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.

Cross-Reference 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.

Key Combination	Action
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 *n*th window

Table 4-1
Keystrokes Used to Manipulate Windows

* 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.
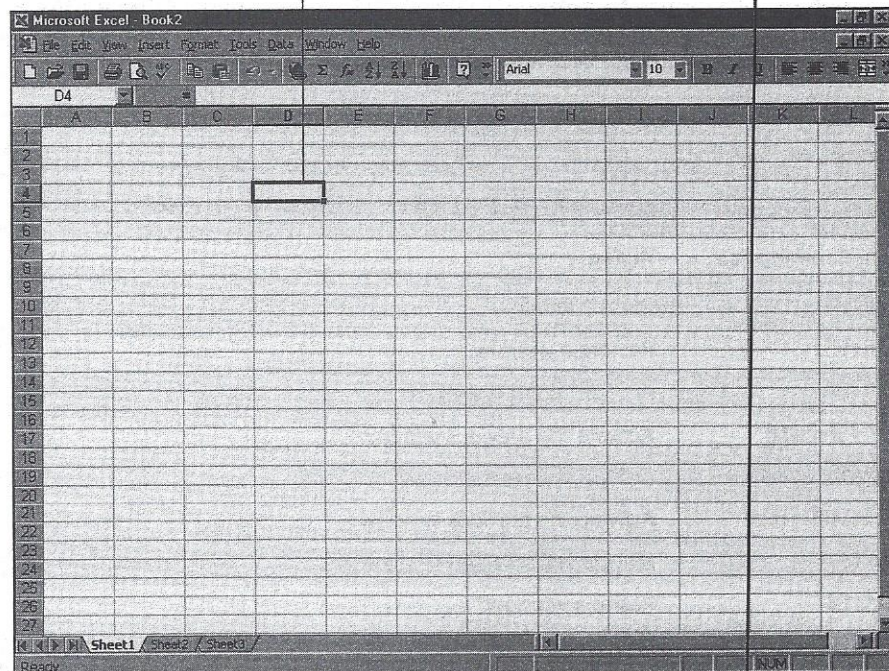
The active cell

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

Key	Action
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 work-sheet, 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 com-mands 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.
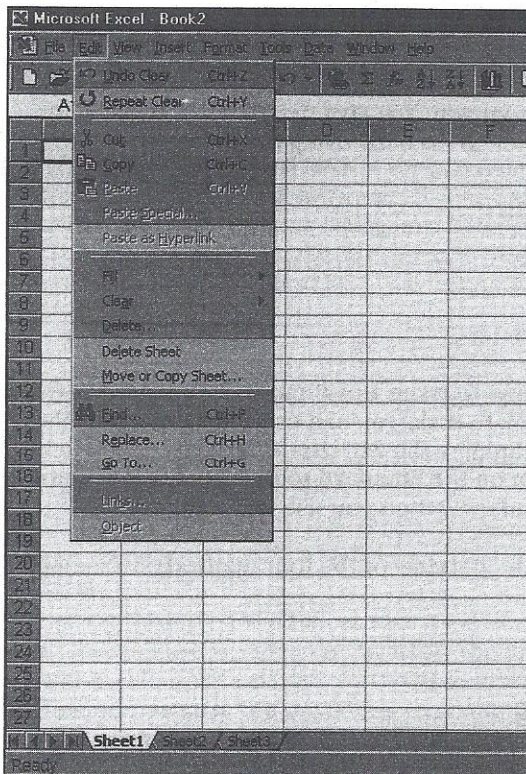
**Figure 4-6:** Opening Excel's Edit menu displays its menu items.
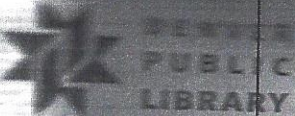
Changing Your Mind

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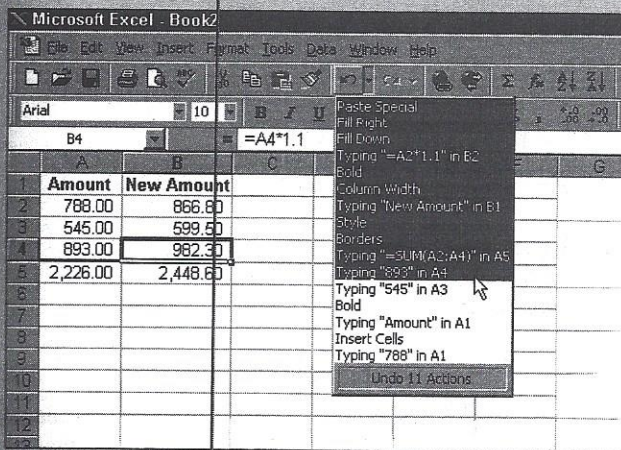
Some menu items lead to an additional *submenu;* when you click the menu item, the submenu appears to its right. Menu items that have a submenu display a small triangle. For example, the Edit ⇨ Clear command has a submenu, shown in Figure 4-7. Excel's designers incorporated submenus primarily to keep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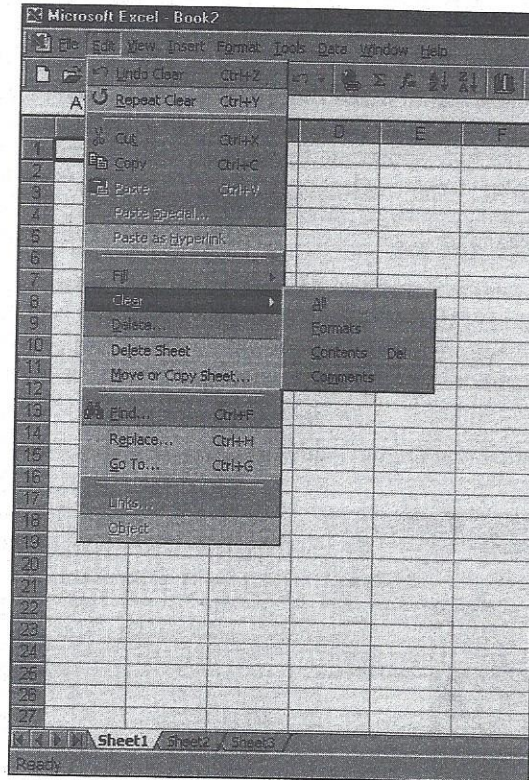

Figure 4-7: The submenu of the Edit ⇨ Clear command.

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.

