97-9 & 5.0/95 Workbook	Saves the file in a format that can be read by Excel 5 through Excel 2000
Microsoft Excel 5/95 Workbook	Saves the file in a format that can be read by both Excel 5 and Excel 95
Microsoft Excel 4.0 Worksheet*	Saves the file in a format that can be read by Excel 4
Microsoft Excel 3.0 Worksheet*	Saves the file in a format that can be read by Excel 3
Microsoft Excel 2.1 Worksheet*	Saves the file in a format that can be read by Excel 2.1

\* These file formats do not support multisheet workbooks.

If you need to send a workbook with three worksheets in it to a colleague who uses Excel 4, you must save it as three separate files and make sure that you select the Microsoft Excel 4.0 Worksheet option from the Save as type drop-down box (see Figure 5-7).



**Figure 5-7:** You can save an Excel workbook in a format that is readable by previous versions of Excel.

## Closing Workbooks

When you're finished with a workbook, you should close it to free the memory that it uses. You can close a workbook by using any of the following methods:

- Use the File • Close command
- Click the Close button in the workbook's title bar
- Double-click the Control icon in the workbook's title bar
- Press the Ctrl+F4 shortcut key
- Press the Ctrl+W shortcut key

If you've made any changes to your workbook since it was last saved, Excel asks whether you want to save the workbook before closing it.

**Tip**

To close all open workbooks, press the Shift key and choose File • Close All. This command appears only when you hold down the Shift key while you click the File menu. Excel closes each workbook, prompting you for each unsaved workbook.

## Using Workspace Files

As you know, you can work with any number of workbook files at a time. For example, you may have a project that uses two workbooks, and you like to arrange the windows in a certain way to make it easy to access them both. Fortunately, Excel enables you to save your entire workspace to a file. *Workspace*, as used here, means all the workbooks and their screen positions and window sizes — sort of a snapshot of Excel's current state. Then, you can open the workspace file, and Excel is set up exactly as it was when you saved your workspace.

To save your workspace, use the File • Save Workspace command. Excel proposes the name *resume.xlw* for the workspace file. You can use this name or enter a different name in the File name field. Click the Save button, and the workspace will be saved to disk.

**Caution**

You need to understand that a workspace file doesn't include the workbook files themselves. It includes only the information needed to recreate the workspace. The workbooks in the workspace are saved in standard workbook files. Therefore, if you distribute a workspace file to a coworker, make sure that you also include the workbook files to which the workspace file refers.

**Tip**

If you save your workspace file in the XLStart folder, Excel opens the workspace file automatically when it starts up. This is handy if you tend to work with the same files every day, because essentially you can pick up where you left off the previous day.

## Sharing Workbooks with Others

If your system is connected to a network, you should be aware of some other issues related to workbook files.

**Cross-Reference**

Chapter 21 is devoted entirely to workgroup issues.

## Using Template Files

You may be able to save yourself a lot of work by using a template instead of creating a new workbook from scratch. A *template* basically is a worksheet that's all set up with formulas, ready for you to enter data.

The templates distributed with Excel are nicely formatted and relatively easy to customize. When you open a new workbook based on the template, you save the workbook to a new file. In other words, you don't overwrite the template.

Figure 5-8 shows one of the Spreadsheet Solutions templates.

The screenshot shows the 'INVOICE1' Excel template. At the top, there is a header section with 'COMPANY NAME' and 'Invoice No.' followed by a barcode. Below this, there are fields for 'Company Address', 'City, State ZIP Code', and 'Phone Number fax Fax Number'. A large 'INVOICE' title is centered below the header. The 'Customer' section contains two boxes: one for customer details (Name, Address, City, State, ZIP, Phone) and another for order details (Date, Order No., Rep, FOB). The main body of the template is a table with four columns: 'Qty', 'Description', 'Unit Price', and 'TOTAL'. The table is currently empty. At the bottom, there is a status bar with the word 'Invoice'.

**Figure 5-8:** Excel includes several templates, designed to perform common tasks. This figure shows the Invoice1 template.

Excel 2000 includes three templates:

- **Expense Statement:** Helps you create expense report forms and a log to track them
- **Invoice:** Helps you create invoices
- **Purchase Order:** Helps you create purchase orders to send to vendors

Another template, named Village, is also available. This isn't really a template. It describes how to purchase additional templates from Village Software.



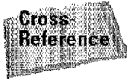
**Tip**

You can download additional templates from Microsoft's Web site:

<http://officeupdate.microsoft.com/>

The Spreadsheet Solutions templates are handy, but be aware that they include a lot of overhead—several worksheets, dialog sheets, and a custom toolbar. Consequently, the workbooks that you generate by using these templates may be larger than you would expect. On the positive side, studying how these templates are designed can provide advanced users with some great tips.





Chapter 33 discusses templates in more detail and describes how to create your own template files.

## Protecting Your Work

The final topic in this chapter offers a few words on backing up your work to protect yourself from disaster—or at least save yourself the inconvenience of repeating your work. Earlier in the chapter, you learned how to make Excel create a backup copy of your workbook when you save the file. That's a good idea, but it certainly isn't the only backup protection you should use.

If you've been around computers for a while, you probably know that hard disks aren't perfect. I've seen many hard disks fail for no apparent reason and with absolutely no advance warning. In addition, files can get corrupted—which usually makes them unreadable and essentially worthless. If a file is truly important, you need to take extra steps to ensure its safety. The following are several backup options for ensuring the safety of individual files:

- **Keep a backup copy of the file on the same drive.** This is essentially what happens when you select the Always create a backup option when you save a workbook file. Although this offers some protection if you create a mess of the worksheet, it won't do you any good if the entire hard drive crashes.
- **Keep a backup copy on a different hard drive.** This assumes, of course, that your system has more than one hard drive. This offers more protection than the preceding method, because the likelihood that both hard drives will fail is remote. If the entire system is destroyed or stolen, however, you're out of luck.
- **Keep a backup copy on a network server.** This assumes that your system is connected to a server on which you can write files. This method is fairly safe. If the network server is located in the same building, however, you're at risk if the entire building burns down or is otherwise destroyed.
- **Keep a backup copy on a removable medium.** This is the safest method. Using a removable medium, such as a floppy disk or tape, enables you physically to take the backup to another location. So, if your system (or the entire building) is damaged, your backup copy remains intact.

Most people with good backup habits acquired them because they've been burned in the past (myself included).

Windows comes with software that you can use to back up your entire system. Consult your Windows manual or online help for details.

## Summary

This chapter covers the rather broad topic of files. It starts with an overview of how computers use files and narrows the scope to cover how Excel uses files. The chapter includes a discussion of the essential file operations that you perform from Excel, including creating new workbook files, opening existing files, saving files, and closing files. The chapter concludes with an introduction to the template files that are included with Excel.

• ..... •



# Entering and Editing Worksheet Data

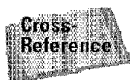
**P**eople use spreadsheets primarily to store data and perform calculations. This chapter discusses the various types of data that you can enter into Excel.

## Types of Worksheet Data

As you know, an Excel workbook can hold any number of worksheets, and each worksheet is made up of cells. A cell can hold any of three types of data:

- Values
- Text
- Formulas

A worksheet also can hold charts, maps, drawings, pictures, buttons, and other objects. These objects actually reside on the worksheet's *draw layer*, which is an invisible layer on top of each worksheet.



The draw layer is discussed in Chapter 14. This chapter is concerned only with data that you enter into worksheet cells.

## Values

*Values*, also known as numbers, represent a quantity of some type: sales, number of employees, atomic weights, test scores, and so on. Values that you enter into cells can be used in formulas or can be used to provide the data that is used to

# 6 CHAPTER

## In This Chapter

Types of Worksheet Data

Entering Values

Entering Text

Dates and Times

Changing or Erasing Values and Text

Formatting Values

Formatting Numbers Using Shortcut Keys

Basic Cell Formatting

Data Entry Tips

create a chart. Values also can be dates (such as 6/9/2019) or times (such as 3:24 a.m.), and you'll see that you can manipulate these types of values quite efficiently.

Figure 6-1 shows a worksheet with some values entered in it.

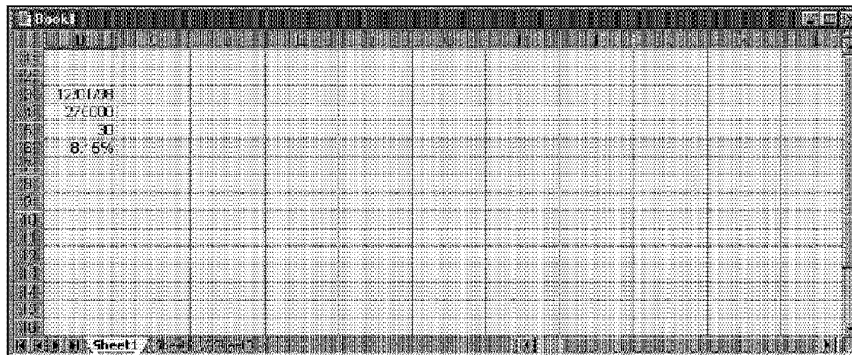


Figure 6-1: Values entered in a worksheet.

## Text

Most worksheets also include non-numeric text in some of their cells. You can insert text to serve as labels for values, headings for columns, or instructions about the worksheet. Text that begins with a number is still considered text. For example, if you enter an address such as **1425 Main St.** into a cell, Excel considers this to be text rather than a value.

Figure 6-2 shows a worksheet with text in some of the cells. In this case, the text is used to clarify what the values mean.

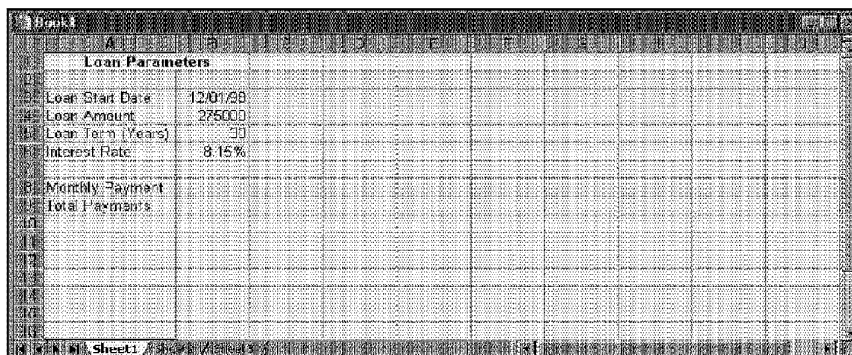


Figure 6-2: This worksheet consists of text and values.

## Formulas

Formulas are what make a spreadsheet a spreadsheet — otherwise, you'd just have a strange word processor that is good at working with tables. Excel enables you to enter powerful formulas that use the values (or even text) in cells to calculate a result. When you enter a formula into a cell, the formula's result appears in the cell. If you change any of the values used by a formula, the formula recalculates and shows the new result. Figure 6-3 shows a worksheet with values, text, and formulas.



Chapter 9 discusses formulas in detail.

Loan Parameters	
Loan Start Date	2/01/98
Loan Amount	275000
Loan Term (Years)	30
Interest Rate	5.15%
Monthly Payment	\$ 2,048.68
Total Payments	\$736,805.00

Figure 6-3: Cells B8 and B9 contain formulas that use the other values.

## Excel's Numerical Limitations

New users often are curious about the types of values that Excel can handle. In other words, how large can numbers be? And how accurate are large numbers?

Excel's numbers are precise up to 15 digits. For example, if you enter a large value, such as 123,123,123,123,123,123 (18 digits), Excel actually stores it with only 15 digits of precision: 123,123,123,123,123,000. This may seem quite limiting, but in practice, it rarely causes any problems.

Here are some of Excel's other numerical limits:

Largest positive number:  $9.9E+307$

Smallest negative number:  $-9.9E+307$

Smallest positive number:  $1E-307$

Largest negative number:  $-1E-307$

These numbers are expressed in scientific notation. For example, the largest positive number is "9.9 times 10 to the 307th power."

## Entering Values

Entering values into a cell is quite easy. Just move the cell pointer to the appropriate cell to make it the active cell, enter the value, and then press Enter. The value is displayed in the cell and also appears in Excel's formula bar. You can, of course, include decimal points and dollar signs when entering values and dollar signs, along with plus signs, minus signs, and commas. If you precede a value with a minus sign or enclose it in parentheses, Excel considers it to be a negative number.



Sometimes, the value that you enter won't be displayed exactly as you enter it. More specifically, if you enter a large number, it may be converted to scientific notation. Notice, however, that the formula bar displays the value that you entered originally. Excel simply reformatted the value so that it would fit into the cell. If you make the column wider, the number is displayed as you entered it.

The section "Formatting values," later in this chapter, discusses the various ways to format values so that they appear differently.

## Entering Text

Entering text into a cell is just as easy as entering a value: activate the cell, type the text, and then press Enter. A cell can contain a maximum of about 32,000 characters. To give you an idea of how much text can fit into a single cell, consider the fact that this entire chapter has approximately 32,000 characters.



Even though a cell can hold a huge number of characters, you'll find that it's not possible to actually display all of them.

If you type an exceptionally long text entry into a cell, the characters appear to wrap around when they reach the right edge of the window, and the formula bar expands so that the text wraps around.

What happens when you enter text that's longer than its column's current width? If the cells to the immediate right are blank, Excel displays the text in its entirety, appearing to spill the entry into adjacent cells. If an adjacent cell is not blank, Excel displays as much of the text as possible (the full text is contained in the cell; it's just not displayed). If you need to display a long text string in a cell that's adjacent to a nonblank cell, you can take one of several actions:

- Edit your text to make it shorter
- Increase the width of the column
- Use a smaller font
- Wrap the text within the cell so that it occupies more than one line
- Use Excel's "shrink to fit" option (see Chapter 11 for details)

## Dates and Times

Often, you need to enter dates and times into your worksheet. To Excel, a date or a time is simply treated as a value — but it's formatted to appear as a date or a time.

### Working with Date Values

If you work with dates and times, you need to understand Excel's date and time system. Excel handles dates by using a serial number system. The earliest date that Excel understands is January 1, 1900. This date has a serial number of 1. January 2, 1900, has a serial number of 2, and so on. This system makes it easy to deal with dates in formulas. For example, you can enter a formula to calculate the number of days between two dates.

Most of the time, you don't have to be concerned with Excel's serial number date system. You can simply enter a date in a familiar date format, and Excel takes care of the details behind the scenes. For example, if you need to enter June 1, 1999, you can simply enter the date by typing **June 1, 1999** (or use any of several different date formats). Excel interprets your entry and stores the value 36312 — which is the date serial number for that date.

Here is a sampling of the date formats that Excel recognizes. After entering a date, you can format it to appear in a different date format.

<i>Entered into a Cell</i>	<i>Excel's Interpretation</i>
6-1-99	June 1, 1999
6-1-1999	June 1, 1999
6/1/99	June 1, 1999
6/1/1999	June 1, 1999
6-1/99	June 1, 1999
June 1, 1999	June 1, 1999
Jun 1	June 1 of the current year
June 1	June 1 of the current year
6/1	June 1 of the current year
6-1	June 1 of the current year



**Tip**

After you enter a date, check the formula bar. If the formula bar displays exactly what you entered, Excel didn't interpret the date that you entered as a date. If the formula bar displays your entry in a format like *mm/dd/yyyy*, Excel correctly interpreted your entry as a date.



## Avoid Year 2000 Surprises

Be careful when entering dates by using two digits for the year. Excel has a rather arbitrary decision point in interpreting your entries. Two-digit years between 00 and 29 are interpreted as 21st-century dates. Two-digit years between 30 and 99 are interpreted as 20th-century dates. For example, if you enter 12/5/28, Excel interprets your entry as December 5, 2028. But if you enter 12/5/30, Excel sees it as December 5, 1930. To avoid any surprises, it's a good practice to simply enter years using all four digits.



As you can see, Excel is rather smart when it comes to recognizing dates that you enter into a cell. It's not perfect, however. For example, Excel does *not* recognize any of the following entries as dates: June 1 1999, Jun-1 1999, and Jun-1/1999. Rather, it interprets these entries as text. If you plan to use dates in formulas, make sure that the date you enter is actually recognized as a date; otherwise, your formulas will produce incorrect results.

