PROJECT

1

Creating a Worksheet and Embedded Chart

You will have mastered the material in this project when you can:

OBJECTIVES

- Start Excel
- Describe the Excel worksheet
- Describe the speech recognition capabilities of Excel
- Select a cell or range of cells
- Enter text and numbers
- Use the AutoSum button to sum a range of cells
- Copy a cell to a range of cells using the fill handle
- Bold font, change font size, and change font color
- Center cell contents across a series of columns
- Apply the AutoFormat command to format a range
- Use the Name box to select a cell
- Create a Column chart using the Chart Wizard
- Save a workbook
- Print a worksheet
- Quit Excel
- Open a workbook
- Use the AutoCalculate area to determine totals
- Correct errors on a worksheet
- Use the Excel Help system to answer your questions

Microsoft Excel 2002

Creating a Worksheet and Embedded Chart

Three years ago while in college, Nadine Mitchell and four of her friends came up with the idea of starting a company that sold music to young adults through store outlets in malls. After graduation, they invested $5,000 each and started their dream company, Dynamite Music.

The friends opened their first music store in Boston. Initially, they sold compact discs, cassettes, and rare records (vintage vinyls). As sales grew, they opened additional outlets in Chicago, Denver, and Phoenix. Last year, they started selling their products on the Web. Rather than use a central Web site for Web sales, they decided to maintain Web sites for each store. This year they began to sell music by allowing customers to download music to their personal computers.

As sales continue to grow, the management at Dynamite Music has realized it needs a better tracking system for sales by quarter. As a result, the company has asked you to prepare a fourth quarter sales worksheet that shows the sales for the fourth quarter.

In addition, Nadine has asked you to create a graphical representation of the fourth quarter sales because she finds it easier to work with than lists of numbers.

What Is Microsoft Excel?

Microsoft Excel is a powerful spreadsheet program that allows you to organize data, complete calculations, make decisions, graph data, develop professional looking reports, publish organized data to the Web, and access real-time data from Web sites. The four major parts of Excel are:

- **Worksheets** Worksheets allow you to enter, calculate, manipulate, and analyze data such as numbers and text. The term worksheet means the same as spreadsheet.
- **Charts** Charts pictorially represent data. Excel can draw a variety of two-dimensional and three-dimensional charts.
- **Databases** Databases manage data. For example, once you enter data onto a worksheet, Excel can sort the data, search for specific data, and select data that satisfy a criteria.
- **Web Support** Web support allows Excel to save workbooks or parts of a workbook in HTML format so they can be viewed and manipulated using a browser. You also can access real-time data using Web queries.

Project One — Dynamite Music Fourth Quarter Sales

From your meeting with Dynamite Music's management, you have determined the following: needs, source of data, calculations, and chart requirements.

Needs: An easy-to-read worksheet (Figure 1-1) that shows Dynamite Music's fourth quarter sales for each of the product groups (Cassettes, Compact Discs, Vintage Vinyls, and Web Downloads) by store (Boston, Chicago, Denver, and Phoenix). The worksheet also should include total sales for each product group, each store, and total company sales for the fourth quarter.
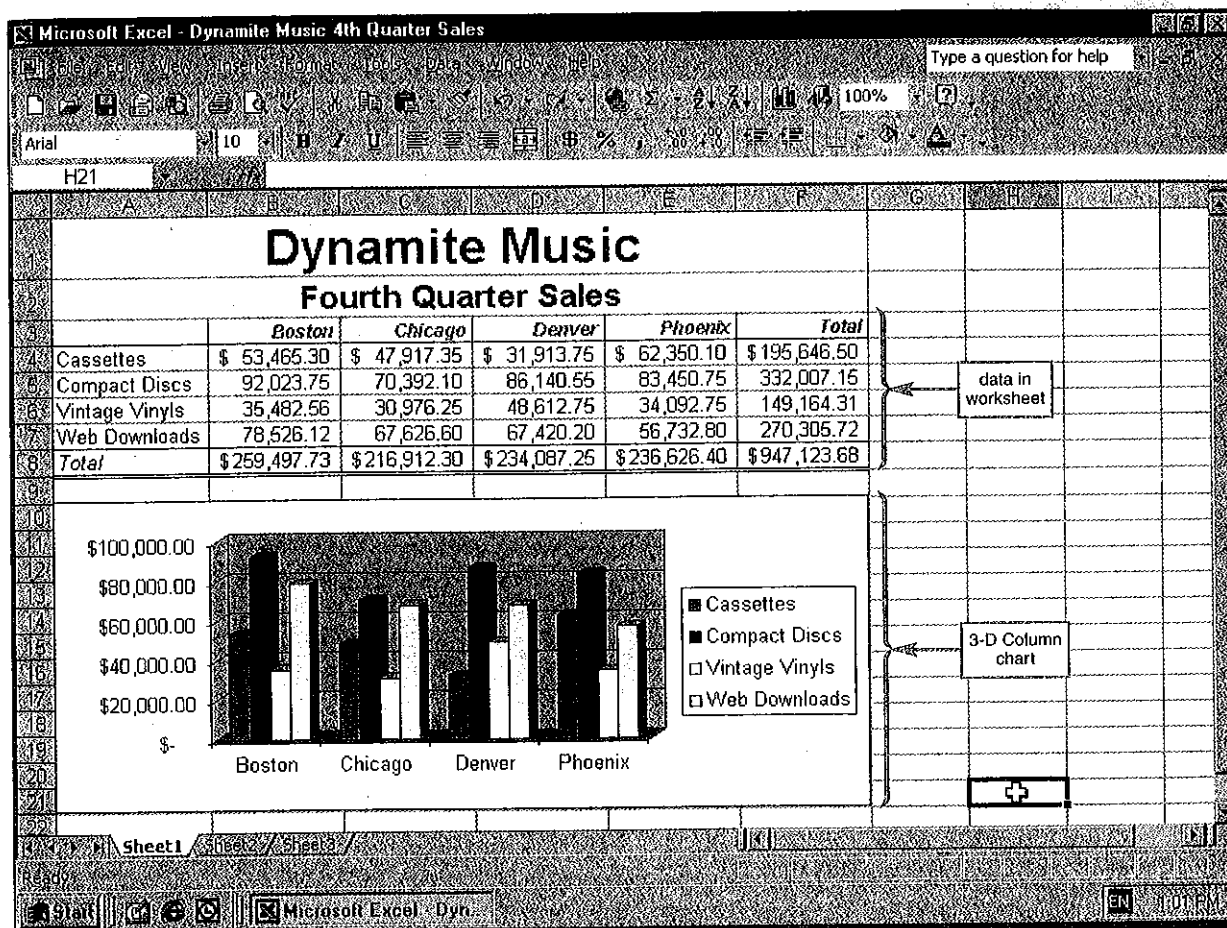
FIGURE 1-1