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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.
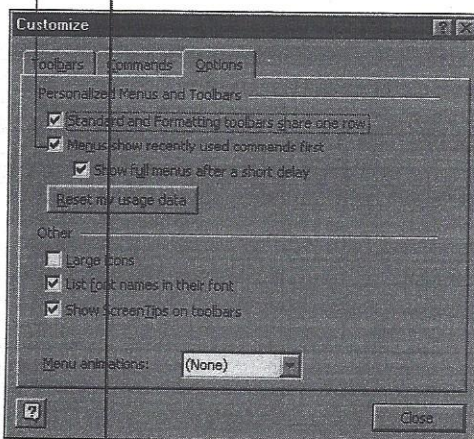
Click here

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.
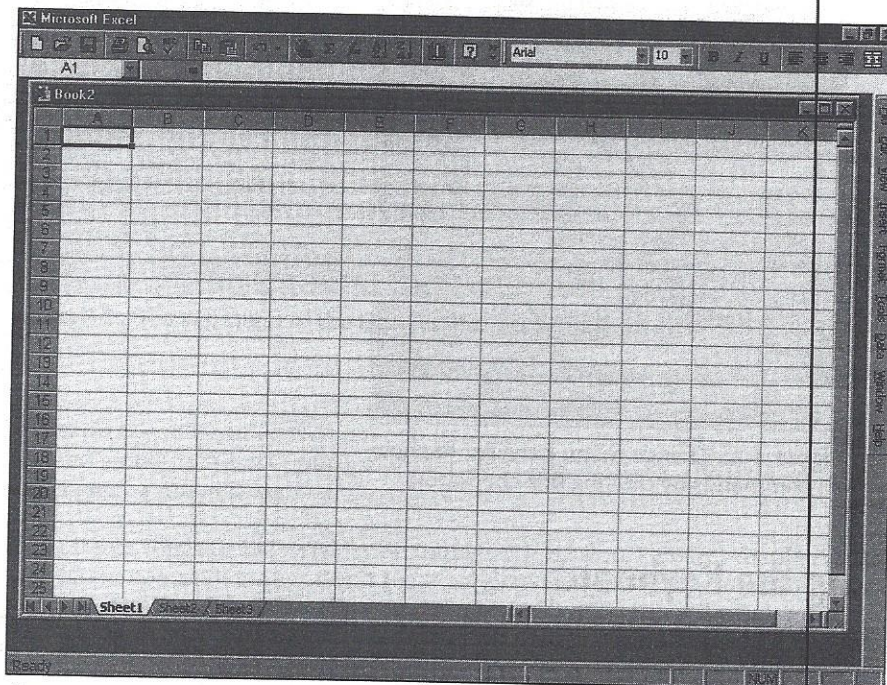

Figure 4-9: You can move Excel's menu to a new location.

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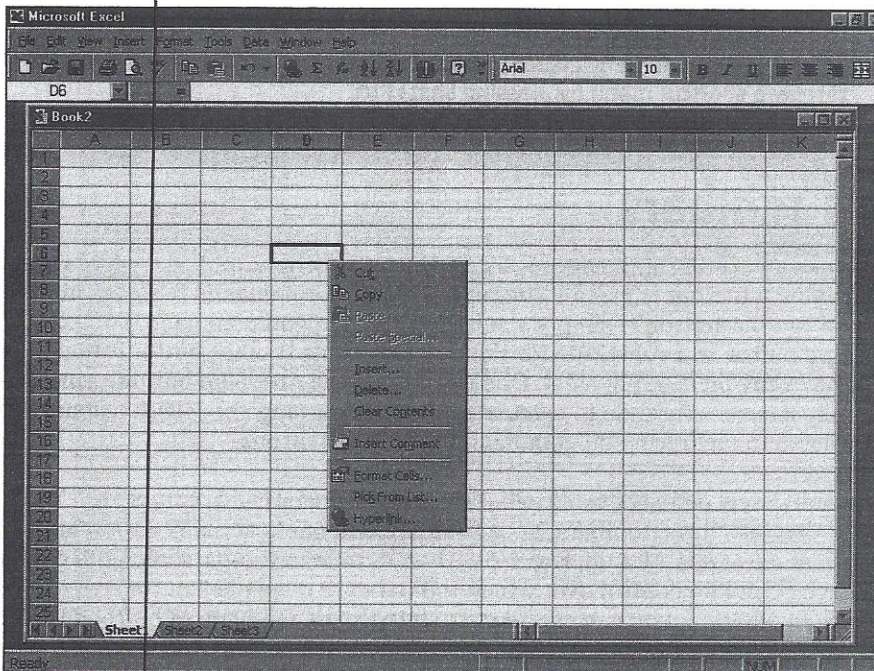
Figure 4-10: Right-clicking a cell displays this shortcut menu.

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.

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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.
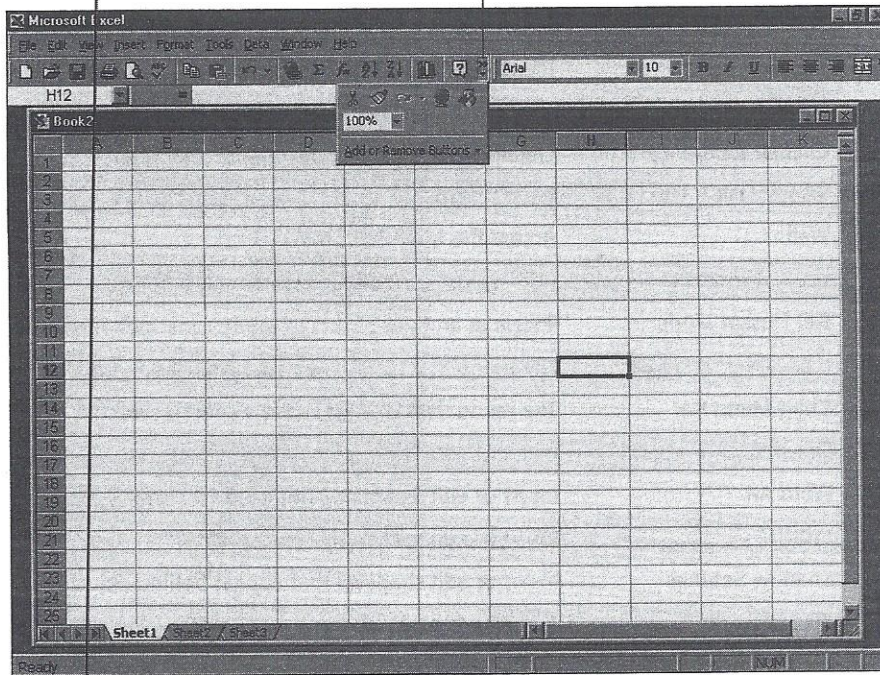
Click here

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.