## Working with Time Values

When you work with times, you simply extend Excel's date serial number system to include decimals. In other words, Excel works with times by using fractional days. For example, the date serial number for June 1, 1999, is 36312. Noon (halfway through the day) is represented internally as 36312.5.

Again, you normally don't have to be concerned with these serial numbers (or fractional serial numbers, for times). Just enter the time into a cell in a recognized format.

Here are some examples of time formats that Excel recognizes:

<i>Entered into a Cell</i>	<i>Excel's Interpretation</i>
11:30:00 am	11:30 a.m.
11:30:00 AM	11:30 a.m.
11:30 pm	11:30 p.m.
11:30	11:30 a.m.

The preceding samples don't have a day associated with them. You also can combine dates and times, however, as follows:

<i>Entered into a Cell</i>	<i>Excel's Interpretation</i>
6/1/99 11:30	11:30 a.m. on June 1, 1999

## Changing or Erasing Values and Text

Not surprisingly, you can change the contents of a cell after the fact. After you enter a value or text into a cell, you can modify it in several ways:

- Erase the cell's contents
- Replace the cell's contents with something else
- Edit the cell's contents

### Erasing the Contents of a Cell

To erase the value, text, or formula in a cell, just click the cell and press Delete. To erase more than one cell, select all the cells that you want to erase, and then press Delete. Pressing Delete removes the cell's contents, but doesn't remove any formatting (such as bold, italic, or a different number format) that you may have applied to the cell.

For more control over what gets deleted, you can use the Edit • Clear command. This menu item has a submenu with four additional choices (see Figure 6-4), which are described as follows:

- **All:** Clears everything from the cell
- **Formats:** Clears only the formatting and leaves the value, text, or formula
- **Contents:** Clears only the cell's contents and leaves the formatting
- **Comments:** Clears the comment (if one exists) attached to the cell

### Replacing the Contents of a Cell

To replace the contents of a cell with something else, just click the cell and type your new entry, which replaces the previous contents. Any formatting that you applied to the cell remains.

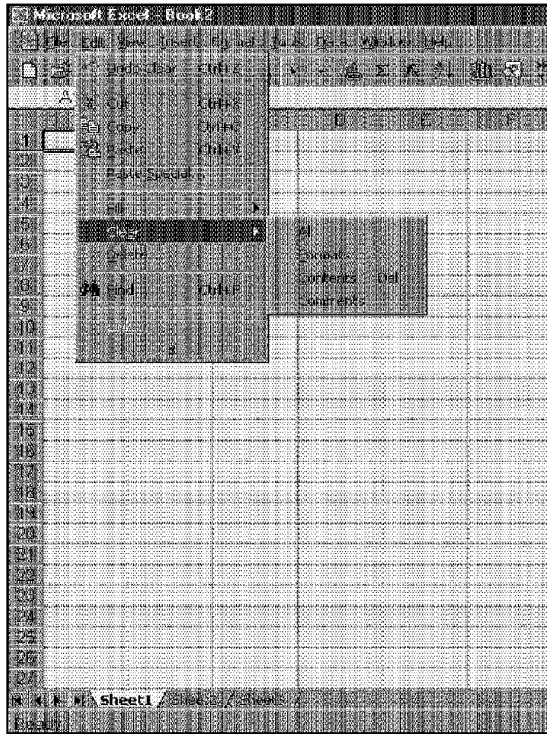
### Editing the Contents of a Cell

If the cell contains only a few characters, replacing its contents by typing new data usually is easiest. But if the cell contains lengthy text or a complex formula, and you need to make only a slight modification, you probably want to edit the cell rather than reenter information.

When you want to edit the contents of a cell, you can use one of the following ways to get into cell-edit mode:

- **Double-click the cell.** This enables you to edit the cell contents directly in the cell.

- **Press F2.** This enables you to edit the cell contents directly in the cell.
- **Activate the cell that you want to edit and then click inside the formula bar.** This enables you to edit the cell contents in the formula bar.



**Figure 6-4:** Excel provides several options for clearing cells.

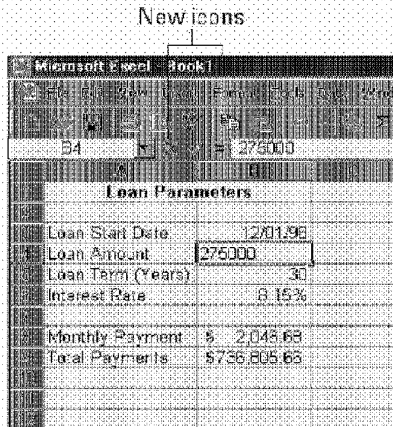
You can use whichever method you prefer. Some people find it easier to edit directly in the cell; others prefer to use the formula bar to edit a cell. All of these methods cause the formula bar to display two new icons, as shown in Figure 6-5. The X icon cancels editing, without changing the cell's contents (Esc has the same effect). The Check Mark icon completes the editing and enters the modified contents into the cell (Enter has the same effect).



**Tip** If the cell contains a formula, you can edit the formula by using any of the techniques listed previously. Or, you can take advantage of the Formula Palette. To activate the Formula Palette, click the = icon in the formula bar.



The Formula Palette is explained in detail in Chapter 9.



**Figure 6-5:** The formula bar displays two new icons when you begin editing a cell.

Editing a cell's contents works pretty much as you might expect. When you begin editing a cell, the insertion point appears as a vertical bar, and you can move the insertion point by using the direction keys. You can add new characters at the location of the insertion point. After you're in edit mode, you can use any of the following keys to move through the cell contents:

- **Left/right arrow:** The left- and right-arrow keys move the insertion point left or right one character, respectively, without deleting any characters.
- **Ctrl+left/right arrow:** Moves the insertion point one group of characters to the left or right, respectively. A group of characters is defined by a space character.
- **Backspace:** Erases the character to the immediate left of the insertion point.
- **Delete:** Erases the character to the right of the insertion point, or all selected characters.
- **Insert:** When you're editing, pressing the Insert key places Excel in OVR (Overwrite) mode. Rather than add characters to the cell, you *overwrite*, or replace, existing characters with new ones.
- **Home:** Moves the insertion point to the beginning of the cell entry.
- **End:** Moves the insertion point to the end of the cell entry.
- **Enter:** Accepts the edited data.

While editing a cell, you can use the following key combinations to select characters in the cell:

- **Shift+left/right arrow:** Selects characters to the left or right, respectively, of the insertion point.
- **Shift+Home:** Selects all characters from the insertion point to the beginning of the cell.
- **Shift+End:** Selects all characters from the insertion point to the end of the cell.



You also can use the mouse to select characters while you're editing a cell. Just click and drag the mouse pointer over the characters that you want to select.

## Formatting Values

Values that you enter into cells normally are unformatted. In other words, they simply consist of a string of numerals. Typically, you want to format the numbers so that they are easier to read or are more consistent in terms of the number of decimal places shown.

Figure 6-6 shows two columns of values. The first column consists of unformatted values. The cells in the second column have been formatted to make the values easier to read. If you move the cell pointer to a cell that has a formatted value, you find that the formula bar displays the value in its unformatted state. This is because the formatting affects only how the value is displayed in the cell.

Unformatted Values	Formatted Values
143	\$143.00
14533.45	14,533
0.078	7.80%
3.33899E+11	333,898,832,312
123.44	\$ 123.44
3982.31	\$ 3,982.31
-983.32	\$ (983.32)
0.0575	1/8
6195557212	(619) 555-1212

**Figure 6-6:** Unformatted values (left column) and the same values formatted.

## Automatic Number Formatting

Excel is smart enough to perform some formatting for you automatically. For example, if you enter 12.2% into a cell, Excel knows that you want to use a percentage format and applies it for you automatically. If you use commas to separate thousands (such as 123,456), Excel applies comma formatting for you. And, if you precede your value with a dollar sign, the cell will be formatted for currency.



A new feature in Excel 2000 makes it easier to enter values into cells formatted as a percentage. Select Tools • Options, and click the Edit tab in the Options dialog box. If the checkbox labeled Enable automatic percent entry is checked, you can simply enter a normal value into a cell formatted as a percent (for example, 12.5 for 12.5%). If this checkbox is not checked, you must enter the value as a decimal (for example, .125 for 12.5%).

## Formatting Numbers Using the Toolbar

The Formatting toolbar, which is displayed, by default, to the right of the Standard toolbar, contains several buttons that let you quickly apply common number formats. When you click one of these buttons, the active cell takes on the specified number format. You also can select a range of cells (or even an entire row or column) before clicking these buttons. If you select more than one cell, Excel applies the number format to all the selected cells. Table 6-1 summarizes the formats that these Formatting toolbar buttons perform. Remember to click the arrow at the right end of the Formatting toolbar to see all of these buttons.

Table 6-1  
Number-Formatting Buttons on the Formatting Toolbar

<i>Button Name</i>	<i>Formatting Applied</i>
Currency Style	Adds a dollar sign to the left, separates thousands with a comma, and displays the value with two digits to the right of the decimal point
Percent Style	Displays the value as a percentage, with no decimal places
Comma Style	Separates thousands with a comma and displays the value with two digits to the right of the decimal place
Increase Decimal	Increases the number of digits to the right of the decimal point by one
Decrease Decimal	Decreases the number of digits to the right of the decimal point by one

These five toolbar buttons actually apply predefined “styles” to the selected cells. These styles are similar to those used in word processing programs.



Chapter 11 describes how to modify existing styles and create new styles.

## Formatting Numbers by Using Shortcut Keys

Table 6-2 summarizes some shortcut key combinations that you can use to apply common number formatting to the selected cells or range.

Key Combination	Formatting Applied
Ctrl+Shift+~	General number format (that is, unformatted values)
Ctrl+Shift+\$	Currency format with two decimal places (negative numbers appear in parentheses)
Ctrl+Shift+%	Percentage format, with no decimal places
Ctrl+Shift+^	Scientific notation number format, with two decimal places
Ctrl+Shift+#	Date format with the day, month, and year
Ctrl+Shift+@	Time format with the hour, minute, and a.m. or p.m.
Ctrl+Shift+!	Two decimal places, 1000 separator, and a hyphen for negative values

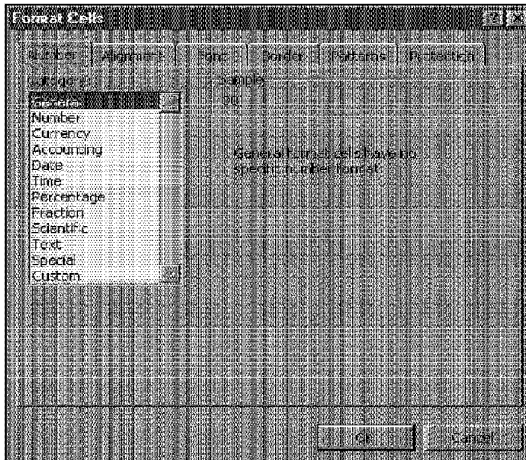
### Other Number Formats

In some cases, the number formats that are accessible from the Formatting toolbar (or by using the shortcut key combination) are just fine. More often, however, you want more control over how your values appear. Excel offers a great deal of control over number formats.

Figure 6-7 shows Excel's Format Cells dialog box. This is a tabbed dialog box. For formatting numbers, you need to use the tab labeled Number.

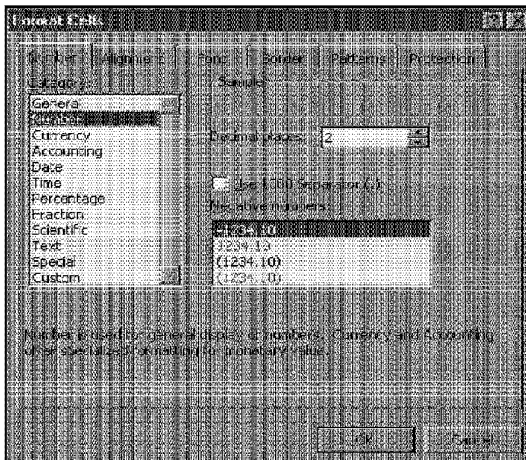
Several ways exist to bring up the Format Cells dialog box. Start by selecting the cell or cells that you want to format and then do the following:

- Select the **Format • Cells** command.
- Right-click and choose **Format Cells** from the shortcut menu.
- Press the **Ctrl+I** shortcut key.



**Figure 6-7:** The Number tab of the Format Cells dialog box enables you to format numbers in just about any way imaginable.

The Number tab of the Format Cells dialog box displays 12 categories of number formats from which to choose. When you select a category from the list box, the right side of the tab changes to display appropriate options. For example, Figure 6-8 shows how the dialog box looks when you click the Number category.



**Figure 6-8:** Options for the Number category.



## When Numbers Appear to Add Up Incorrectly

You need to understand that applying a number format to a cell doesn't change the value — formatting changes only how the value looks. For example, if a cell contains .874543, you might format it to appear as 87%. If that cell is used in a formula, the formula uses the full value (.874543), not the displayed value (.87).

In some situations, formatting may cause Excel to display calculation results that appear incorrect, such as when totaling numbers with decimal places (see the accompanying figure). In this example, the values are formatted to display two decimal places. This formatting displays the values after they are rounded. But because Excel uses the full precision of the values in its formula, the sum of these two values appears to be incorrect ( $10.00 + 10.10 = 20.11$ ). The actual values that are summed are 10.004 and 10.103.

10.00	
10.10	
20.11	Total

Several solutions to this problem are available. You can format the cells to display more decimal places. Or, you can use the ROUND function on individual numbers and specify the number of decimal places Excel should round to. ROUND and other built-in functions are discussed in Chapter 10.

As another solution, you can instruct Excel to change the worksheet values to match their displayed format. To do this, choose Tools • Options, select the Calculation tab, and then check the Precision as Displayed check box. Excel warns you that the underlying numbers will be permanently changed to match their appearance onscreen. If you want to select this option, backing up the worksheet on disk first is a good idea, in case you change your mind.

The Number category has three options that you can control: the number of decimal places displayed, whether to use a comma for the thousand separator, and how you want negative numbers displayed. Notice that the Negative numbers list box has four choices (two of which display negative values in red), and the choices change depending on the number of decimal places and whether you choose to use a comma to separate thousands. Also, notice that the top of the tab displays a sample of how the active cell will appear with the selected number format. After you make your choices, click OK to apply the number format to all the selected cells.

**Tip**

The best way to learn about number formats is to experiment. Enter some values on a worksheet and practice applying number formats.

The following are the number-format categories, along with some general comments:

- **General:** The default format; it displays numbers as integers, decimals, or in scientific notation if the value is too wide to fit in the cell.
- **Number:** Enables you to specify the number of decimal places, whether to use a comma to separate thousands, and how to display negative numbers (with a minus sign, in red, in parentheses, or in red and in parentheses).
- **Currency:** Enables you to specify the number of decimal places, whether to use a dollar sign, and how to display negative numbers (with a minus sign, in red, in parentheses, or in red and in parentheses). This format always uses a comma to separate thousands.
- **Accounting:** Differs from the Currency format in that the dollar signs always line up vertically.
- **Date:** Enables you to choose from 15 date formats.
- **Time:** Enables you to choose from eight time formats.
- **Percentage:** Enables you to choose the number of decimal places and always displays a percent sign.
- **Fraction:** Enables you to choose from among nine fraction formats.
- **Scientific:** Displays numbers in exponential notation (with an E): 2.00E+05 = 200,000. 2.05E+05 = 205,000. You can choose the number of decimal places to display to the left of E.
- **Text:** When applied to a value, causes Excel to treat the value as text (even if it looks like a value). This feature is useful for items such as part numbers.
- **Special:** Contains four additional number formats (Zip Code, Zip Code +4, Phone Number, and Social Security Number).
- **Custom:** Enables you to define custom number formats that aren't included in any of the other categories. Custom number formats are described in the next section.

Figure 6-9 shows an example from each category.

**Note**

If the cell displays a series of pound signs (such as #####), it means that the column is not wide enough to display the value by using the number format that you selected. Either make the column wider or change the number format.

You won't see this condition too often, because Excel usually adjusts column widths automatically to accommodate entries as you make them.