Source of Data: The data for the worksheet is available at the end of the fourth quarter from the chief financial officer (CFO) of Dynamite Music.

Calculations: You have determined that the following calculations must be made for the worksheet: (a) total fourth quarter sales for each of the four product groups; (b) total fourth quarter sales for each of the four stores; and (c) fourth quarter sales for the company.

Chart Requirements: Below the worksheet, construct a 3-D Column chart that compares the amount of sales for each product group within each store.

Starting and Customizing Excel

To start Excel, Windows must be running. Perform the steps on the next page to start Excel, or ask your instructor how to start Excel for your system.

**Steps** | **To Start Excel**

1 **Click the Start button on the Windows taskbar, point to Programs on the Start menu, and then point to Microsoft Excel on the Programs submenu.**

The commands on the Start menu display above the Start button and the Programs submenu displays (Figure 1-2). If the Office Speech Recognition software is installed on your computer, then the Language bar may display somewhere on the desktop.

FIGURE 1-2
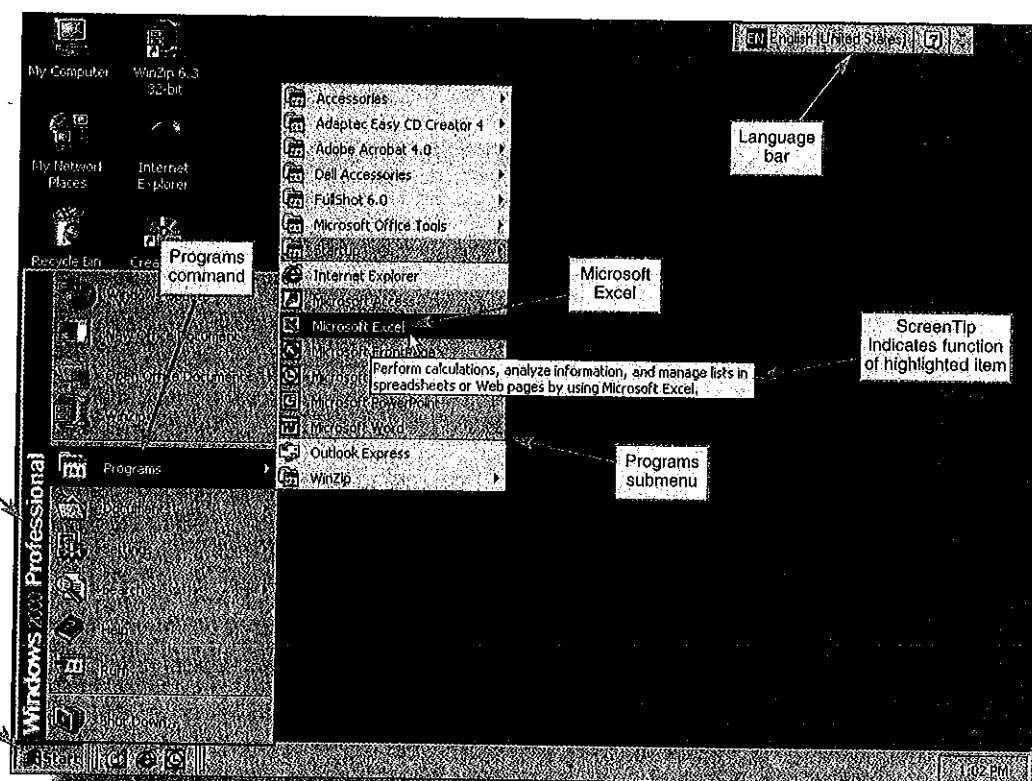
2 **Click Microsoft Excel.**

Excel starts. After several seconds, a blank workbook titled Book1 displays in the Excel window (Figure 1-3).