Toolbar	Use
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

Table 4-3
Excel's Built-in Toolbars

EXCEL 2000 The Clipboard toolbar (and the way the Clipboard functions in Office 2000 applications) is new in Excel 2000.
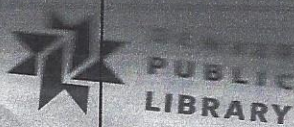
Cross-Reference   See Chapter 8 for more information on the Clipboard.

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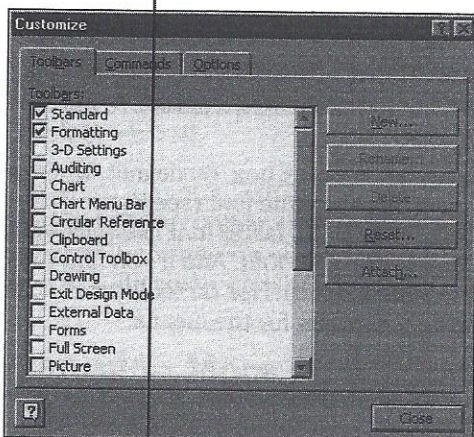
Figure 4-12: Choose which toolbars to display in the Customize dialog box.

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.
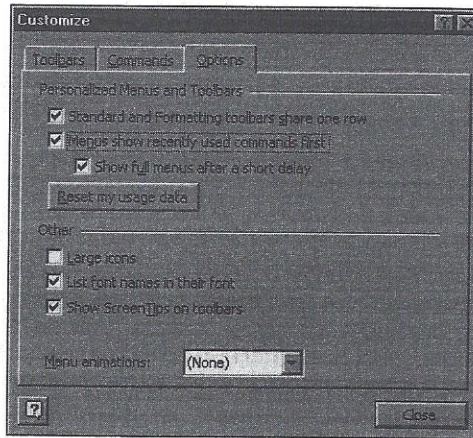

Figure 4-13: The Options tab of the Customize dialog box provides some options for toolbars.

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.

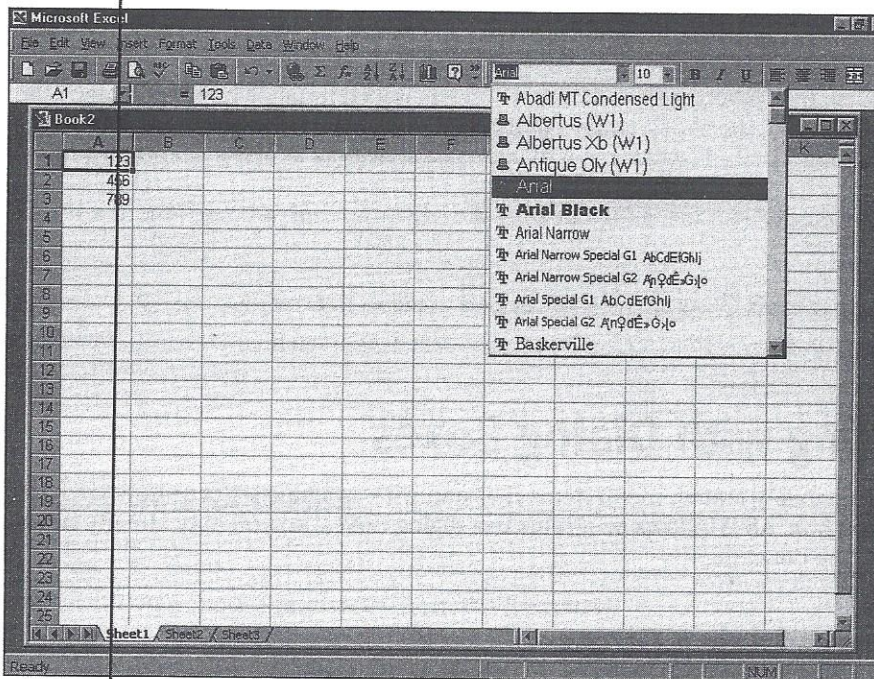Because Excel 2000 menu bars are actually toolbars, this discussion also applies to the menu bars.

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.

Cross-Reference   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.

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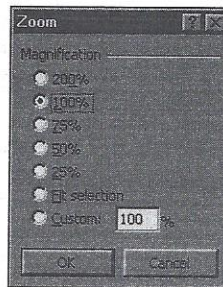
Figure 4-15: This dialog box has seven option buttons.

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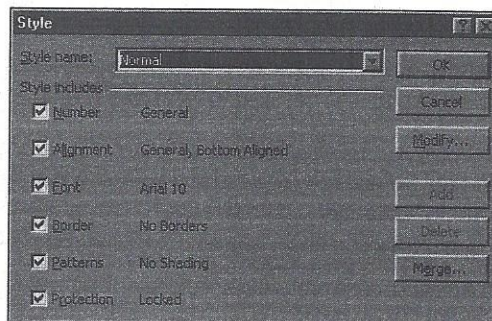
Figure 4-16: An example of check boxes in a dialog box.

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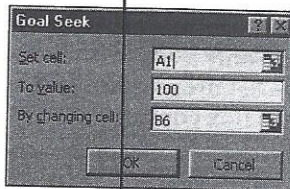
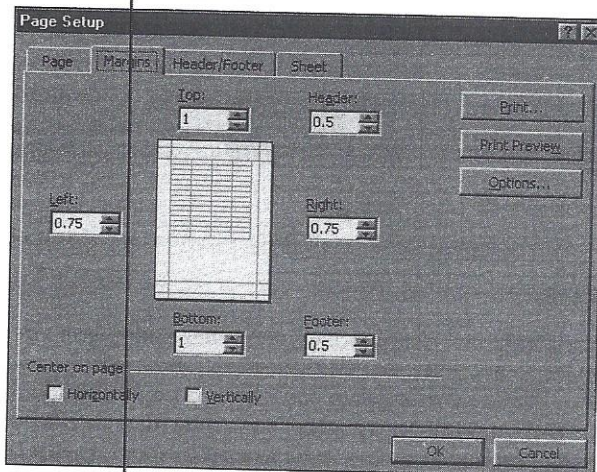**Figure 4-17:** A range selection box enables you to specify a worksheet range by dragging in the worksheet.

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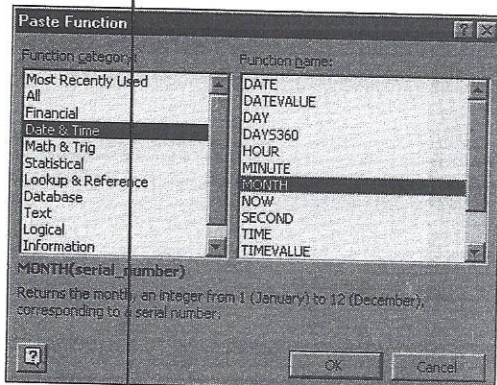
Figure 4-19: Two list box controls in a dialog box.