## Preformatting Cells

Usually, you'll apply number formats to cells that already contain values. You also can format cells with a specific number format *before* you make an entry. Then, when you enter information, it takes on the format that you specified. You can preformat specific cells, entire rows or columns, or even the entire worksheet.

Rather than preformat an entire worksheet, however, a better idea is to change the number format for the Normal style (unless you specify otherwise, all cells use the Normal style). You can change the Normal style by selecting Format • Style. In the Style dialog box, click the Modify button and then choose the new number format for the Normal style.



Refer to Chapter 11 for more information about styles.

Number Format Category	Example
General	36122.8
Number	36122.80
Currency	\$36,122.80
Accounting	\$ 36,122.80
Date	November 23, 1998
Time	7:12 PM
Percentage	7.26%
Fraction	1 1/2
Scientific	3.61E+04
Text	36122.8
Special	000-00-6123
Custom	Number 1234

Figure 6-9: Examples of values with various number formats.

## Custom Number Formats

As mentioned in the previous section, the custom number format category enables you to create number formats that aren't included in any of the other categories. Excel gives you much flexibility in creating custom number formats, but doing so can be rather tricky. You construct a number format by specifying a series of codes. You enter this code sequence in the Type field after you select the Custom category on the Number tab of the Format Cells dialog box. Here's an example of a simple number format code:

0.000

This code consists of placeholders and a decimal point and tells Excel to display the value with three digits to the right of the decimal place. Here's another example:

00000

This custom number format has five placeholders and displays the value with five digits (no decimal point). This is a good format to use when the cell will hold a ZIP code (in fact, this is the code actually used by the ZIP Code format in the Special category). When you format the cell with this number format and then enter a ZIP code such as 06604 (Bridgeport, CT), the value is displayed with the leading zero. If you enter this number into a cell with the General number format, it displays as 6604 (no leading zero).

If you scroll through the list of number formats in the Custom category in the Format Cells dialog box, you see many more examples. Most of the time, you can use one of these codes as a starting point, and only slight customization will be needed.

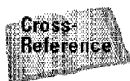
Excel also enables you to specify different format codes for positive numbers, negative numbers, zero values, and text. You do so by separating the codes with a semicolon. The codes are arranged in the following structure:

Positive format; Negative format; Zero format; Text format

The following is an example of a custom number format that specifies a different format for each of these types:

[Green]General;[Red]General;[Black]General;[Blue]General

This example takes advantage of the fact that colors have special codes. A cell formatted with this custom number format displays its contents in a different color, depending on the value. In this case, positive numbers are green, negative numbers are red, zero is black, and text is blue.



If you want to apply cell formatting automatically, such as text or background color, based on the cell's contents, a better solution is to use Excel's Conditional Formatting feature. This feature is discussed in Chapter 11.

The following number format (three semicolons) consists of no format codes for each part of the format structure—essentially hiding the contents of the cell:

;;;

Table 6-3 lists the formatting codes available for custom formats, along with brief descriptions. These codes are described further in Excel's online help.



Custom number formats are stored with the worksheet. To make the custom format available in a different workbook, you must copy a cell that uses the custom format to the other workbook.

**Table 6-3**  
**Codes Used to Create Custom Number Formats**

<b>Code</b>	<b>Comments</b>
General	Displays the number in General format
#	Digit placeholder
0 (zero)	Digit placeholder
?	Digit placeholder
.	Decimal point
%	Percentage
,	Thousands separator
E- E+ e - e+	Scientific notation
\$ - + / ( ) : space	Displays this character
\	Displays the next character in the format
*	Repeats the next character, to fill the column width
_	Skips the width of the next character
"text"	Displays the text inside the double quotation marks
@	Text placeholder
[color]	Displays the characters in the color specified
[COLOR n]	Displays the corresponding color in the color palette, where <i>n</i> is a number from 0 to 56
[condition value]	Enables you to set your own criteria for each section of a number format

Table 6-4 lists the codes that are used to create custom formats for dates and times.

**Table 6-4**  
**Codes Used in Creating Custom Formats for Dates and Times**

<b>Code</b>	<b>Comments</b>
m	Displays the month as a number without leading zeros (1 – 12)
mm	Displays the month as a number with leading zeros (01 – 12)
mmm	Displays the month as an abbreviation (Jan – Dec)
mmmm	Displays the month as a full name (January – December)
d	Displays the day as a number without leading zeros (1 – 31)

Code	Comments
dd	Displays the day as a number with leading zeros (01 – 31)
ddd	Displays the day as an abbreviation (Sun – Sat)
dddd	Displays the day as a full name (Sunday – Saturday)
yy or yyyy	Displays the year as a two-digit number (00 – 99), or as a four-digit number (1900 – 2078)
h or hh	Displays the hour as a number without leading zeros (0 – 23), or as a number with leading zeros (00 – 23)
m or mm	Displays the minute as a number without leading zeros (0 – 59), or as a number with leading zeros (00 – 59)
s or ss	Displays the second as a number without leading zeros (0 – 59), or as a number with leading zeros (00 – 59)
[]	Displays hours greater than 24, or minutes or seconds greater than 60
AM/am/A/a/PM/pm/P/p	Displays the hour using a 12-hour clock; if no AM/PM indicator is used, the hour uses a 24-hour clock



Figure 6-10 shows several examples of custom number formats, and the workbook is available at this book's Web site.

Custom Format	Cell Entry	How It Appears
[Red] <1>0.0%;[Blue] >=1) #, #0;General	1	
[Red] <1>0.0%;[Blue] >=1) #, #0;General	-1	-100.0%
[Red] <1>0.0%;[Blue] >=1) #, #0;General	45	45%
General;General;General;[Red] General	Only text is red	Only text is red
General;General;General;[Red] General	234	234
@General	1994	@1994
General;General;General;General@	Registered	Registered@
General;General;General;General™	Coca-Cola	Coca-Cola™
General;General;General;"General"	Text in quotes	"Text in quotes"
General;General;General;"General"	123	123
Positive;"Negative";"Zero";"Text"	12	Positive
Positive;"Negative";"Zero";"Text"	-32	Negative
Positive;"Negative";"Zero";"Text"	0	Zero

Figure 6-10: Examples of custom number formats.

Studying these examples will help you understand the concept and may give you some ideas for your own custom number formats.

## Basic Cell Formatting

Whereas the preceding section discusses number formatting, this section discusses some of the basic *stylistic* formatting options available to you. These formatting techniques apply to values, text, and formulas. The options discussed in this section are available from the Formatting toolbar. Complete formatting options are available in the Format Cells dialog box, which appears when you choose Format • Cells (or press Ctrl+1).

**Note**

If you display the Standard toolbar and the Formatting toolbar side by side, you may not see many of the tools discussed in this section unless you click the arrow at the right edge of the Formatting toolbar.

Remember that the formatting you apply works with the selected cell or cells. Therefore, you need to select the cell (or range of cells) before applying the formatting.

**Cross-Reference**

The concept of worksheet stylistic formatting is discussed in detail in Chapter 11.

## Alignment

When you enter text in a cell, Excel aligns the text with the left edge of the cell. Values, on the other hand, are displayed right-aligned in the cell.

To change the alignment of a cell's contents, select the cell and then click the appropriate button on the Formatting toolbar. The relevant buttons are as follows:

- **Align Left:** Aligns the text to the left side of the cell. If the text is wider than the cell, it spills over to the cell to the right. If the cell to the right is not empty, the text is truncated and not completely visible.
- **Center:** Centers the text in the cell. If the text is wider than the cell, it spills over to cells on either side, if they are empty. If the adjacent cells aren't empty, the text is truncated and not completely visible.
- **Align Right:** Aligns the text to the right side of the cell. If the text is wider than the cell, it spills over to the cell to the left. If the cell to the left is not empty, the text is truncated and not completely visible.
- **Merge and Center:** Centers the text in the selected cells and merges the cells into one cell. This feature is described in detail in Chapter 11.

## Font and Text Size

To change the font and the size of the contents of a cell or range, select the cells and then use the Font and Font Size tools on the Formatting toolbar. These tools are drop-down lists. Click the arrow on the tool to display a list of fonts or font sizes (see Figure 6-11). Then, choose the font or size that you want.

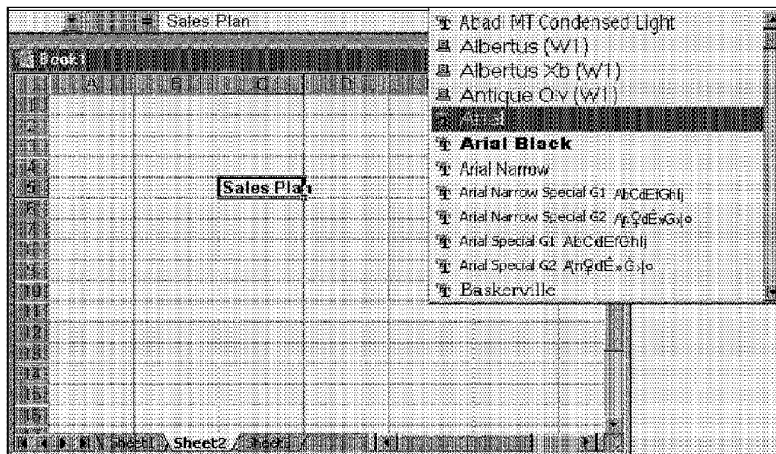


Figure 6-11: Selecting a font from the Font list.



In Excel 2000, fonts in the Font list provide examples of the font they represent, making it easier for you to select the correct font. You can change this default behavior so that the Font list displays all fonts in Arial, as earlier versions of Excel did. Choose Tools • Customer and then click the Options tab. Remove the check from the check box labeled List font names in their font.

## Attributes

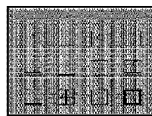
The Formatting toolbar also has buttons that enable you to make the selected cells bold, italic, or underlined. As you might expect, clicking the appropriate tool makes the change. These buttons actually are toggles, so if the cell is already bold, clicking the Bold button removes the bold.

## Borders

Applying a border is another type of formatting. Borders are lines drawn around all or part of selected cells or ranges. When you click the Borders button on the



Formatting toolbar, it expands to display 12 border choices in a miniature toolbar. To find the Borders tool, you may need to click the arrow at the right edge of the Formatting toolbar, to display the palette of extra tools (see Figure 6-12). You can drag the toolbar's title bar and move it anywhere you want.



**Figure 6-12:** The Borders tool on the Formatting toolbar opens to display 12 border choices.

To add a border to the selected cell or cells, just click the icon that corresponds to the type of border you want. The upper-left icon removes all borders from the selected cells.



Normally, Excel displays gridlines to delineate cells in the worksheet. If you add border formatting, you may want to turn off the gridline display. To do so, choose Tools • Options, click the View tab, and then uncheck the Gridlines check box. When you hide gridlines, you can easily see the effects of borders.

## Colors

The Fill Color tool lets you quickly change the background color of the cell, and the Font Color tool lets you change the text color. These tools are similar to the Borders tool and also can be moved to a different location.

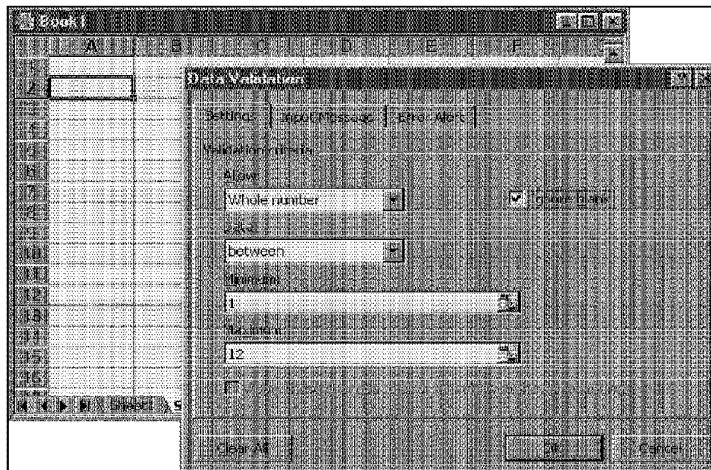
## Data Entry Tips

This chapter wraps up with some useful tips and techniques that can make your data entry more efficient.

### Validating Data Entry

In Excel 2000, you can specify the type of data that a cell or range should hold. For example, you might develop a spreadsheet that will be used by others. Assume that the worksheet has an input cell that is used in a formula. This particular cell might require a value between 1 and 12 to produce valid results in the formula. You can use the data-validation feature to display a message if the user enters a value that does not fall between 1 and 12.

To set up data validation, select the cell or range of cells that you want validated, and then choose Data • Validation. Excel displays the Data Validation dialog box, with its three tabs (see Figure 6-13).



**Figure 6-13:** The Data Validation dialog box enables you to specify the type of data that will be entered in a cell.

- Click the **Settings** tab and specify the type of data that the cell should contain. The dialog box changes, depending on your choice in the **Allow** box.
- Click the **Input Message** tab and specify a message that will appear when the cell is selected (optional). The message appears from the Office Assistant (if it's displayed) or in a small pop-up box.
- Click the **Error Alert** tab and specify the message that will appear in a dialog box if invalid data is entered (optional).

You can set up data validation for as many cells as you want.



This technique isn't foolproof. The validation does not occur if the user pastes invalid data into a cell that is set up for validation.

## Move the Cell Pointer After Entering Data?

Depending on how you configure Excel, pressing the Enter key after entering data into a cell may automatically move the cell pointer to another cell. Some users (like myself) find this annoying; others like it. To change this setting, choose **Tools • Options** and click the **Edit** tab. The check box that controls this behavior is labeled **Move Selection after Enter**. You can also specify the direction in which the cell pointer moves (down, left, up, or right).

## Use Arrows Instead of Enter

This chapter mentions several times that you use the Enter key when you're finished making a cell entry. Well, that's only part of the story. You also can use any of the direction keys instead of Enter. And, not surprisingly, these direction keys send you in the direction that you indicate. For example, if you're entering data in a row, press the right-arrow key rather than Enter. The other arrow keys work as expected, and you can even use PgUp and PgDn.

## Selecting Cells Before Entering Data

Here's a tip that most Excel users don't know about: If you select a range of cells, Excel automatically moves the cell pointer to the next cell in the range when you press Enter. If the selection consists of multiple rows, Excel moves down the column; when it reaches the end of the selection in the column, it moves to the first selected cell in next column. To skip a cell, just press Enter without entering anything. To go backward, use Shift+Enter. If you prefer to enter the data by rows rather than by columns, use Tab rather than Enter.

If you have lots of data to enter, this technique can save you a few keystrokes — and ensure that the data you enter winds up in the proper place.

## Use Ctrl+Enter for Repeated Information

If you need to enter the same data into multiple cells, your first inclination may be to enter it once and then copy it to the remaining cells. Here's a better way: Select all the cells that you want to contain the data, enter the value, text, or formula, and then press Ctrl+Enter. The single entry will be inserted into each cell in the selection.

## Automatic Decimal Points

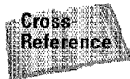
If you need to enter lots of numbers with a fixed number of decimal places, Excel has a useful tool that works like some adding machines. Select Tools • Options and click the Edit tab. Check the check box labeled Fixed Decimal and make sure that it's set for two decimal places. When the Fixed Decimal option is set, Excel supplies the decimal points for you automatically. For example, if you enter **12345** into a cell, Excel interprets it as 123.45 (it adds the decimal point). To restore things back to normal, just uncheck the Fixed Decimal check box in the Options dialog box.



Changing this setting doesn't affect any values that you have already entered.

## Using AutoFill

Excel's AutoFill feature makes it easy to insert a series of values or text items in a range of cells. It uses the AutoFill handle (the small box at the lower left of the active cell). You can drag the AutoFill handle to copy the cell or automatically complete a series.



Chapter 7 discusses AutoFill in detail.

## Using AutoComplete

With AutoComplete, you type the first few letters of a text entry into a cell, and Excel automatically completes the entry, based on other entries that you've already made in the column. If your data entry task involves repetitious text, this feature is for you.