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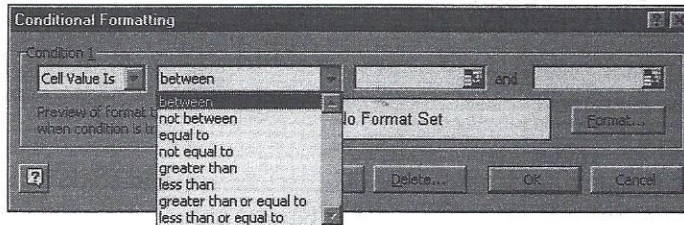
Figure 4-20: A drop-down box control in a dialog box.

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.
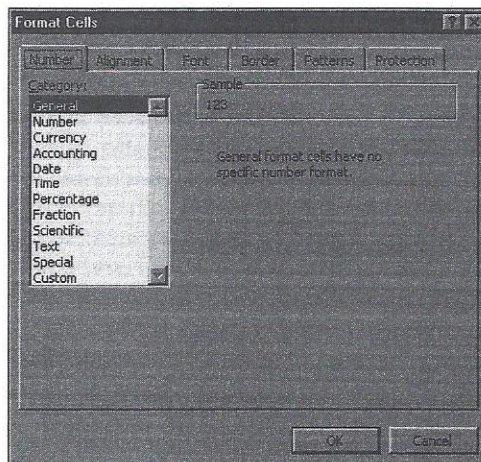

Figure 4-21: The Format Cells dialog box is an example of a tabbed dialog box.

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.

✦   ✦   ✦

Creating Maps with Microsoft Map

In previous chapters, you saw how you can use a chart to display data in a different—and, usually, more meaningful—way. This chapter explores the topic of mapping and describes how to present geographic information in the form of a map.

The mapping feature is not actually part of Excel. Rather, this feature uses an OLE server application named *Microsoft Map*, which was developed by MapInfo Corporation. You can use this application to insert maps into other Microsoft Office applications. Because the mapping application is not part of Excel, you'll find that the user interface is quite different from that of Excel. When a map is active, Microsoft Map menus and toolbars replace Excel's menus and toolbars.

Mapping: An Overview

Mapping, like charting, is a tool that visually presents data. People use maps for a variety of purposes, but the common factor in maps is that they work with data that has a basis in geography. If you classify information by state, province, or country, chances are good that you can represent the data on a map. For example, if your company sells its products throughout the United States, showing the annual sales for each state may be useful.

A Mapping Example

Figure 17-1 shows sales data for a company, with the data categorized by state. To understand this information, you would have to spend a lot of time examining the data.

	A	B	C	D	E
1	State	Product A	Product B	Combined	
2	AK	262,542	0	262,542	
3	AL	92,629	193,254	285,883	
4	AR	19,690	169,615	189,305	
5	AZ	252,523	183,384	435,907	
6	CA	3,692,909	2,135,068	5,827,977	
7	CO	377,034	149,875	526,909	
8	CT	327,585	425,939	753,524	
9	DC	114,492	63,118	177,610	
10	DE	1,233	108,471	109,704	
11	FL	582,033	851,978	1,434,011	
12	GA	408,371	299,702	708,073	
13	HI	43,428	43,378	86,806	
14	IA	128,260	43,378	171,638	
15	ID	0	122,239	122,239	
16	IL	769,711	837,597	1,607,308	
17	IN	262,542	236,633	499,175	
18	KS	116,416	145,927	262,343	
19	KY	39,430	86,757	126,187	
20	LA	96,676	43,378	140,054	
21	MA	656,947	449,627	1,106,574	
22	MD	402,449	609,373	1,011,822	

Figure 17-1: Raw data that shows sales by state.

Figure 17-2 shows the same data displayed in a chart. Although an improvement over the raw-data table, this type of presentation doesn't really work, because it has too many data points. In addition, the chart doesn't reveal any information about sales in a particular region.

Figure 17-3 shows the sales data presented as a map (it looks even better in color). This presentation uses different colors to represent various sales ranges. Looking at the map, you can see clearly that this company performs much better in some regions than in others.

The map in Figure 17-3 might be even more revealing if the sales were represented relative to the population of each state; that is, in per capita sales. This population data is available as a sample file on the Office CD (Mapstats.xls).
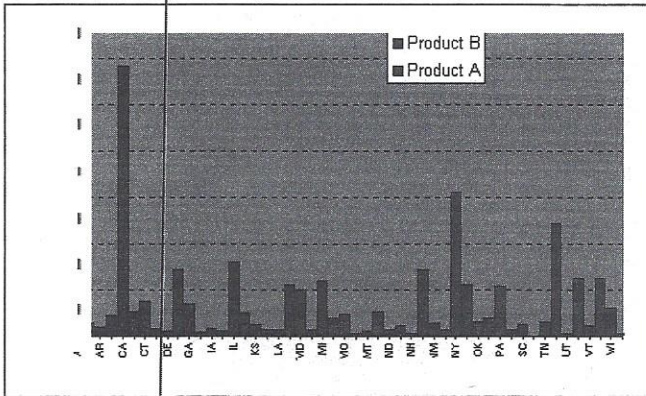
Figure 17-2: The sales data displayed in a chart.

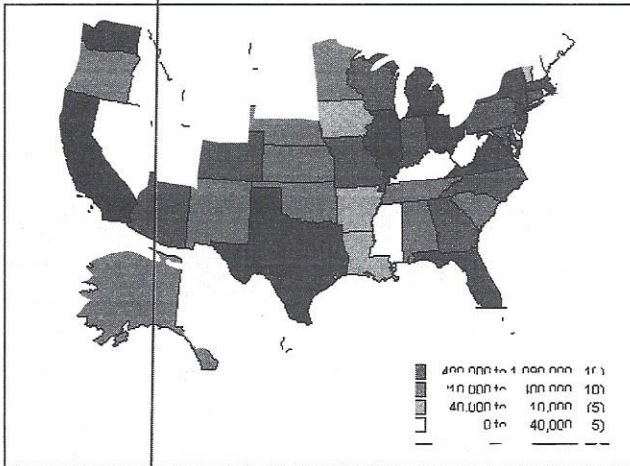Figure 17-4 shows the contents sheet for this workbook.

Figure 17-3: The sales data displayed in a map.

Available Maps

The Microsoft Map feature supports a good variety of maps and enables you to create maps in several different formats. A single map can display multiple sets of data, each in a different format. For example, your map can show sales by state and indicate the number of sales offices in each state. In addition, your map can display other accoutrements, such as labels and pin markers.

Figure 17-4: The Mapstats workbook contains population statistics that you can use in your maps.

The maps included with Microsoft Map are listed in Table 17-1. As you'll see later in this chapter, a map can be zoomed to display only a portion of it. Therefore, you can use the Europe map to zoom in on a particular region or country.

Table 17-1 Maps Included with Microsoft Map	
Map	**Description**
Australia	The continent of Australia, by state
Canada	The country of Canada, by province
Europe	The continent of Europe, by country
Mexico	The country of Mexico, by state
North America	The countries of North America (Canada, U.S., Mexico)
U.K. Standard Regions	The countries of the United Kingdom, by region
U.S. in North America	United States (excluding Alaska and Hawaii insets), by state
U.S. with AK and HI Insets	United States (with Alaska and Hawaii insets), by state
World Countries	The world, by country

If you would like to order additional maps or data from MapInfo, you can contact the company directly or visit its Web site. For information on how to do so, activate a map and click the Help ⇨ About command.

Creating a Map

Creating a basic map with Microsoft Map is simple. In almost all cases, however, you'll want to customize the map. This section discusses the basics of mapmaking.

Setting Up Your Data

The Microsoft Map feature works with data stored in a list format (for an example, refer to Figure 17-1). The first column should contain names of map regions (such as states or countries). The columns to the right should contain data for each area. You can have any number of data columns, because you select the columns to use after the map is created.

Creating the Map

To create a map, start by selecting the data. The selection must include one column of area names and at least one column of data. If the columns have descriptive headers, include these in the selection.

Choose Insert ⇨ Map (or click the Map button on the Standard toolbar). Click and drag to specify the location and size of the map or just click to create a map of the default size. Unlike charts, maps must be embedded on a worksheet (there are no separate map sheets).

Microsoft Map analyzes the area labels and generates the appropriate map. If two or more maps are possible (or if you've developed any custom map templates), you'll see the Multiple Maps Available dialog box, shown in Figure 17-5. Select the map that you want to use from this list.
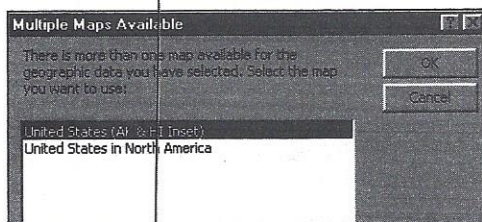

Figure 17-5: If multiple maps are available for your data, you can choose from this dialog box which map to use.

You don't have the Insert ⇨ Map command?

Excel's mapping feature is performed by an OLE server application. The mapping feature is not an integral part of Excel, and it may not be installed on your system. If you don't see a Map command on the Insert menu, you need to install the mapping feature.

To install the mapping feature, you need to rerun Excel's Setup program (or the Microsoft Office Setup program) and specify the mapping feature. Microsoft Map displays the map using the first column of data. It also displays the Microsoft Map Control dialog box, discussed later in the chapter. When the map is created, it is activated. Whenever a map is activated, Microsoft Map's menus and toolbar replace Excel's menus and toolbars. When you click outside the map, Excel's user interface reappears. You can reactivate a map by double-clicking it.

Setting the Map Format(s)

When a map first appears, the Microsoft Map Control dialog box is visible (see Figure 17-6). Use this dialog box to change the format of the selected map. You can use the Show/Hide Map Control tool to toggle the display of this dialog box.
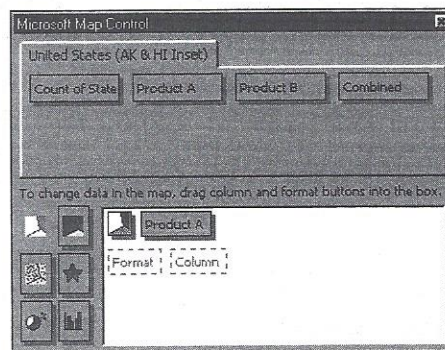

Figure 17-6: The Microsoft Map Control dialog box.

By default, you create maps by using the value-shading map format. You can change the format or display two or more formats on a single map. You use the Microsoft Map Control dialog box by dragging the items in it. The top of the dialog box displays all available data fields (which correspond to the columns that you selected when you created the map). The bottom part contains the map format information. Six format icons on the left determine the map format (described in the sections that follow). You combine a map format icon with one or more data fields by dragging the icon. For example, you can replace the default map format

icon with another one simply by dragging the new icon over the existing one. Some map formats use more than one data field. In such a case, you can drag additional data fields next to the icon.

To change options for a particular map format, either double-click the format icon or use the Map menu and choose the menu command that is appropriate for the format that you want to change. In either case, you get a dialog box that's appropriate for the map format.

The following sections include descriptions (and samples) of each map format supported by Microsoft Map.

Value shading

With this map format, each map region is shaded based on the value of its data. This format is appropriate for data-quantitative information, such as sales, population, and so on. Figure 17-7 shows an example of a map formatted with value shading (this map is zoomed to show only part of the U.S.). In this example, the sales are broken down into four ranges, and each sales range is associated with different shading.
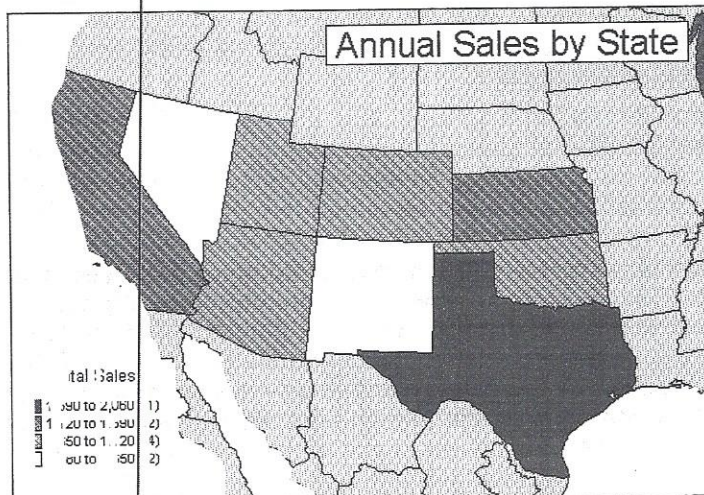

Figure 17-7: This map uses the value-shading format.

You can change the interval ranges in the Format Properties dialog box, shown in Figure 17-8.