Here's how it works. Suppose that you're entering product information in a column. One of your products is named *Widgets*. The first time that you enter *Widgets* into a cell, Excel remembers it. Later, when you start typing *Widgets* in that same column, Excel recognizes it by the first few letters and finishes typing it for you. Just press Enter and you're done. It also changes the case of letters for you automatically. If you start entering *widget* (with a lowercase *w*) in the second entry, Excel makes the *w* uppercase, to be consistent with the previous entry in the column.

Besides reducing typing, this feature also ensures that your entries are spelled correctly and are consistent.



You also can access a mouse-oriented version of this feature by right-clicking the cell and selecting Pick from List from the shortcut menu. With this method, Excel displays a drop-down box that has all the entries in the current column; just click the one that you want.

If you find the AutoComplete feature distracting, you can turn it off on the Edit tab of the Options dialog box. Remove the check mark from the check box labeled Enable AutoComplete for Cell Values.

## Entering the Current Date or Time into a Cell

Sometimes, you need to date-stamp or time-stamp your worksheet. Excel provides two shortcut keys that do this for you:

- **Current date:** Ctrl+; (semicolon)
- **Current time:** Ctrl-Shift+; (semicolon)

## Forcing a New Line in a Cell

If you have lengthy text in a cell, you can force Excel to display it in multiple lines within the cell. Use Alt+Enter to start a new line in a cell. Figure 6-14 shows an example of text in a cell that is displayed in multiple lines. When you add a line break, Excel automatically changes the cell's format to Wrap Text.



Learn more about the Wrap Text formatting feature in Chapter 11.

		1998	1998
		Per Original	Per Plan 2
		Budget Model	Budget
	Income	688,233	661,541
	Expenses	578,232	722,790
	Net	110,001	138,751

**Figure 6-14:** Alt+Enter enables you to force a line break in a cell.

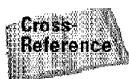
## Entering Fractions

If you want Excel to enter a fraction into a cell, leave a space between the whole number and the fraction. For example, to enter the decimal equivalent of  $6\frac{7}{8}$ , enter **6 7/8** and then press Enter. When you select the cell, 6.875 appears in the formula bar, and the cell entry appears as a fraction. If you have a fraction only (for example,  $\frac{1}{8}$ ), you must enter a zero first, like this: **0 1/8**. When you select the cell and look at the formula bar, you see 0.125. In the cell, you see  $\frac{1}{8}$ .

## Using a Data Entry Form

If you're entering data that is arranged in rows, you may find it easier to use Excel's built-in data form for data entry. Figure 6-15 shows an example of this.

Start by defining headings for the columns in the first row of your data entry range. You can always erase these entries later if you don't need them. Excel needs headings for this command to work, however. Select any cell in the header row and choose **Data • Form**. Excel asks whether you want to use that row for headers (choose OK). Excel then displays a dialog box similar to the one shown in Figure 6-15. You can use **Tab** to move between the text boxes and supply information. When you complete the data form, click the **New** button. Excel dumps the data into a row in the worksheet and clears the dialog box for the next row of data.



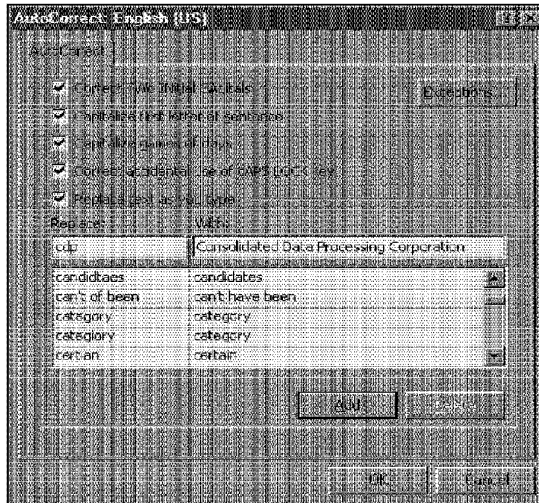
This data form feature has many other useful buttons, which are discussed further in Chapter 23.

**Figure 6-15:** Excel's built-in data form can simplify many data entry tasks.

## Using AutoCorrect for Data Entry

You can use Excel's AutoCorrect feature to create shortcuts for commonly used words or phrases. For example, if you work for a company named Consolidated Data Processing Corporation, you can create an AutoCorrect entry for an abbreviation, such as *cdp*. Then, whenever you type *cdp*, Excel automatically changes it to *Consolidated Data Processing Corporation*.

You can customize the AutoCorrect feature by using the **Tools • AutoCorrect** command. Check the option labeled **Replace text as you type**, and then enter your custom entries (Figure 6-16 shows an example). You can set up as many custom entries as you like.



**Figure 6-16:** You can use Excel's AutoCorrect feature to set up keyboard shortcuts.

## Summary

A worksheet cell can contain a value, text, or a formula. This chapter focuses on the task of entering values and formulas. It explains Excel's method of dealing with dates and times and introduces the concept of number formatting — which makes numbers appear differently, but doesn't affect their actual value. This chapter also discusses common editing techniques and basic stylistic formatting, and concludes with a series of general data entry tips.

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# Essential Spreadsheet Operations

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**T**his chapter discusses the common spreadsheet operations that you need to know. A thorough knowledge of these procedures will help you to work more efficiently.

## Working with Worksheets

When you open a new workbook in Excel, the workbook has a designated number of worksheets in it. You can specify how many sheets each new workbook will contain. By default, this number of worksheets is three. Although empty worksheets really don't use much additional memory or disk storage space, they just get in the way. And besides, adding a new worksheet when you need one is easy. I strongly recommend that you change the default value to one worksheet. To do so, select Tools • Options, select the General tab, and then change the Sheets in new workbook setting to one. After doing this, all new workbooks will have a single worksheet.

You may find it helpful to think of a workbook as a notebook and worksheets as pages in the notebook. As with a notebook, you can activate a particular sheet, add new sheets, remove sheets, copy sheets, and so on. The remainder of this section discusses the operations that you can perform with worksheets.

# 7 CHAPTER

## In This Chapter

Working with Worksheets

Views, Split Sheets, and Frozen Panes

Working with Rows and Columns

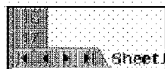


## Activating Worksheets

At any given time, one workbook is the active workbook, and one sheet is the active sheet in the active workbook. To activate a different sheet, just click its sheet tab, located at the bottom of the workbook window. You also can use the following shortcut keys to activate a different sheet:

- **Ctrl+PgUp**: Activates the previous sheet, if there is one
- **Ctrl+PgDn**: Activates the next sheet, if there is one

If your workbook has several sheets, all tabs may not be visible. You can use the tab-scrolling buttons (see Figure 7-1) to scroll the sheet tabs.



**Figure 7-1:** The tab-scrolling buttons let you scroll the sheet tabs to display tabs that are not visible.

The sheet tabs share space with the worksheet's horizontal scrollbar. You also can drag the tab split box (see Figure 7-2) to display more or fewer tabs. Dragging the tab split box simultaneously changes the number of tabs and the size of the horizontal scrollbar.



**Figure 7-2:** Dragging the tab split box enables you to see more (or fewer) sheet tabs.

**Tip**

When you right-click any of the tab-scrolling buttons, Excel displays a list of all sheets in the workbook. You can quickly activate a sheet by selecting it from the list.

## Adding a New Worksheet

The following are three ways to add a new worksheet to a workbook:

- Select the **Insert • Worksheet** command
- Press **Shift+F11**
- Right-click a sheet tab, choose the **Insert** command from the shortcut menu, and then select **Worksheet** from the **Insert** dialog box.

Use any of these methods, and Excel inserts a new worksheet before the active worksheet; the new worksheet becomes the active worksheet. The new worksheet, of course, has a sheet tab that displays its name.



To add additional worksheets after inserting a worksheet, press Ctrl+Y (the shortcut for the Edit • Repeat command) once for each additional sheet that you want to add.



Chapter 34 discusses how to create and use worksheet templates. This feature enables you to add specially formatted or customized worksheets to an existing workbook.

## Deleting a Worksheet

If you no longer need a worksheet, or if you want to get rid of an empty worksheet in a workbook, you can delete it in either of two ways:

- Select the Edit • Delete Sheet command
- Right-click the sheet tab and choose the Delete command from the shortcut menu

Excel asks you to confirm that you want to delete the sheet.



You can delete multiple sheets with a single command by selecting the sheets that you want to delete. To select multiple sheets, press Ctrl while you click the sheet tabs that you want to delete. Then, use either of the preceding methods to delete the selected sheets.

To select a group of contiguous sheets, click the first sheet tab, press Shift, and then click the last sheet tab.



When you delete a worksheet, it's gone for good. This is one of the few operations in Excel that can't be undone.

## Changing the Name of a Worksheet

Excel uses default names for worksheets: Sheet1, Sheet2, and so on. Providing more meaningful names for your worksheets is usually a good idea. To change a sheet's name, use any of the following methods:

- Choose Format • sheet • Rename
- Double-click the sheet tab

- Right-click the sheet tab and choose the Rename command from the shortcut menu

In any of these cases, Excel highlights the name on the sheet tab so that you can edit the name or replace it with a new name.

Sheet names can be up to 31 characters, and spaces are allowed. However, you can't use the following characters in sheet names:

:	colon
/	slash
\	backslash
?	question mark
*	asterisk



Although Excel allows you to use square brackets in a worksheet name, you should avoid doing so because it can cause problems with formulas that use external links.

Remember that the name you provide appears on the tab, and that a longer name results in a wider tab. Therefore, if you use lengthy sheet names, you won't be able to see very many sheet tabs without having to scroll.

## Moving a Worksheet

Sometimes, you may want to rearrange the order of worksheets in a workbook. If you have a separate worksheet for each sales region, for example, arranging the worksheets in alphabetical order or by total sales might be helpful. You also may want to move a worksheet from one workbook to another (to move a worksheet to a different workbook, both workbooks must be open). You can move a worksheet in either of two ways:

- Select the Edit • Move or Copy Sheet command. This command is also available when you right-click a sheet tab.
- Click the sheet tab and drag it to its desired location (either in the same workbook or in a different workbook). When you drag, the mouse pointer changes to a small sheet and a small arrow guides you.

Dragging is often the easiest method, but if the workbook has many sheets, you may prefer to use the menu command. This command displays the dialog box shown in Figure 7-3, which enables you to select the workbook and the new location.



Figure 7-3: The Move or Copy dialog box.

If you move a worksheet to a workbook that already has a sheet with the same name, Excel changes the name to make it unique. For example, Sheet1 becomes Sheet1 (2).

**Tip**

You also can move multiple sheets at once by selecting them. Press Ctrl while you click the sheet tabs that you want to move.

## Copying a Worksheet

You can make an exact copy of a worksheet — either in its original workbook or in a different workbook. The procedures are similar to those for moving a workbook:

- Select the Edit • Move or Copy Sheet command. Select the location for the copy and make sure that the check box labeled Create a copy is checked. (The Move or Copy command is also available when you right-click a sheet tab.)
- Click the sheet tab, press Ctrl, and then drag it to its desired location (either in the same workbook or in a different workbook). When you drag, the mouse pointer changes to a small sheet with a plus sign on it.

If necessary, Excel changes the name of the copied sheet to make it unique within the workbook.

**Note**

When you copy a worksheet to a different workbook, any defined names and custom formats also get copied to the new workbook.

## Hiding and Unhiding a Worksheet

In some cases, you may want to hide a worksheet. Hiding a worksheet is useful if you don't want others to see it or just want to get it out of the way. When a sheet is hidden, its sheet tab is hidden also.

To hide a worksheet, choose **Format • Sheet • Hide**. The active worksheet (or selected worksheets) will be hidden from view. Every workbook must have at least one visible sheet, so Excel won't allow you to hide all the sheets in a workbook.

To unhide a hidden worksheet, choose **Format • Sheet • Unhide**. Excel opens a dialog box that lists all hidden sheets. Choose the sheet that you want to redisplay and click **OK**. You can't select multiple sheets from this dialog box, so you need to repeat the command for each sheet that you want to redisplay.

## Zooming Worksheets

Excel enables you to scale the size of your worksheets. Normally, everything you see onscreen is displayed at 100 percent. You can change the “zoom percentage” from 10 percent (very tiny) to 400 percent (huge). Using a small zoom percentage can help you to get a bird's-eye view of your worksheet, to see how it's laid out. Zooming in is useful if your eyesight isn't quite what it used to be and you have trouble deciphering those 8-point sales figures. Figure 7-4 shows a window zoomed to 10 percent and a window zoomed to 400 percent.

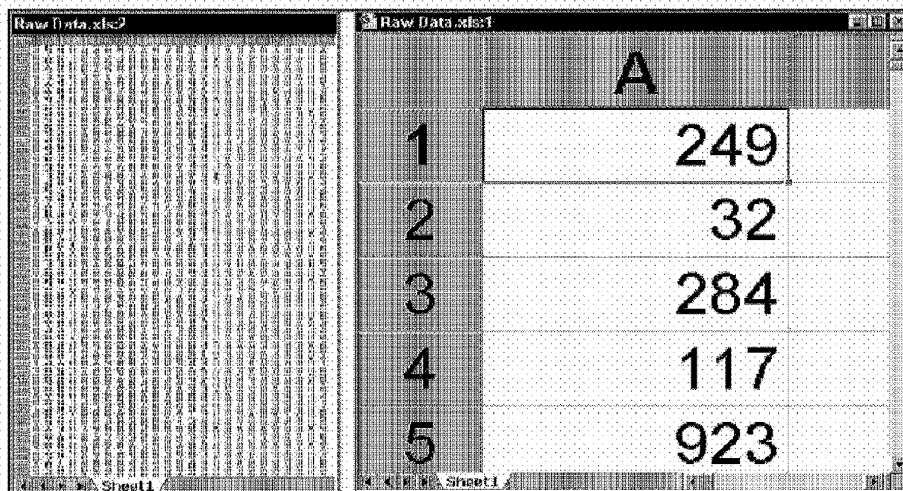


Figure 7-4: A window zoomed to 10 percent and a window zoomed to 400 percent.

You can easily change the zoom factor of the active worksheet by using the Zoom tool on the Standard toolbar. Just click the arrow and select the desired zoom factor (see Figure 7-5). Your screen transforms immediately. You can also type a zoom percentage directly into the Zoom tool box. If you choose Selection from the list, Excel zooms the worksheet to display only the selected cells (useful if you want to view only a particular range).

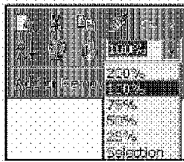


Figure 7-5: The Zoom tool.

Zooming affects only the active worksheet, so you can use different zoom factors for different worksheets.

If the Standard toolbar isn't displayed, you can set the zoom percentage by using the View • Zoom command. This command displays the dialog box shown in Figure 7-6. You can select an option or enter a value between 10 and 400 into the edit box next to the Custom option.

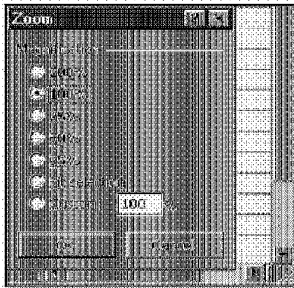


Figure 7-6: The Zoom dialog box.



**Note**

The zoom factor affects only how Excel displays the worksheet onscreen. Zooming has no effect on how the worksheet appears when you print it.

**Cross-Reference**

Excel contains separate options for changing the size of your printed output (use the File • Page Setup command). See Chapter 12 for details.



If your worksheet uses named ranges (refer to Chapter 8), you'll find that zooming your worksheet to 39 percent or less displays the name of the range overlaid on the cells. This is useful for getting an overview of how a worksheet is laid out.

If you're using a Microsoft IntelliMouse (or a compatible wheel mouse), you can change the zoom factor by pressing Ctrl while you spin the mouse wheel. Each spin changes the zoom factor by 15 percent (but you can't zoom out more than 100 percent). If you find that you do a lot of zooming in, you can change the default behavior for the mouse wheel from scrolling to zooming. To change the default, select Tools • Options, click the General tab, and then select the Zoom on roll with IntelliMouse check box. After you make this change, you can zoom by spinning the wheel and you won't have to press Ctrl.

## Views, Split Sheets, and Frozen Panes

As you add more information to a worksheet, you may find that it gets more difficult to navigate and locate what you want. Excel includes a few options that enable you to view your sheet, and sometimes multiple sheets, more efficiently. This section discusses a few additional worksheet options at your disposal.

### Multiple Views

Sometimes, you may want to view two different parts of a worksheet simultaneously. Or, you may want to examine more than one sheet in the same workbook simultaneously. You can accomplish either of these actions by opening a new view to the workbook, using one or more additional windows.

To create a new view of the active workbook, choose Window • New Window. Excel displays a new window with the active workbook, similar to Figure 7-7. Notice the text in the windows' title bars: Budget.xls:1 and Budget.xls:2.

To help you keep track of the windows, Excel appends a colon and a number to each window.

A single workbook can have as many views (that is, separate windows) as you want. Each window is independent of the others. In other words, scrolling to a new location in one window doesn't cause scrolling in the other window(s). This also enables you to display a different worksheet in a separate window. Figure 7-8 shows three views in the same workbook. Each view displays a different worksheet.

As Chapter 8 explains, displaying multiple windows for a workbook also makes it easier to copy information from one worksheet to another. You can use Excel's drag-and-drop procedures to do this.

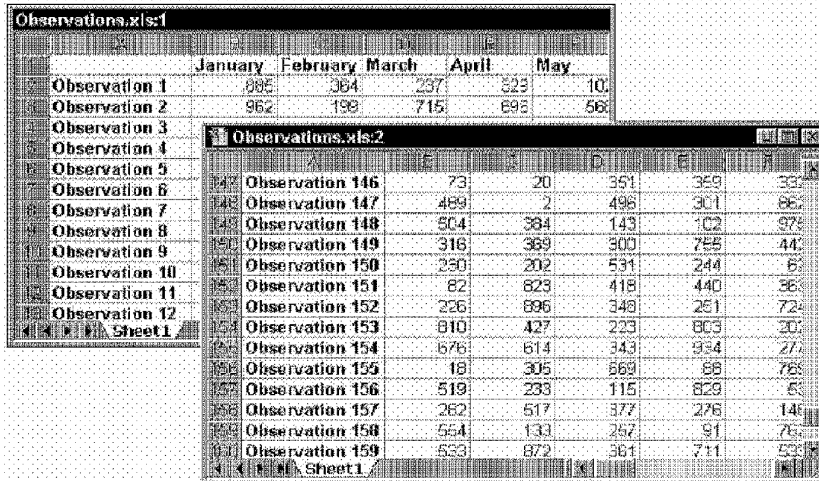


Figure 7-7: Two views of the same workbook.

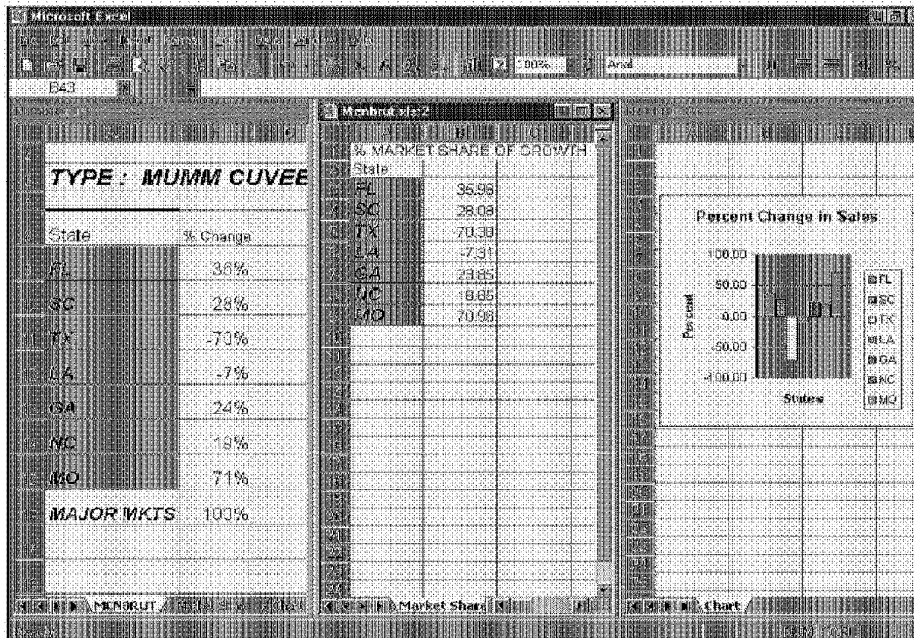


Figure 7-8: Displaying three worksheets in the same workbook.



## Splitting Panes

If you prefer not to clutter your screen with additional windows, Excel provides another option for viewing multiple parts of the same worksheet. The **Window • Split** command splits the active worksheet into two or four separate panes. The split occurs at the location of the cell pointer. You can use the mouse to drag the individual panes to resize them.

Figure 7-9 shows a worksheet split into four panes. Notice that row numbers and column letters aren't continuous. In other words, splitting panes enables you to display in a single window widely separated areas of a worksheet. The two top-to-bottom stacked panes always have the same column headings, and the two side-by-side panes always have the same row headings. To remove the split panes, choose **Window • Remove Split**.

	January	February	March	October	November	December
Observation 1	885	364		425	110	689
Observation 2	982	193		857	980	400
Observation 3	351	143		836	178	472
Observation 4	41	395		87	676	499
Observation 5	627	389		871	81	775
Observation 6	980	325		242	438	968
Observation 7	795	714		29	695	65
Observation 8	930	554		907	430	621
Observation 9	67	790		76	843	197
Observation 10	381	435		336	680	202
Observation 11	986	155		942	418	56
Observation 12	881	573		66	429	963
Observation 13	539	763		932	5	374
Observation 14	957	762		101	617	681
Observation 15	80	167		125	778	768
Observation 16	22	325		728	43	374
Observation 17	202	351		224	337	500
Observation 18	744	381		625	762	403
Observation 19	33	384		80	290	292
Observation 20	833	381		983	334	238

Figure 7-9: This worksheet is split into four panes.

### Tip

Another way to split and unsplit panes is to drag either the vertical or horizontal split bar; when you move the mouse pointer over a split bar, the mouse point changes to a pair of parallel lines with arrows pointing outward from each line. Figure 7-10 shows where these split bars are located. To remove split panes by using the mouse, drag the pane separator all the way to the edge of the window, or just double-click it.

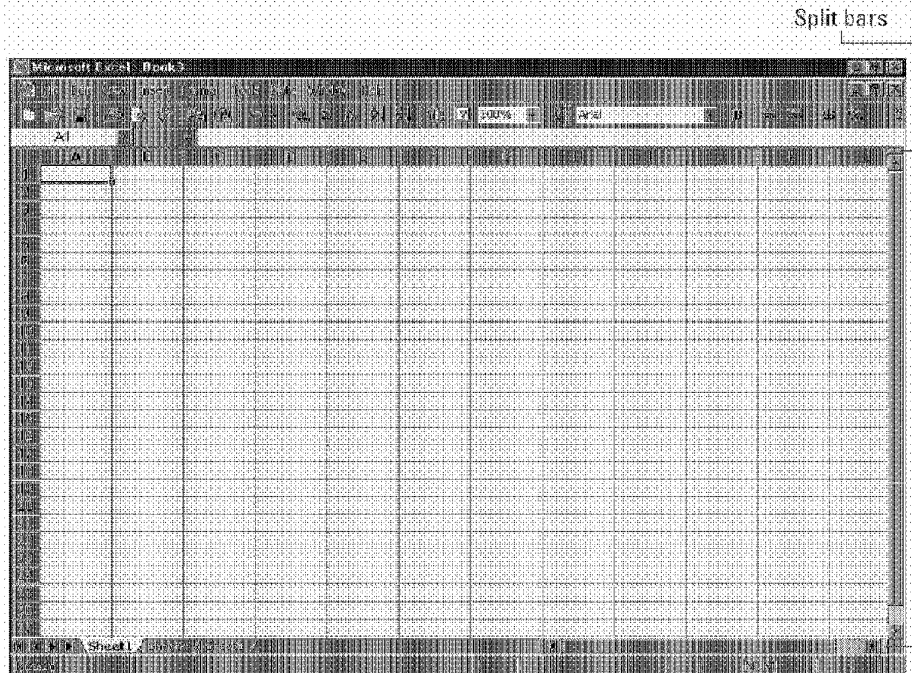


Figure 7-10: Drag these split bars to create panes.

## Freezing Panes

Many worksheets, such as the one shown in Figure 7-11, are set up with row and column headings. When you scroll through such a worksheet, you can easily get lost when the row and column headings scroll out of view, as demonstrated in Figure 7-12. Excel provides a handy solution to this problem: freezing panes.

	January	February	March	April	May	Jun
Branch 1	806	364	237	329	102	
Branch 2	962	199	715	806	598	
Branch 3	361	148	288	40	177	
Branch 4	41	396	72	50	908	
Branch 5	627	383	658	717	836	
Branch 6	900	826	921	171	177	
Branch 7	796	714	626	615	778	
Branch 8	930	654	911	6	107	
Branch 9	67	790	931	166	443	
Branch 10	361	436	943	208	910	
Branch 11	422	662	461	406	716	
Branch 12	818	607	686	146	609	
Branch 13	965	610	5	720	609	

Figure 7-11: A worksheet with row and column headings.

217	69	257	563	88	286				
74	88	873	77	33	797				
263	217	961	363	303	381				
743	856	432	770	79	588				
156	102	507	75	285	351				
228	370	664	534	762	6				
347	706	364	869	790	8				
498	10	984	252	810	334				
274	301	924	183	632	825				
4	854	302	898	658	826				
826	748	432	427	511	426				
447	839	41	469	530	302				
250	422	803	972	707	463				
737	28	797	275	505	264				

**Figure 7-12:** You can easily lose your bearings when the row and column headers scroll out of view.

Figure 7-13 shows the worksheet from the previous figure, but with frozen panes. In this case, row 1 and column A are frozen in place. This keeps the headings visible while you are scrolling through the worksheet.

	May	June	July	August	September	Oct
Branch 85	351	255	342	939	822	
Branch 86	860	230	171	735	13	
Branch 87	29	736	458	352	440	
Branch 88	582	109	838	916	94	
Branch 89	248	167	383	356	858	
Branch 90	864	524	108	596	112	
Branch 91	480	670	443	953	899	
Branch 92	260	365	147	164	892	
Branch 93	706	608	12	141	413	
Branch 94	514	508	502	113	913	
Branch 95	673	994	253	834	142	
Branch 96	450	598	260	117	411	
Branch 97	827	55	102	379	476	

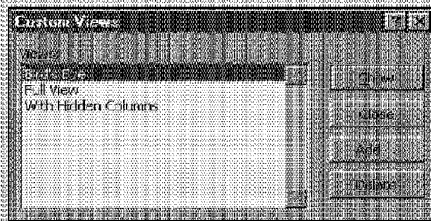
**Figure 7-13:** A worksheet with the row and column headings frozen in place.

To freeze panes, start by moving the cell pointer to the cell below the row that you want to freeze and to the right of the column that you want to freeze. Then, select **Window • Freeze Panes**. Excel inserts dark lines to indicate the frozen rows and columns. You'll find that the frozen row and column remain visible as you scroll throughout the worksheet. To remove the frozen panes, select **Window • Unfreeze Panes**.

## Naming Views

Some users may be interested in a feature called *named views*, which enables you to name various views of your worksheet and to switch quickly among these named views. A view includes settings for window size and position, frozen panes or titles, outlining, zoom factor, the active cell, print area, and many of the settings in the Options dialog box. Optionally, a view can include hidden print settings and hidden rows and columns. If you find that you're constantly fiddling with these settings and then changing them back, using named views can save you lots of effort.

When you select View • Custom Views, you get the dialog box shown in the accompanying figure.



The Custom Views dialog box displays a list of all named views. To select a particular view, just select it from the list and click the Show button. To add a view, click the Add button and provide a name. To delete a named view from the list, click the Delete button.

## Working with Rows and Columns

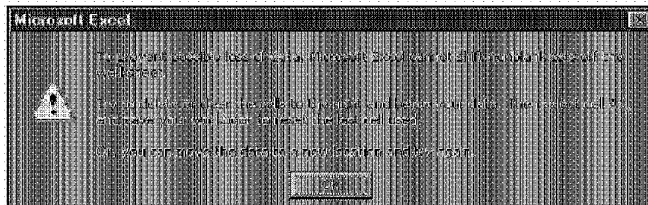
Every worksheet has exactly 65,536 rows and 256 columns. A nice feature would be the capability to specify the number of rows and columns for each worksheet, but these values are fixed and you can't change them. This section discusses some worksheet operations that involve rows and columns.

### Inserting Rows and Columns

Although the number of rows and columns in a worksheet is fixed, you can still insert and delete rows and columns. These operations don't change the number of rows or columns. Rather, inserting a new row moves down the other rows to accommodate the new row. The last row is simply removed from the worksheet, if it is empty. Inserting a new column shifts the columns to the right, and the last column is removed, if it's empty.

**Note**

If the last row (row 65,536) is not empty, you can't insert a new row. Similarly, if the last column (column IV) contains information, Excel won't let you insert a new column. You can use this to your advantage, however. For example, if you want to ensure that no one adds new rows or columns to your worksheet, simply enter something (anything) into cell IV65536. Attempting to add a row or column displays the dialog box shown in Figure 7-14.



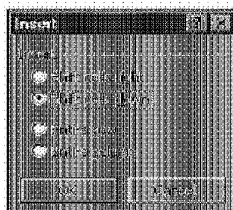
**Figure 7-14:** Excel's way of telling you that you can't add a new row or column.

To insert a new row or rows, you can use any of the following techniques:

- Select an entire row or multiple rows by clicking the row numbers in the worksheet border. Select the **Insert • Rows** command.
- Select an entire row or multiple rows by clicking the row numbers in the worksheet border. Right-click and choose **Insert** from the shortcut menu.
- Move the cell pointer to the row that you want to insert and then select **Insert • Rows**. If you select multiple cells in the column, Excel inserts additional rows that correspond to the number of cells selected in the column.

The procedure for inserting a new column or columns is the same, but you use the **Insert • Column** command.

You also can insert cells, rather than just rows or columns. Select the range into which you want to add new cells and then select **Insert • Cells**. To insert cells, the other cells must be shifted to the right or shifted down. Therefore, Excel displays the dialog box shown in Figure 7-15 to find out the direction in which you want to shift the cells.



**Figure 7-15:** When you insert cells, Excel needs to know in which direction to shift the cells to make room.



Shifting cells around may cause problems in other places in your worksheet, so use caution with the Insert • Cells command. Better yet, avoid it if you can and insert entire rows or columns. In fact, I've *never* used this command.

## Deleting Rows and Columns

To delete a row or rows, use any of the following methods:

- Select an entire row or multiple rows by clicking the row numbers in the worksheet border and then select Edit • Delete.
- Select an entire row or multiple rows by clicking the row numbers in the worksheet border. Right-click and choose Delete from the shortcut menu.
- Move the cell pointer to the row that you want to delete and then select Edit • Delete. In the dialog box that appears, choose the Entire row option. If you select multiple cells in the column, Excel deletes all selected rows.

Deleting columns works the same way. If you discover that you accidentally deleted a row or column, select Edit • Undo (or Ctrl+Z) to undo the action.

## Changing Column Widths and Row Heights

Excel provides several different ways to change the widths of columns and the height of rows.

### Changing column widths

Column width is measured in terms of the number of characters that will fit into the cell's width. By default, each column's width is 8.43. This is actually a rather meaningless measurement, because in most fonts, the width of individual characters varies — the letter *i* is much narrower than the letter *W*, for example.



If pound signs (#) fill a cell, the column's width isn't wide enough to accommodate the information in the cell. Widen the column to solve the problem. For the most part, Excel automatically adjusts column width as you enter information.

You can change the width of a column or columns in several different ways, which are listed next. Before you change the width, you can select multiple columns, so that the width will be the same for all selected columns. To select multiple columns, either click and drag in the column border or press Ctrl while you select individual columns. To select all columns, click the Select All button in the upper-left corner of the worksheet border (or press Ctrl+Shift+spacebar).

- Drag the right-column border with the mouse until the column is the desired width.
- Choose Format • column • Width and enter a value in the Column Width dialog box.