When you're viewing a map that uses value shading, choose Map ⇨ Value Shading Options, and Microsoft Map opens the value-shading version of the Format Properties dialog box. You can specify the number of value ranges and the method of defining the ranges — an equal number of areas in each range or an equal spread of values in each range. You also can select a color for the shading. The map displays different variations of the single color that you select. You can choose the summary function to use (SUM or AVERAGE). To hide the format from the map, remove the check mark from the Visible check box.
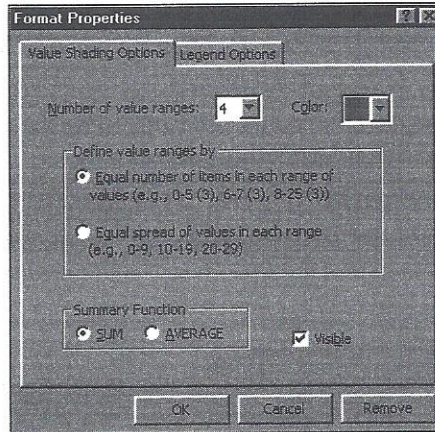
Figure 17-8: The Value Shading Options tab of the Format Properties dialog box.

Category shading

With the category-shading map format, each map region is colored based on a data value. The map legend has one entry (color) for every value of the data range. Therefore, this format is appropriate for data that has a small number of discrete values. For example, you can use the format to identify states that have a sales office, the number of sales reps in a country, and so on. A common use for this format is to identify the states that make up each sales region. Data need not be numeric. For example, the data can consist of text such as Yes and No.

Figure 17-9 shows a map that uses category shading to identify states that met the annual sales goal.
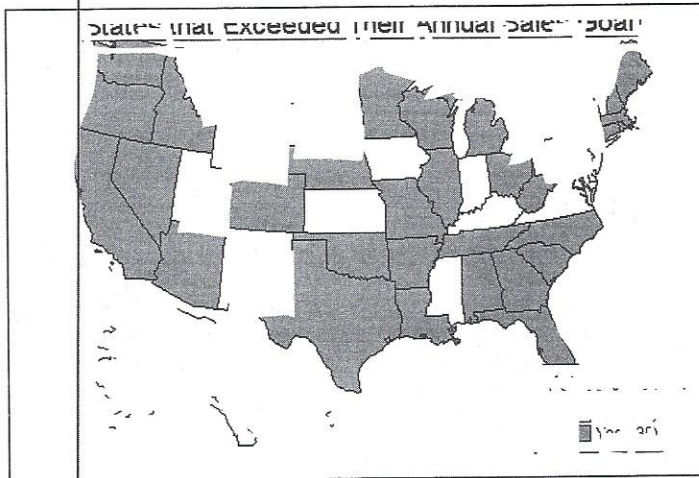
States that Exceeded Their Annual Sales Goal

Figure 17-9: This map uses the category-shading format.

To change the colors in the categories, use the Format Properties dialog box. Again, when you're viewing a map that uses category shading, you can open this dialog box by choosing Map ⇨ Category Shading Options. Microsoft Map displays the category-shading version of the Format Options dialog box.

Dot density

The dot-density map format displays data as a series of dots. Larger values translate into more dots. The dots are placed randomly within a map region. Figure 17-10 shows an example of a map that uses the dot-density format. This map depicts population in the U.K. and Ireland. Each dot represents 100,000 people.

To change the number of units for each dot or to change the dot size, access the Dot Density Options tab of the Format Properties dialog box, which is shown in Figure 17-11.
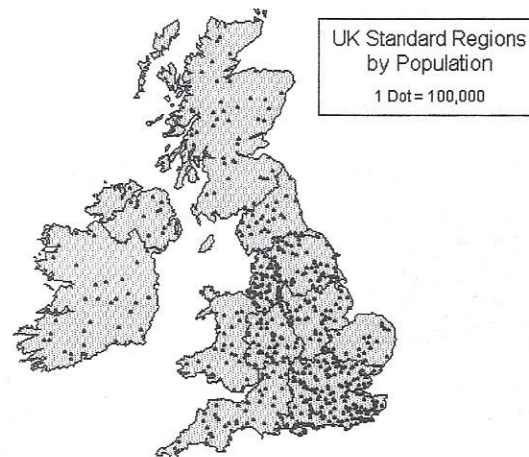
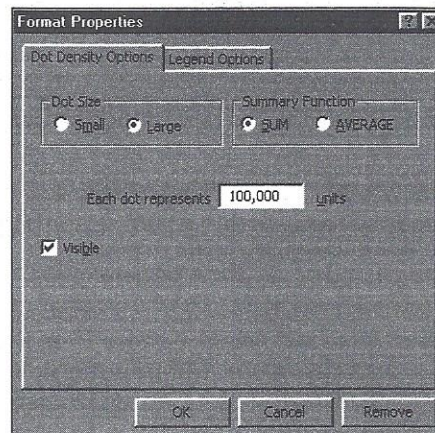**Figure 17-10:** A dot-density format map, showing the population of the U.K. and Ireland.

Figure 17-11: The Dot Density Options tab of the Format Properties dialog box.

Graduated symbol

The graduated-symbol map format displays a symbol, the size of which is proportional to the area's data value. Figure 17-12 shows an example of this format. I used a Wingdings font character for the symbol. To change the symbol, use the Graduated Symbol Options dialog box. You can select a font, size, and specific character.
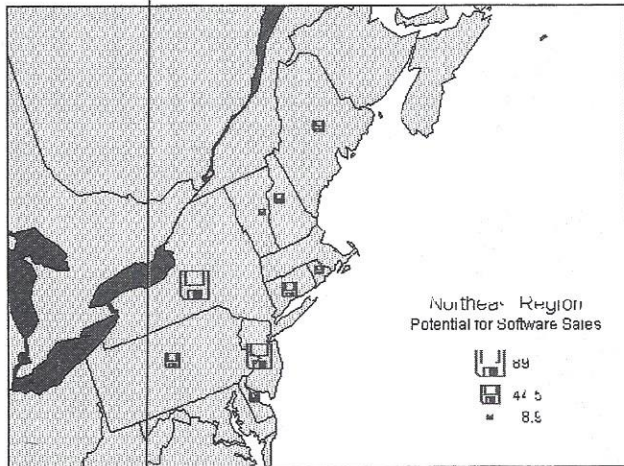
Figure 17-12: A graduated-symbol format map.