- Choose **Format • column • AutoFit Selection**. This adjusts the width of the selected column so that the widest entry in the column fits. If you want, you can just select cells in the column, and the column is adjusted based on the widest entry in your selection.
- Double-click the right border of a column to set the column width automatically to the widest entry in the column.

**Tip**

To change the default width of all columns, use the **Format • Column • Standard Width** command. This displays a dialog box into which you enter the new default column width. All columns that haven't been previously adjusted take on the new column width.

### Changing row heights

Row height is measured in points (a standard unit of measurement in the printing trade). The default row height depends on the font defined in the Normal style. Excel adjusts row heights automatically to accommodate the tallest font in the row. So, if you change the font size of a cell to 20 points, for example, Excel makes the column taller so that the entire text is visible.

You can set the row height manually, however, by using any of the following techniques. As with columns, you can select multiple rows.

- Drag the lower row border with the mouse until the row is the desired height.
- Choose **Format • row • Height** and enter a value (in points) in the Row Height dialog box.
- Double-click the bottom border of a row to set the row height automatically to the tallest entry in the row. You also can use the **Format • Row • AutoFit** command for this.

Changing the row height is useful for spacing out rows and is preferable to inserting empty rows between lines of data. Figure 7-16 shows a simple report that uses taller rows to produce a double-spaced effect.

### Hiding Rows and Columns

Excel lets you hide rows and columns. This may be useful if you don't want users to see particular information.

**Tip**

You can also hide the rows and columns that aren't used in your worksheet—effectively making your worksheet appear smaller.

Select the row or rows that you want to hide and then choose **Format • RowHide**. Or, select the column or columns that you want to hide and then choose **Format • column • Hide**.

You also can drag the row or column's border to hide the row or column. Drag the bottom border of a row upward or the border of a column to the left.

	Seminar Costs	% of Budget
Printing	\$1,309	19%
Postage	\$1,031	16%
List Purchases	\$1,000	14%
Meeting Room Space	\$544	8%
Food and Beverages	\$558	8%
Promotion Logistics	\$558	8%
Marketing Materials	\$554	8%
Technical Services	\$357	5%
O&M Fees	\$350	5%
Market Research	\$272	4%
Other	\$516	7%
<b>Total</b>	<b>\$7,060</b>	<b>100%</b>

**Figure 7-16:** Changing row heights is the best way to space out the rows in a report.

A hidden row is actually a row with its height set to zero. Similarly, a hidden column has a column width of zero. When you use the arrow keys to move the cell pointer, cells in hidden rows or columns are skipped. In other words, you can't use the arrow keys to move to a cell in a hidden row or column.

Unhiding a hidden row or column can be a bit tricky, because selecting a row or column that's hidden is difficult. The solution is to select the columns or rows that are adjacent to the hidden column or row (select at least one column or row on either side). Then, select **Format • Row • Unhide** or **Format • Column • Unhide**. Another method is to select **Edit • Go To** (or its F5 equivalent) to activate a cell in a hidden row or column. For example, if column A is hidden, you can press F5 and specify cell A1 (or any other cell in column A) to move the cell pointer to the hidden column. Then, you can use the appropriate command to unhide the column.

## Summary

This chapter delves into some important operations that all Excel users should know. It covers topics dealing with adding and removing worksheets, renaming worksheets, and moving and copying worksheets. It also discusses topics that help you control the view of your worksheet: freezing panes and splitting panes. This chapter concludes with a discussion of operations that involve entire rows or columns.

• • • • •





# Working with Cells and Ranges

**T**his chapter discusses a variety of techniques that you use to work with cells and ranges.

## Cells and Ranges

A cell is a single element in a worksheet that can hold a value, text, or a formula. A cell is identified by its *address*, which consists of its column letter and row number. For example, cell D12 is the cell in the fourth column and the twelfth row.

A group of cells is called a *range*. You designate a range address by specifying its upper-left cell address and its lower-right cell address, separated by a colon.

Here are some examples of range addresses:

<b>A1:B1</b>	Two cells that occupy one row and two columns
<b>C24</b>	A range that consists of a single cell
<b>A1:A100</b>	100 cells in column A
<b>A1:D416</b>	Cells (four rows by four columns)
<b>C1:C65536</b>	An entire column of cells; this range also can be expressed as C:C
<b>A6:IV6</b>	An entire row of cells; this range also can be expressed as 6:6
<b>A1:IV65536</b>	All cells in a worksheet

# 8 CHAPTER

## In This Chapter

Cells and Ranges

Annotating a Cell

Deleting Cell Contents

Copying a Range

Copying a Range to Other Sheets

Moving a Cell or Range

Other Cell and Range Operations

Naming Cells and Ranges: The Basics

## Alternate Cell Addresses

Typically, you reference cells by their column letter and row number (cell D16 for the cell at the intersection of the fourth column and sixteenth row, for example). You may not know it, but Excel gives you a choice in this matter. You can select **Tools • Options (General tab)** and then choose the **R1C1** reference style option. After selecting this option, the column borders in your worksheets are displayed as numbers rather than letters. Furthermore, all cell references in your formulas use this different notation.

If you find RC notation confusing, you're not alone. RC notation isn't too bad when you're dealing with absolute references. But, when relative references are involved, the brackets can drive you batty.

The numbers in the brackets refer to the relative position of the reference. For example,  $R[-5]C[-3]$  specifies the cell that's five rows above and three columns to the left. On the other hand,  $R[5]C[3]$  references the cell that's five rows *below* and three columns to the *right*. If the brackets are omitted, it specifies the same row or column:  $R[5]C$  refers to the cell five rows below in the same column.

See the following table for examples of how normal formulas translate to RC notation. These formulas are in cell B1 (otherwise known as R1C2).

<i>Formulas Using Column Letters and Row Number</i>	<i>Formulas Using RC Notation</i>
$=\$A\$1$	$=R1C1$
$=A1+A2+A3$	$=RC[-1]+R[1]C[-1]+R[2]C[-1]$
$=(A1+A2)/\$A\$3$	$=(RC[-1]+R[1]C[-1])/R3C1$



**Note**

When you're simply navigating through a worksheet or formatting cells, you don't really need to know the range address with which you're working. Understanding cell addresses is most important when you are creating formulas, as you'll see in the next chapter.

## Selecting Ranges

To perform an operation on a range of cells in a worksheet, you must select the range of cells first. For example, if you want to make the text bold for a range of cells, you must select the range and then click the **Bold** button on the **Formatting** toolbar (or, use any of several other methods to make the text bold).

When you select a range, the cells appear highlighted in light blue-gray. The exception is the active cell, which remains its normal color. Figure 8-1 shows an example of a selected range in a worksheet.



Displaying a selected range in light blue-gray is a departure from the behavior of prior versions of Excel, in which the shading of selected cells was black. Microsoft calls this new behavior “See-through View,” and it makes it easier to see the actual color formatting of selected cells.

	Jan	Feb	Mar	Apr	May	Jun
	\$27,540	\$27,540	\$28,547	\$27,540	\$26,547	\$29,750
	\$1,234	\$9,825	\$8,875	\$9,825	\$8,875	\$9,520
	\$3,570	\$3,304	\$3,425	\$3,304	\$3,425	\$3,570

**Figure 8-1:** When you select a range, it appears highlighted, but the active cell within the range is not highlighted.

You can select a range in several ways:

- Use the mouse to drag, highlighting the range. If you drag to the end of the screen, the worksheet will scroll.
- Press the Shift key while you use the direction keys to select a range.
- Press F8 and then move the cell pointer with the direction keys to highlight the range. Press F8 again to return the direction keys to normal movement.
- Use the Edit • Go To command (or press F5) and enter a range’s address manually into the Go To dialog box. When you click OK, Excel selects the cells in the range that you specified.



**Tip** As you’re selecting a range, Excel displays the number of rows and columns in your selection in the Name box (located on the left side of the formula bar).

## Selecting Complete Rows and Columns

You can select entire rows and columns in much the same manner as you select ranges, as follows:

- Click the row or column border to select a single row or column.
- To select multiple adjacent rows or columns, click a row or column border and drag to highlight additional rows or columns.
- To select multiple (nonadjacent) rows or columns, press Ctrl while you click the rows or columns that you want.
- Press Ctrl+spacebar to select a column. The column of the active cell (or columns of the selected cells) will be highlighted.

- Press Shift+spacebar to select a row. The row of the active cell (or rows of the selected cells) will be highlighted.
- Click the Select All button (or Ctrl+Shift+spacebar) to select all rows. Selecting all rows is the same as selecting all columns, which is the same as selecting all cells.

## Selecting Noncontiguous Ranges

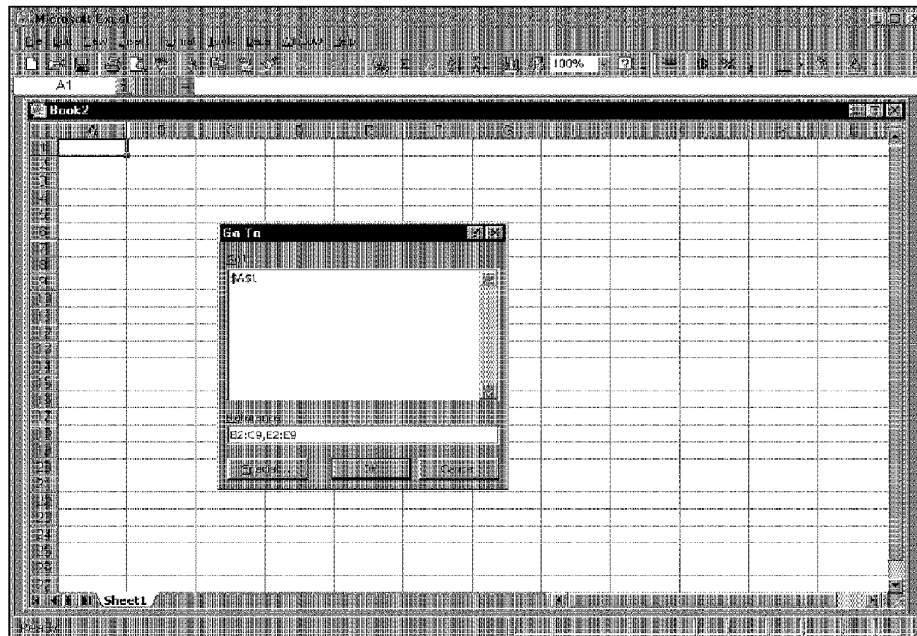
Most of the time, the ranges that you select will be *contiguous* — a single rectangle of cells. Excel also enables you to work with *noncontiguous ranges*, which consist of two or more ranges (or single cells) that are not necessarily next to each other. This is also known as a *multiple selection*. If you want to apply the same formatting to cells in different areas of your worksheet, one approach is to make a multiple selection. When the appropriate cells or ranges are selected, the formatting that you select is applied to them all. Figure 8-2 shows a noncontiguous range selected in a worksheet.

Annual Sales Report		Jan	Feb	Mar	Qtr 1	Qtr 2	Qtr 3
Cars	Compact	31,735	11,566	71,639	114,940	126,076	150,045
	Midsize	63,074	20,519	12,826	96,421	152,211	135,438
	Full-size	45,696	77,739	76,476	199,911	173,082	90,148
	<b>Total Cars</b>	<b>140,505</b>	<b>109,824</b>	<b>160,941</b>	<b>411,272</b>	<b>451,369</b>	<b>375,631</b>
Trucks	Minivans	90,195	85,310	24,513	200,019	128,240	200,375
	Full vans	80,260	18,206	66,115	164,581	125,146	140,991
	Pickups	63,075	82,701	51,812	197,588	168,535	207,990
	<b>Total Trucks</b>	<b>233,531</b>	<b>186,217</b>	<b>142,440</b>	<b>562,188</b>	<b>421,921</b>	<b>557,356</b>
	<b>Total Sales</b>	<b>374,036</b>	<b>296,041</b>	<b>303,381</b>	<b>973,460</b>	<b>873,350</b>	<b>932,987</b>

**Figure 8-2:** Excel enables you to select noncontiguous ranges, as shown here.

You can select a noncontiguous range in several ways:

- Hold down Ctrl while you drag the mouse to highlight the individual cells or ranges.
- From the keyboard, select a range as described previously (using F8 or the Shift key). Then, press Shift+F8 to select another range without canceling the previous range selections.
- Select Edit • Go To and then enter a range's address manually into the Go To dialog box. Separate the different ranges with a comma. When you click OK, Excel selects the cells in the ranges that you specified (see Figure 8-3).



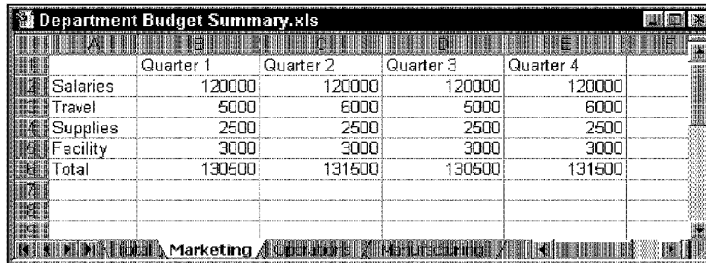
**Figure 8-3:** Enter a noncontiguous range by separating the ranges with a comma. This example selects a noncontiguous range made up of two ranges: B2:C9 and E2:E9.

## Selecting Multisheet Ranges

So far, this discussion has focused on ranges on a single worksheet. As you know, an Excel workbook can contain more than one worksheet. And, as you might expect, ranges can extend across multiple worksheets. You can think of these as three-dimensional ranges.

Suppose that you have a workbook set up to track expenses by department. A common approach is to use a separate worksheet for each department, making it easy to organize the data. You can click a sheet tab to view the information for a particular department.

Figure 8-4 shows a workbook that has four sheets, named Total, Marketing, Operations, and Manufacturing. The sheets are laid out identically. The only difference is the values. The Total sheet contains formulas that compute the sum of the corresponding items in the three departmental worksheets.

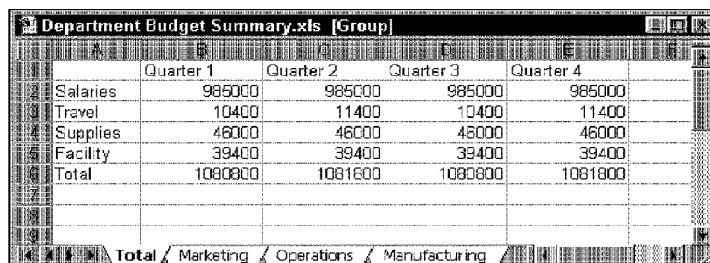


	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Salaries	120000	120000	120000	120000
Travel	5000	6000	5000	6000
Supplies	2500	2500	2500	2500
Facility	3000	3000	3000	3000
Total	130500	131500	130500	131500

**Figure 8-4:** A sample workbook that uses multiple worksheets.

The worksheets in the Department Budget Summary workbook aren't formatted in any way. If you want to apply number formats, for example, one (not so efficient) approach is simply to format the values in each worksheet separately. A better technique is to select a multisheet range and format the cells in all the sheets simultaneously. The following is a step-by-step example of multisheet formatting, using the workbook shown in Figure 8-4.

1. Activate the Total worksheet.
2. Select the range B2:E6.
3. Press Shift and click the sheet tab labeled Manufacturing. This selects all worksheets between the active worksheet (Totals) and the sheet tab that you click—in essence, a three-dimensional range of cells (see Figure 8-5). Notice that the workbook window's title bar displays [Group]. This is a reminder that you've selected a group of sheets and that you're in Group edit mode.
4. Click the Comma Style button on the Formatting toolbar. This applies comma formatting to the selected cells.
5. Click one of the other sheet tabs. This selects the sheet and also cancels Group mode; [Group] is no longer displayed in the title bar.



	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Salaries	985000	985000	985000	985000
Travel	10400	11400	10400	11400
Supplies	46000	46000	45000	46000
Facility	39400	39400	39400	39400
Total	1080800	1081600	1080800	1081800

**Figure 8-5:** Excel in Group mode, with a three-dimensional range of cells selected.

Excel applied comma formatting to all of the values in the selected sheets.

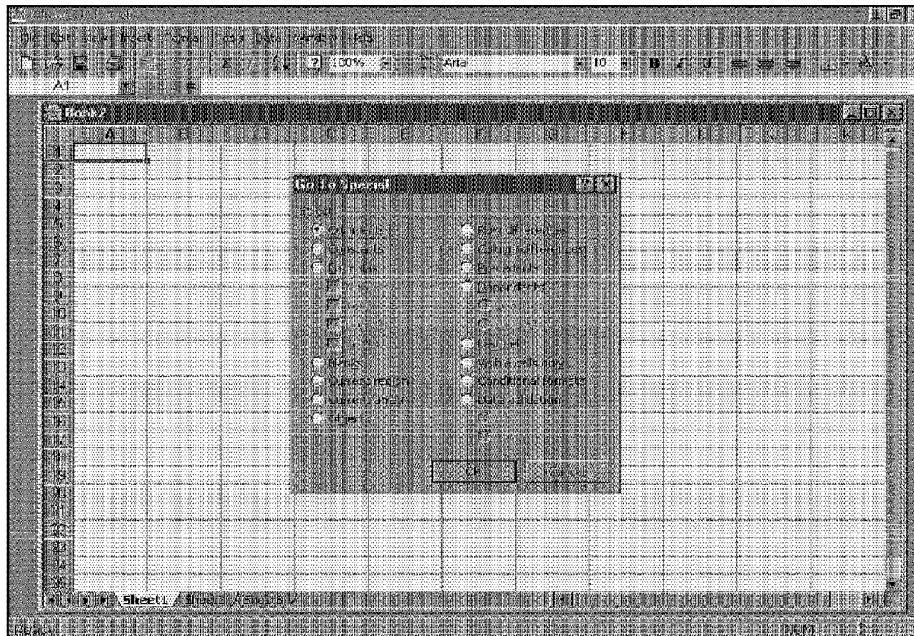
In general, selecting a multisheet range is a simple two-step process: select the range in one sheet and then select the worksheets to include in the range. To select a group of contiguous worksheets, you can press Shift and click the sheet tab of the last worksheet that you want to include in the selection. To select individual worksheets, hold down Ctrl and click the sheet tab of each worksheet that you want to select. If all the worksheets in a workbook aren't laid out the same, you can skip the sheets that you don't want to format. When you make the selection, the sheet tabs of the selected sheets appear in reverse video, and Excel displays [Group] in the title bar.

**Tip**

To select all sheets in a workbook, right-click any sheet tab and choose Select All Sheets from the shortcut menu.

## Special Selections

The Edit • Go To command (or F5) was mentioned earlier as a way to select (or go to) a cell or range. Excel also provides a way to select only “special” cells in the workbook or in a selected range. You do this by choosing Edit • Go To, which brings up the Go To dialog box. Clicking the Special button displays the Go To Special dialog box, shown in Figure 8-6.



**Figure 8-6:** The Go To Special dialog box enables you to select specific types of cells.



After you make your choice in the dialog box, Excel selects the qualifying subset of cells in the current selection. Usually, this results in a multiple selection. If no cells qualify, Excel lets you know.



If you bring up the Go To Special dialog box with only one cell selected, Excel bases its selection on the entire active area of the worksheet.

Table 8-1 offers a description of the options available in the Go To Special dialog box. Some of the options can be quite useful.

**Table 8-1**  
**Select Special Options**

<i>Option</i>	<i>What It Does</i>
Comments	Selects only the cells that contain cell comments (see the next section). Ctrl+Shift+F is the shortcut.
Constants	Selects all nonempty cells that don't contain formulas. This option is useful if you have a model set up and want to clear out all input cells and enter new values. The formulas remain intact.
Formulas	Selects cells that contain formulas. Qualify this by selecting the type of result: numbers, text, logical values (TRUE or FALSE), or errors. These terms are described in the next chapter.
Blanks	Selects all empty cells.
Current Region	Selects a rectangular range of cells around the active cell. This range is determined by surrounding blank rows and columns. Ctrl+* is the shortcut.
Current Array	Selects the entire array. Arrays are covered in Chapter 20.
Objects	Selects all graphic objects on the worksheet.
Row Differences	Analyzes the selection and selects cells that are different from other cells in each row. Ctrl+\ is the shortcut.
Column Differences	Analyzes the selection and selects the cells that are different from other cells in each column. Ctrl+Shift+\ is the shortcut.
Precedents	Selects cells that are referred to in the formulas in the active cell or selection. You can select either direct precedents or precedents at any level.
Dependents	Selects cells with formulas that refer to the active cell or selection. You can select either direct dependents or dependents at any level.
Last Cell	Selects the bottom-right cell in the worksheet that contains data or formatting. Ctrl+End is the shortcut.

<b>Option</b>	<b>What It Does</b>
Visible Cells Only	Selects only visible cells in the selection. This option is useful when dealing with outlines or an autofiltered list.
Conditional Formats	Selects cells that have a conditional format applied (using the Format • Conditional Formatting command).
Data Validation	Selects cells that are set up for data entry validation (using the Data • Validation command). The All option selects all such cells. The Same option selects only the cells that have the same validation rules as the active cell.

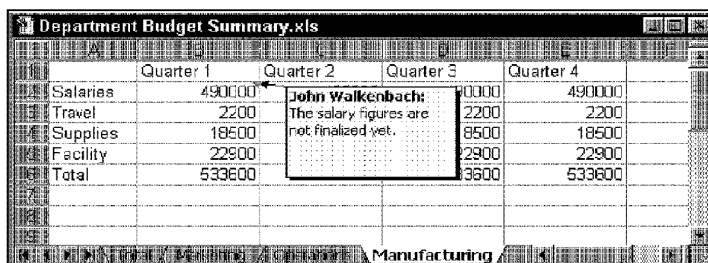
## Annotating a Cell

Excel's cell-comment feature enables you to attach a comment to a cell. This feature is useful when you need to document a particular value. It's also useful to help you remember what a formula does.



In versions of Excel prior to Excel 97, cell comments were known as *cell notes*.

To add a comment to a cell, select the cell and then choose **Insert • Comment** (or **Shift+F2**). Excel inserts a comment that points to the active cell, as shown in Figure 8-7. Initially, the comment consists of your name. Enter the text for the cell comment and then click anywhere in the worksheet to hide the comment.



**Figure 8-7:** Excel enables you to add a descriptive note to a cell.

Cells that have a comment attached display a small red triangle in the upper-right corner. When you move the mouse pointer over a cell that contains a comment, the comment becomes visible.



Select **Tools • Options (View tab)** to control how cell comment indicators are displayed. You can turn off these indicators if you like.

If you want all cell comments to be visible (regardless of the location of the cell pointer), select **View • Comments**. This command is a toggle; select it again to hide all cell comments. To edit a comment, activate the cell, **right-click**, and then choose **Edit Comment** from the shortcut menu.

To delete a cell comment, activate the cell that contains the comment, **right-click**, and then choose **Delete Comment** from the shortcut menu.

## Deleting Cell Contents

To erase cells by using only the mouse, select the cell or range to be deleted. Then, click the **fill handle**—the small square to the lower right of the selection indicator (see Figure 8-8). When you move the mouse pointer over the fill handle, the pointer changes to a cross. As you drag up, Excel grays out the selection. Release the mouse button to erase the contents of the grayed selection.

**Tip**

To erase the contents of a cell or range, select the cell or range and press **Delete**. Or, you can select **Edit • Clear**, which provides additional options.



**Figure 8-8:** Drag the fill handle up to erase cell contents by using the mouse.

## Copying a Range

Copying the contents of a cell is a very common operation. You can do any of the following:

- Copy a cell to another cell.
- Copy a cell to a range of cells. The source cell is copied to every cell in the destination range.
- Copy a range to another range. Both ranges must be the same size.



**Note**

Copying a cell normally copies the cell contents, any formatting that is applied to the original cell (including conditional formatting and data validation), and the cell comment (if it has one). When you copy a cell that contains a formula, the cell references in the copied formulas are changed automatically to be relative to their new destination. More on this in the next chapter.

Copying consists of two steps (although shortcut methods exist, as you'll see later):

1. Select the cell or range to copy (the source range) and copy it to the Clipboard.
2. Move the cell pointer to the range that will hold the copy (the destination range) and paste the Clipboard contents.

When you paste information, Excel overwrites — without warning — any cells that get in the way. If you find that pasting overwrote some essential cells, choose Edit • Undo (or press Ctrl+Z).

Because copying is used so often, Excel provides many different methods. I discuss each method in the following sections.

### Copying by Using Toolbar Buttons

The Standard toolbar has two buttons that are relevant to copying: the Copy button and the Paste button. Clicking the Copy button transfers a copy of the selected cell or range to the Windows Clipboard and the Office Clipboard. After performing the copy part of this operation, select the cell that will hold the copy and click the Paste button.

If you're copying a range, you don't need to select an entire range before clicking the Paste button. You need only activate the upper-left cell in the destination range.



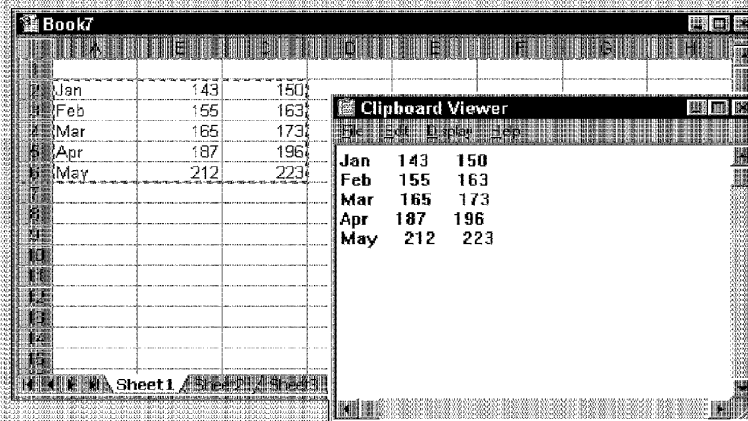
**Note**

If you click the Copy button more than once before you click the Paste button, Excel automatically displays the Office Clipboard toolbar.

## Windows Clipboard Versus Office Clipboard

The Clipboard is mentioned several times throughout this chapter. Starting with Office 2000, Windows 95 and Windows 98 have two clipboards. The original Windows Clipboard remains; whenever you cut or copy information from a Windows program, Windows stores the information on the Windows Clipboard, which is an area of memory. Each time that you cut or copy information, Windows replaces the information previously stored on the Clipboard with the new information that you cut or copied. The Windows Clipboard can store data in a variety of formats. Because information on the Clipboard is managed by Windows, it can be pasted to other Windows applications, regardless of where it originated (Chapter 29 discusses the topic of interapplication copying and pasting). Normally, you can't see information stored on the Windows Clipboard (nor would you want to).

For Windows programs other than Office programs, you can run the Clipboard Viewer program, which comes with Windows, to view the contents of the Windows Clipboard. The Clipboard Viewer may or may not be installed on your system (it is not installed, by default). The accompanying figure shows an example of this program running.



If you open the Clipboard Viewer while working in Excel, by default, you see a row/column reference rather than the actual information you copied. You can use the Clipboard Viewer's Display menu to view the data in different formats, such as the Text format shown in the accompanying figure. You also can save the Clipboard contents in a file, which you can then open at a later time.

Chapter 22 contains more information about Clipboard Viewer formats and Excel.

Office 2000 presents a new clipboard, the Office Clipboard, which is available only in Office programs. Whenever you cut or copy information in an Office program, such as Excel, the program places the information on both the Windows Clipboard and the Office Clipboard. However, the program treats information on the Office Clipboard differently than it treats information on the Windows Clipboard. Instead of replacing information on the Office Clipboard, the program appends the information to the Office Clipboard. With multiple items stored on the Clipboard, you can then paste the items either individually or as a group. You'll learn how the Office Clipboard works later in this chapter.

## Copying by Using Menu Commands

If you prefer, you can use the following menu commands for copying and pasting:

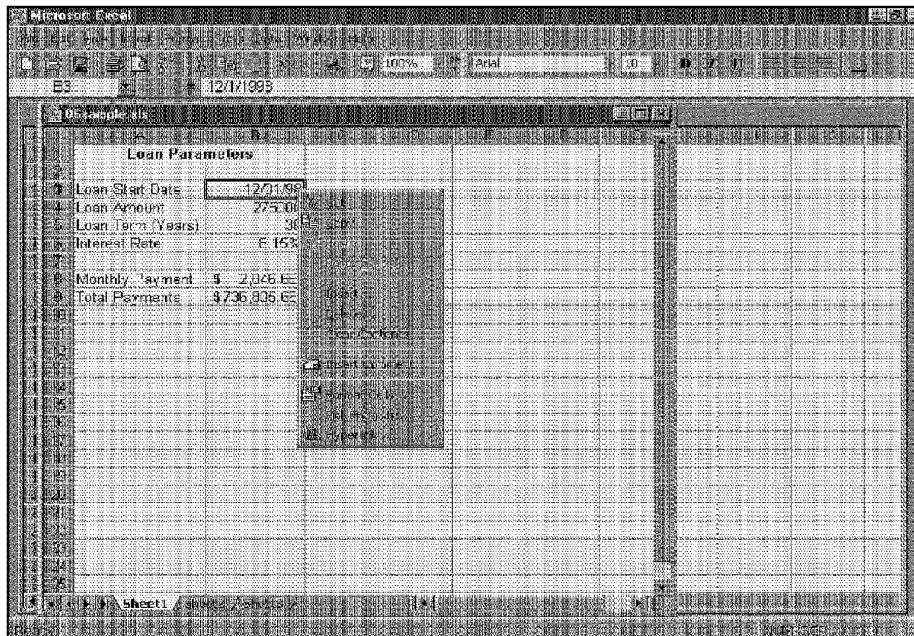
- **Edit • Copy:** Copies the selected cells to the Windows Clipboard and the Office Clipboard
- **Edit • Paste:** Pastes the Windows Clipboard contents to the selected cell or range



You'll learn more about pasting the contents of the Office Clipboard later in this chapter.

## Copying by Using Shortcut Menus

You also can use the Copy and Paste commands on the shortcut menu, as shown in Figure 8-9. The Copy command on the shortcut menu places information on both the Windows and Office Clipboards. Select the cell or range to copy, right-click, and then choose Copy from the shortcut menu. Then, select the cell in which you want the copy to appear, right-click, and choose Paste from the shortcut menu.



**Figure 8-9:** Right-clicking anywhere on the screen displays a shortcut menu, which contains Copy and Paste commands.

## Copying by Using Shortcut Keys

The copy and paste operations also have shortcut keys associated with them:

- **Ctrl+C:** Copies the selected cells to both the Windows and Office Clipboards
- **Ctrl+V:** Pastes the Windows Clipboard contents to the selected cell or range



**Note**

These shortcut keys also are used by most other Windows applications.

## Copying by Using Drag and Drop

Excel also enables you to copy a cell or range by dragging. Be aware, however, that dragging and dropping *does not* place any information on either the Windows Clipboard or the Office Clipboard. Select the cell or range that you want to copy and then move the mouse pointer to one of its four borders. When the mouse pointer turns into an arrow pointing up and to the left, press Ctrl; the mouse pointer is augmented with a small plus sign. Then, simply drag the selection to its new location, while you continue to press the Ctrl key. The original selection remains behind, and Excel makes a new copy when you release the mouse button.



If the mouse pointer doesn't turn into an arrow when you point to the border of a cell or range, you need to make a change to your settings. Select **Tools • Options**, click the **Edit** tab, and place a check mark on the option labeled **Allow cell drag and drop**.

## Copying to Adjacent Cells

Often, you'll find that you need to copy a cell to an adjacent cell or range. This type of copying is quite common when working with formulas. For example, if you're working on a budget, you might create a formula to add the values in column B. You can use the same formula to add the values in the other columns. Rather than reenter the formula, you'll want to copy it to the adjacent cells.

Excel provides some additional options on its **Edit** menu for copying to adjacent cells. To use these commands, select the cell that you're copying and the cells that you are copying to (see Figure 8-10). Then, issue the appropriate command from the following list for one-step copying:

- **Edit • Fill • Down (or Ctrl+D)**: Copies the cell to the selected range below
- **Edit • Fill • Right (or Ctrl+R)**: Copies the cell to the selected range to the right
- **Edit • Fill • Up**: Copies the cell to the selected range above
- **Edit • Fill • Left**: Copies the cell to the selected range to the left



None of these commands places information on either the **Windows Clipboard** or the **Office Clipboard**.