Pie chart

The pie-chart map format requires at least two columns of data. Maps with this format display a pie chart within each map region. Figure 17-13 shows an example. This map shows a pie chart that depicts the relative sales of three products for each state.
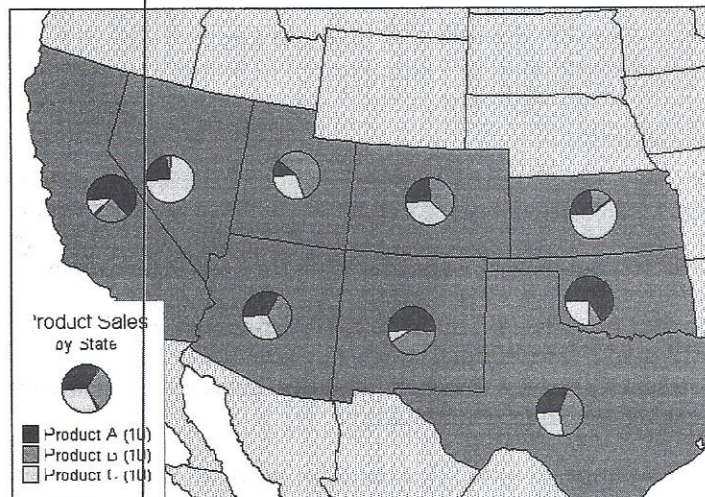

Figure 17-13: A map that uses the pie-chart format.

To change the setting for a pie-chart format map, use the Pie Chart Options tab of the Format Properties dialog box, shown in Figure 17-14. This dialog box enables you to select a color for each pie slice. If you choose the Graduated option, the size of each pie is proportional to the sum or average of the data. If you don't use the Graduated option, you also can set the diameter of the pies.
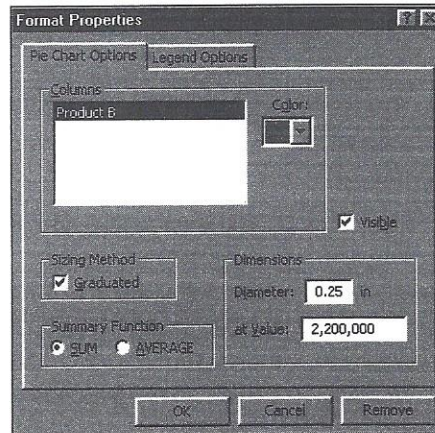

Figure 17-14: The Pie Chart Options tab of the Format Properties dialog box.

Column chart

The column-chart map format is similar to the pie-chart format—except that it displays a column chart instead of a pie chart. Figure 17-15 shows an example.

Combining map formats

As previously mentioned, a single map can include multiple formats for different data. You do this by stacking groups of icons and data fields in the Microsoft Map Control dialog box. For example, you can display sales as value shading and the number of customers as a dot-density map. Each map format has its own legend.

Overlaying multiple map types has no rules, so some experimentation usually is necessary. Unless the map is very simple, however, you're generally better off using only one or two map types per map; otherwise, the map gets so complicated that the original goal (making the data clear) is lost.

Figure 17-16 shows an example of a map that uses two formats. The value-shading format shows sales broken down into four categories. The graduated-symbol format shows the states that have a sales office.
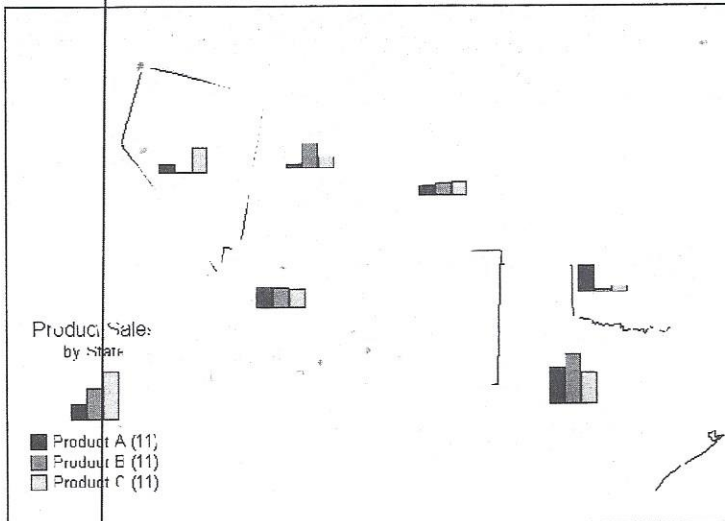
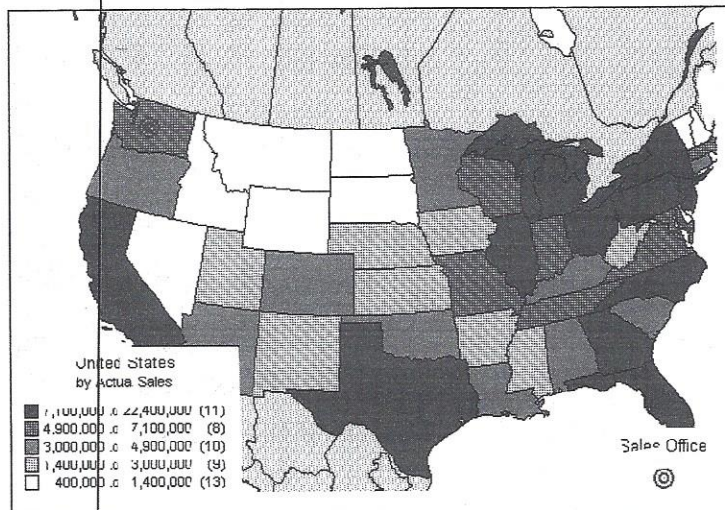**Figure 17-15:** A map that uses the column-chart format.

Figure 17-16: An example of a map that uses two map formats: the value-shading format and the graduated-symbol format.

Customizing Maps

After you create a map, you have numerous customization options from which to choose, which are described in the following sections.

Using the Microsoft Map Toolbar

Whenever a map is activated, the Microsoft Map toolbar appears (see the accompanying figure). Note that this isn't one of Excel's toolbars; rather, this is a special toolbar that appears only when a map is activated. This toolbar is handy for manipulating and customizing the map.

The tools on the Microsoft Map toolbar, from left to right, and their corresponding functions are presented in the following table.

Tool	Purpose
Select Objects	Changes mouse pointer into an arrow, to select objects in the map
Grabber	Reposition the map within the map window
Center Map	Specify the center of the map
Map Labels	Add geography labels or data values in the map
Add Text	Add free-floating text to the map
Custom Pin Map	Add pins to the map, to indicate specific locations
Display Entire	Displays the entire (unzoomed) map
Redraw Map	Redraws the map
Show/Hide Microsoft Map Control	Toggles the display of the floating Microsoft Map Control dialog box
Zoom Percentage of Map	Changes how much of the map that you view
Help	Provides help for a menu item or toolbar button

Zooming In and Out

Microsoft Map enables you to zoom your map in and out. Zooming in displays less of the map and zooming out displays more of the map (or makes the entire map smaller). Use the Zoom Percentage of Map control on the toolbar (no menu commands exist).