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Salaries	375000	375000	375000	375000
Travel	3200	3200	3200	3200
Supplies	25000	25000	25000	25000
Facility	13500	13500	13500	13500
<b>Total</b>	<b>416700</b>			

**Figure 8-10:** To copy to adjacent cells, start by selecting the cell to copy plus the cells in which you want the copy to appear.

You also can use **AutoFill** to copy to adjacent cells by dragging the selection's fill handle. Excel copies the original selection to the cells that you highlight while dragging. **AutoFill** doesn't place any information on either the **Windows Clipboard** or the **Office Clipboard**.





Chapter 9 discusses more uses for AutoFill.

## Copying a Range to Other Sheets

The copy procedures described previously also work to copy a cell or range to another worksheet, even if the worksheet is in a different workbook. You must, of course, activate the other worksheet before you select the location to which you want to copy.

Excel offers a quicker way to copy a cell or range and paste it to other worksheets in the same workbook. Start by selecting the range to copy. Then, press Ctrl and click the sheet tabs for the worksheets to which you want to copy the information (Excel displays [Group] in the workbook's title bar). Select **Edit • Fill • Across Worksheets**, and a dialog box appears that asks what you want to copy (All, Contents, or Formats). Make your choice and then click OK. Excel copies the selected range to the selected worksheets; the new copy will occupy the same cells in the selected worksheets as the original occupies in the initial worksheet.



Be careful with this command, because Excel doesn't warn you if the destination cells contain information. You can quickly overwrite lots of information with this command and not even realize it.

## Moving a Cell or Range

Copying a cell or range doesn't modify the cell or range that you copied. If you want to relocate a cell or range to another location, you'll find that Excel is also quite accommodating.

Recall that the **Edit • Copy** command makes a copy of the selected cell or range and puts the copy on the Windows Clipboard and the Office Clipboard. The **Edit • Cut** command also places the selection on both Clipboards, but the **Edit • Cut** command also removes the contents of the selection from its original location. To move a cell or range, therefore, requires two steps:

1. Select the cell or range to cut (the source range) and "cut" it to both of the Clipboards.
2. Select the cell that will hold the moved cell or range (the destination range) and paste the contents of one of the Clipboards. The destination range can be on the same worksheet or in a different worksheet—or in a different workbook.

You also can move a cell or range by dragging it. Select the cell or range that you want to move and then slide the mouse pointer to any of the selection's four borders. The mouse pointer turns into an arrow pointing up and to the left. Drag the selection to its new location and release the mouse button. This option is similar to

copying a cell, except that you don't press Ctrl while dragging; when you drag by moving, you don't place any information on either the Windows Clipboard or the Office Clipboard.

## Other Cell and Range Operations

As you know, the Edit • Copy command and the Edit • Cut command place information on both Clipboards. Similarly, the Edit • Paste command transfers the contents of the Windows Clipboard to the selected location in your worksheet.

Excel contains two more versatile ways to paste information. You can use the Office Clipboard to copy and paste multiple items, or you can use the Paste Special dialog box to paste information in distinctive ways.

### Using the Office 2000 Clipboard to Paste

As mentioned earlier in this chapter, Office 2000 presents a new clipboard, the Office Clipboard, which is available only in Office programs. Whenever you cut or copy information in an Office program, such as Excel, the program places the information on both the Windows Clipboard and the Office Clipboard. However, the program treats information on the Office Clipboard differently than it treats information on the Windows Clipboard. Instead of *replacing* information on the Office Clipboard, the program *appends* the information to the Office Clipboard. With multiple items stored on the Clipboard, you can then paste the items either individually or as a group.

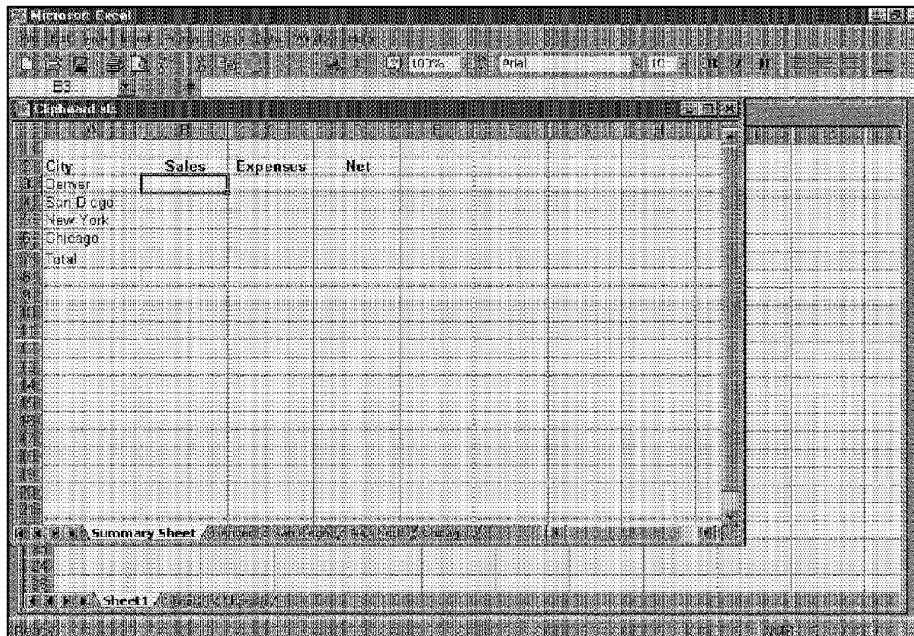
So far in this chapter, you've seen many ways to copy and cut information to both clipboards. Each of these techniques, however, pastes information from the Windows Clipboard, not the Office Clipboard. When would you use the Office Clipboard? When you want to store multiple items on the Office Clipboard and selectively paste them. Or, when you want to store multiple items on the Office Clipboard and paste them all simultaneously.



Note

The Office toolbar is available in *all* Office programs. Suppose that you have stored some items from Excel, Access, Outlook, PowerPoint, and Word on the Office Clipboard. You can switch to Excel and paste some or all the items from Access. And, you can switch to Word and paste some or all the items from both PowerPoint and Excel.

Suppose that you've created a worksheet like the one shown in Figure 8-11. You have sales, expense, and net information for each individual city stored on the "city" sheets (Denver, San Diego, New York, and Chicago). You want to copy the information from the "city" sheets to the summary sheet, so that you can total the information. In earlier versions of Excel, this task would have been quite tedious. With the Office Clipboard, the task is easy.



**Figure 8-11:** Use the Office Clipboard to copy information from the “city” sheets to the summary sheet.

The process still consists of two basic steps: copy a selection and then paste it. However, when you use the Office Clipboard, you copy several times before you paste.

Select the first cell or range that you want to copy to the Office Clipboard and copy it by using any of the techniques described earlier in this chapter: Click the Copy tool on the Standard toolbar; choose Edit • Copy; press Ctrl+C; or right-click to choose Copy from the shortcut menu.

Repeat this process, selecting the next cell or range that you want to copy. As soon as you copy the information, the Office Clipboard toolbar appears, showing you the number of items that you’ve copied (see Figure 8-12). The Office Clipboard will hold up to 12 items; when you try to add a thirteenth item, you’ll see a message asking whether you want to remove the first item that you copied or cancel copying the thirteenth item. Each item stored on the Office Clipboard toolbar contains the symbol for the program from which you copied it; if you point at one of the icons, you’ll see a toolbar tip showing you a sample of the information that the item contains.

**Note**

You can display the Office Clipboard toolbar either by clicking the Copy tool twice, without pasting, or by choosing View • Toolbars • Clipboard.



**Figure 8-12:** The Office Clipboard toolbar displays icons representing each item that you copy.

If necessary, continue copying information. If you want, you can use the Copy tool on the Office Clipboard toolbar; it serves the same purpose and functions in the same way as the Copy tool on the Standard toolbar.

When you're ready to paste information, select the cell into which you want to copy information. To paste an individual item, click its icon on the Office Clipboard toolbar. To paste all the items that you've copied, click the Paste All button on the Office Clipboard toolbar.

**Tip**

Although the items appear "across" the Office Clipboard, Excel pastes them down a column when you click Paste All—even if you select a range before you click Paste All.

You can clear the contents of the Office Clipboard by clicking the Clear Clipboard tool.

Some special notes about the Office Clipboard and its functioning:

- Excel pastes the contents of the Windows Clipboard when you paste either by clicking the Paste tool on the Standard toolbar, by choosing Edit • Paste, by pressing Ctrl-V, or by right-clicking to choose Paste from the shortcut menu.
- The last item that you cut or copied appears on both the Office Clipboard and the Windows Clipboard.
- Pasting from the Office Clipboard places that item on the Windows Clipboard. If you choose Paste All from the Office Clipboard toolbar, you paste all items stored on the Office Clipboard onto the Windows Clipboard as a single item.
- Clearing the Office Clipboard also clears the Windows Clipboard.

## Pasting in Special Ways

The Edit • Paste Special command is a much more versatile version of the Edit • Paste command. For the Paste Special command to be available, you need to copy a cell or range to the Clipboards (using Edit • Cut won't work). Then, select the cell in which you want to paste, and choose Edit • Paste Special. You see the dialog box shown in Figure 8-13. This dialog box has several options, which are explained in the following sections.

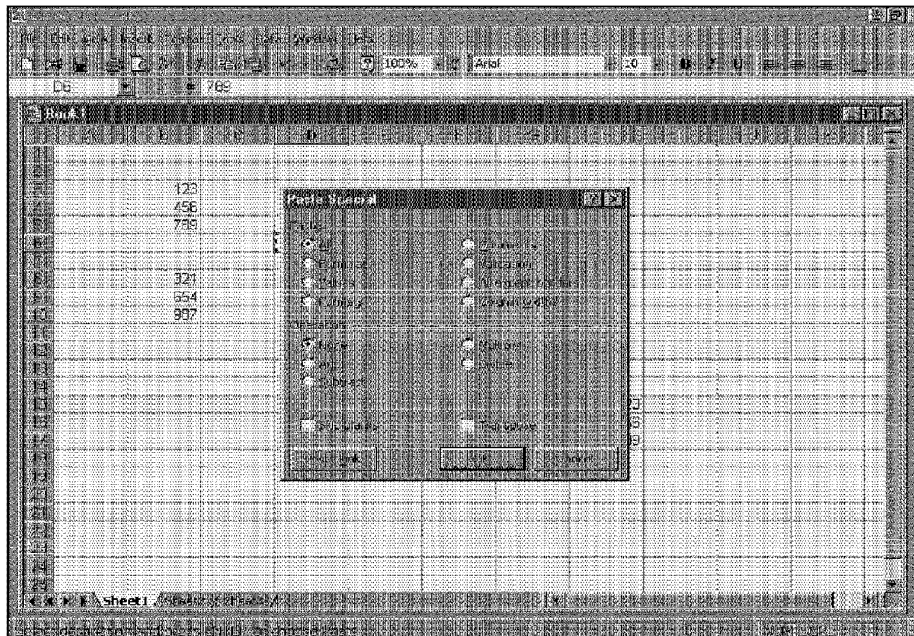


Figure 8-13: The Paste Special dialog box.

### **Pasting all**

Selecting the All option in the Paste Special dialog box is equivalent to using the Edit • Paste command. It copies the cell's contents, formats, and data validation from the Windows Clipboard.

### **Pasting formulas as values**

Normally, when you copy a range that contains formulas, Excel copies the formulas and automatically adjusts the cell references. The Values option in the Paste Special dialog box enables you to copy the *results* of formulas. The destination for the copy can be a new range or the original range. In the latter case, Excel replaces the original formulas by their current values.

### **Pasting cell formats only**

If you've applied formatting to a cell or range, you can copy only the formatting and paste it to another cell or range. If you've applied lots of formatting to a cell and want to duplicate the formatting elsewhere, use the Formats option in the Paste Special dialog box to save a great deal of time.

### **Pasting cell comments**

If you want to copy only the cell comments from a cell or range, use the Comments option in the Paste Special dialog box. This option doesn't copy cell contents or formatting.

### **Pasting validation criteria**

If you've created validation criteria for a particular cell (by using the Data • Validation command), you can copy the validation criteria to another cell or range. Use the Validation option in the Paste Special dialog box.

### **Skipping borders when pasting**

Often, you'll want to avoid copying borders around a cell. For example, if you have a table with a border around it, copying a cell from one of the outer cells in the table will also copy the border. To avoid pasting the border, choose the All except borders option in the Paste Special dialog box.

### **Pasting column widths**

You can copy column width information from one column to another. Copy any cell in the column that is set at the width that you want to copy. Select a cell in the column whose width you want to set. In the Paste Special dialog box, choose the Column widths option button.

### **Performing mathematical operations without Formulas**

The option buttons in the Operation section of the Paste Special dialog box let you perform an arithmetic operation. For example, you can copy a range to another

range and select the Multiply operation. Excel multiplies the corresponding values in the source range and the destination range and replaces the destination range with the new values.

Figure 8-14 shows another example of using a mathematical operation with the Paste Special dialog box. The objective of this example is to increase the values in B4:B10 by ten percent (without using formulas). First, the contents of cell B1 were copied to the Clipboard. Then, B4:B10 was selected and the Edit • Paste Special command was issued. Choosing the Multiply operation causes each cell in B4:B10 to be multiplied by the value on the Clipboard, effectively increasing the cell values by ten percent. You also need to select the Value option — otherwise, the cells take on the formatting of the pasted cell.

Item No.	Price
XBR-001	\$ 139
XBR-002	\$ 211
XBR-003	\$ 233
XBR-004	\$ 199
XBR-005	\$ 349
XBR-006	\$ 224
XBR-007	\$ 109

**Figure 8-14:** Using the Paste Special command to increase the values in a range by ten percent.

### **Skipping blanks when pasting**

The Skip Blanks option in the Paste Special dialog box prevents Excel from overwriting cell contents in your paste area with blank cells from the copied range. This option is useful if you're copying a range to another area, but don't want the blank cells in the copied range to overwrite existing data.

### **Transposing a range**

The Transpose option in the Paste Special dialog box changes the orientation of the copied range. Rows become columns and columns become rows. Any formulas in the copied range are adjusted so that they work properly when transposed. Note that this check box can be used with the other options in the Paste Special dialog box. Figure 8-15 shows an example of a horizontal range that was transposed to a vertical range.

The screenshot shows an Excel spreadsheet with the following data:

	A	B	C	D	E	F	G
1	Smith	Jenson	O'Reilly	Margaron	Total		
2	89.5	92.2	78.2	92.2	352.1		
3							
4	Smith	89.5					
5	Jenson	92.2					
6	O'Reilly	78.2					
7	Margaron	92.2					
8	Total	352.1					

Figure 8-15: The range in A1:E2 was transposed to A4:B8.

## Naming Cells and Ranges: The Basics

Dealing with cryptic cell and range addresses can sometimes be confusing (this becomes even more apparent when you deal with formulas, which are covered in the next chapter). Fortunately, Excel enables you to assign descriptive names to cells and ranges. For example, you can give a cell a name such as `Interest_Rate`, or you can name a range `JulySales`. Working with these names (rather than cell or range addresses) has several advantages, which are described next.

### Advantages of Using Names

The following are a few advantages of using names:

- A meaningful range name (such as `Total_Income`) is much easier to remember than a cell address (such as `AC21`).
- Entering a name is less error-prone than entering a cell or range address.
- You can quickly move to areas of your worksheet either by using the Name box, located at the left side of the formula bar (click the arrow to drop down a list of defined names) or by choosing `Edit • Go To` (or `F5`) and specifying the range name.
- When you select a named cell or range, the name appears in the Name box.
- Creating formulas is easier. You can paste a cell or range name into a formula either by using the `Insert • Name • Paste` command or by selecting a name from the Name box.
- Names make your formulas more understandable and easier to use. A formula such as `=Income-Taxes` is more intuitive than `=D20-D40`.
- Macros are easier to create and maintain when you use range names rather than cell addresses.