To zoom in, select a zoom percentage greater than 100 percent. To zoom out, select a zoom percentage less than 100 percent. Before you zoom out, you might want to specify the point that will be the center of the map (use the Center Map toolbar button).

Repositioning a Map

You'll find that, after zooming in or out, the map may not be optimally positioned within the map object rectangle. Use the Grabber tool to move the map image within the map object. Just click and drag the map to reposition it.

Adding Labels

Usually, a map doesn't have labels to identify areas. You can't automatically add labels to all areas (for example, all states in the U.S.), but you can add individual labels, one at a time. You also can insert data values that correspond to a particular map region (such as sales for West Virginia).

Use the Label tool to add labels or data values. When you click the Label tool, the dialog box shown in Figure 17-17 appears. The option button labeled Map feature names refers to labels for the various parts of the map (for example, state names in a U.S. map). When you select the Values from option, you can insert data values from a category in the list box. After closing the dialog box, you can drag the mouse pointer over the map. The label or data value appears when the mouse pointer is over a map region. Just click to place the label or data value and then repeat this procedure for each map label or data value that you want to add. Figure 17-18 shows a map that uses labels and data values.
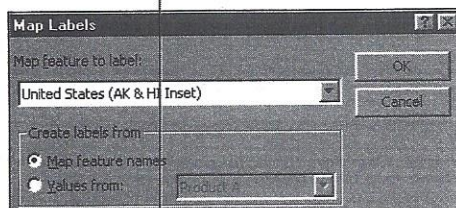
Figure 17-17: The Map Labels dialog box enables you to add labels or data values to your map.

To move a label, click and drag it to a new location. You can change the font, size, or color of a label by double-clicking it. Stretching the label (by dragging a border) also makes the font larger or smaller.
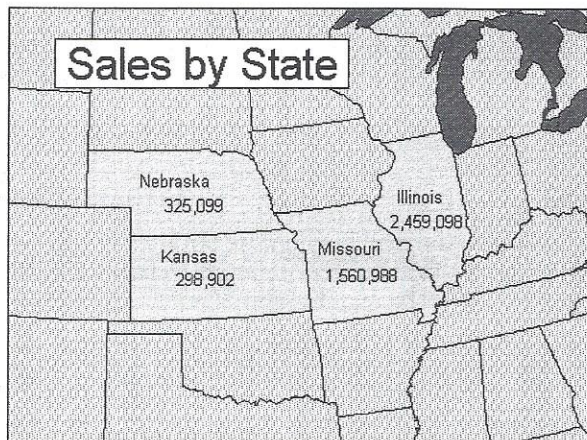
Figure 17-18: This map has labels and data values.

Adding Text

Besides the labels described in the preceding section, you can add free-floating text to your map by using the Text tool. Just click the Text tool, click the area of the map where you want to add text, and enter your text. You can manipulate text the same way that you manipulate labels.

If you don't like the fact that a map title always has a border around it (and the border can't be removed), delete the title and create your own with the Text tool.

Adding Pins to a Map

In some cases, you may want to add one or more identifier icons to your map. This is similar in concept to inserting pins in a wall map to identify various places.

Clicking the Custom Pin Map tool displays a dialog box that asks you to enter a name for a custom pin map (or choose an existing pin map). Enter a descriptive label; you'll be able to bring these same pins into another map (of the same type) later. For example, if you're identifying sales office locations, you can then add the same pins to another map.

When you close the dialog box, the mouse pointer changes to a pushpin. You can place these pins anywhere in your map. When you click the map to place a pin, you also can enter descriptive text. Double-clicking a pin enables you to change the symbol that is used to something other than a pin. Figure 17-19 shows a map with pins added to it.

Figure 17-19: This map has pins to identify specific locations.

Modifying the Legend

You have quite a bit of control over the legend in a map. Note that a map displays a separate legend for each map format that it uses. To modify a legend, double-click it to see the dialog box shown in Figure 17-20.
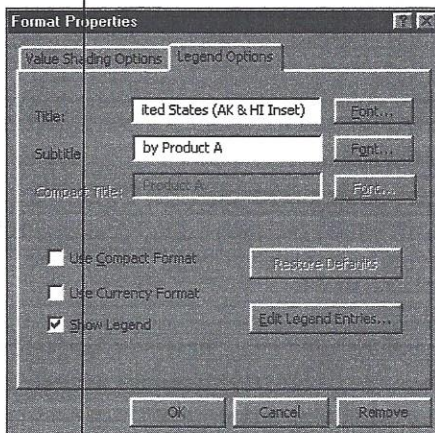

Figure 17-20: The Legend Options tab of the Format Properties dialog box.

You can display a legend in a compact format or in its normal format. A compact format takes up less space, but it doesn't give many details. You also can change the legend's title and subtitle (and enter a different title for a compacted legend). Other buttons enable you to adjust the font (including size and color) and edit the labels that are used in the legend.

To make other changes to the legend — such as changing the number of data ranges that are used — select the appropriate menu item on the Map menu. For example, to change the number of ranges that are used in a value-shading map format, select the Map ⇨ Value Shading Options command.

Adding and Removing Features

You can add or remove certain features of a map. When you select Map ⇨ Features, you see the Map Features dialog box (see Figure 17-21), which lists all available features for the selected map. To turn on a feature, place a check mark next to it. To turn off a feature, remove the check mark. The features available vary with the map that you're using. If a feature doesn't appear in the list, you can add it by clicking the Add button.
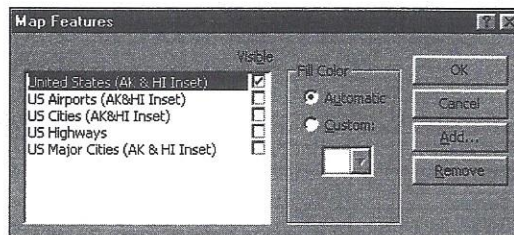

Figure 17-21: The Map Features dialog box.

Figure 17-22 shows a North America map with some features added (major cities, major highways, and world oceans) and some features removed (Canada and Mexico).

Table 17-2 lists the features available for each map. You can, however, add features from different maps — add world oceans to a North America map, for example.

In some cases, you may want your map to display only specific areas. For example, if your company does business in Missouri, Illinois, Kansas, and Nebraska, you can create a map that shows only these four states. Create a map that includes these states and then remove all features from the map by using the Map ⇨ Features command. The map then shows only those areas that have data. Figure 17-23 shows an example.