3 **If the Excel window is not maximized, double-click its title bar to maximize it.**

Other Ways

1. Double-click Excel icon on desktop
2. Right-click Start button, click Open All Users, double-click New Office Document, click General tab, double-click Blank Workbook icon
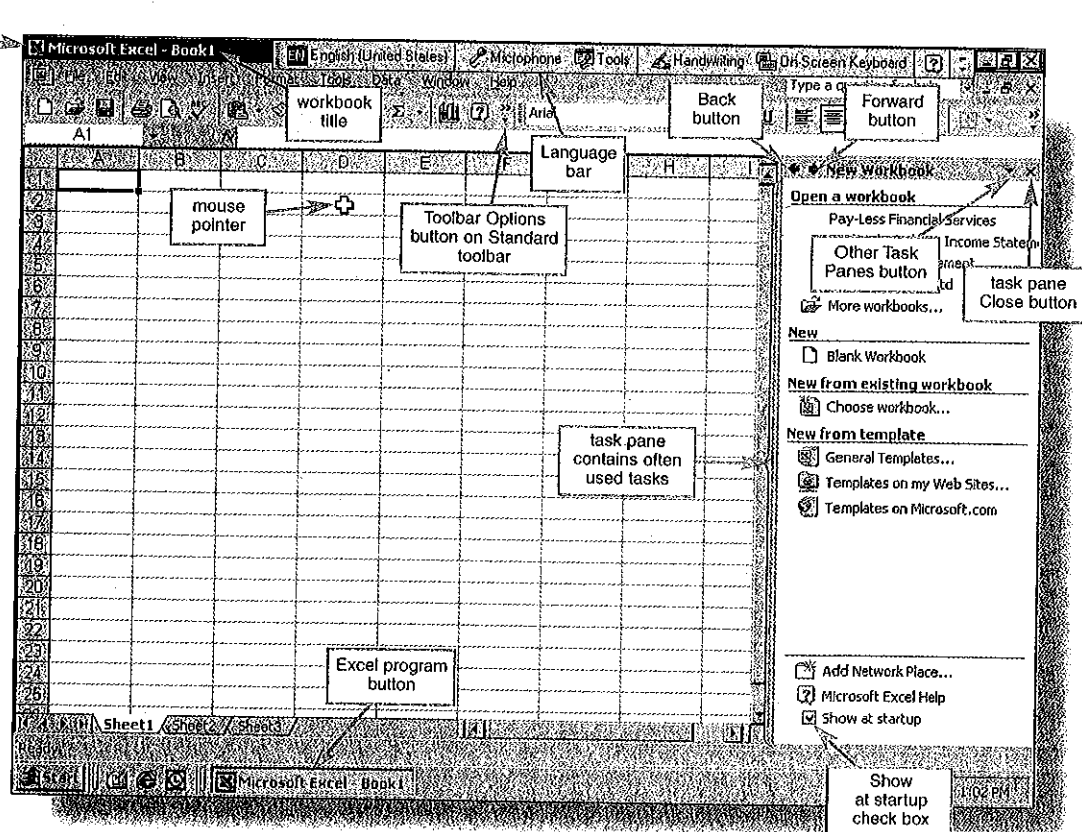3. Click Start button, click New Office Document, click General tab, double-click Blank Workbook icon

FIGURE 1-3

The screen in Figure 1-3 shows how the Excel window looks the first time you start Excel after installation on most computers. If the Office Speech Recognition software is installed on your system, then when you start Excel either the Language bar expands to include the functions available in Excel (shown at the top of Figure 1-3) or the language indicator displays on the right side of the Windows taskbar (Figure 1-7 on page E 1.11). In this book, the Language bar will be kept minimized until it is used. For additional information about the Language bar, see page E 1.16 and Appendix B.

Notice also that a task pane displays on the screen, and that the buttons on the toolbar display on a single row. A **task pane** is a separate window that enables users to carry out some Excel tasks more efficiently. In this book, to allow the maximum number of columns to display in Excel, a task pane should not display. For more efficient use of the buttons, they should display on two separate rows instead of sharing a single row. Perform the following steps to close the New Workbook task pane, minimize the Language bar, and display the buttons on two separate rows.

Steps: To Customize the Excel Window

1 **If the New Workbook task pane displays in your Excel window, click the Show at startup check box to remove the check mark and then click the Close button in the upper-right corner of the task pane (Figure 1-3). If the Language bar displays, point to its Minimize button.**

Excel removes the check mark from the Show at startup check box. With the check mark removed, Excel will not display the New Workbook task pane the next time Excel starts. The New Workbook task pane closes resulting in additional columns displaying (Figure 1-4).
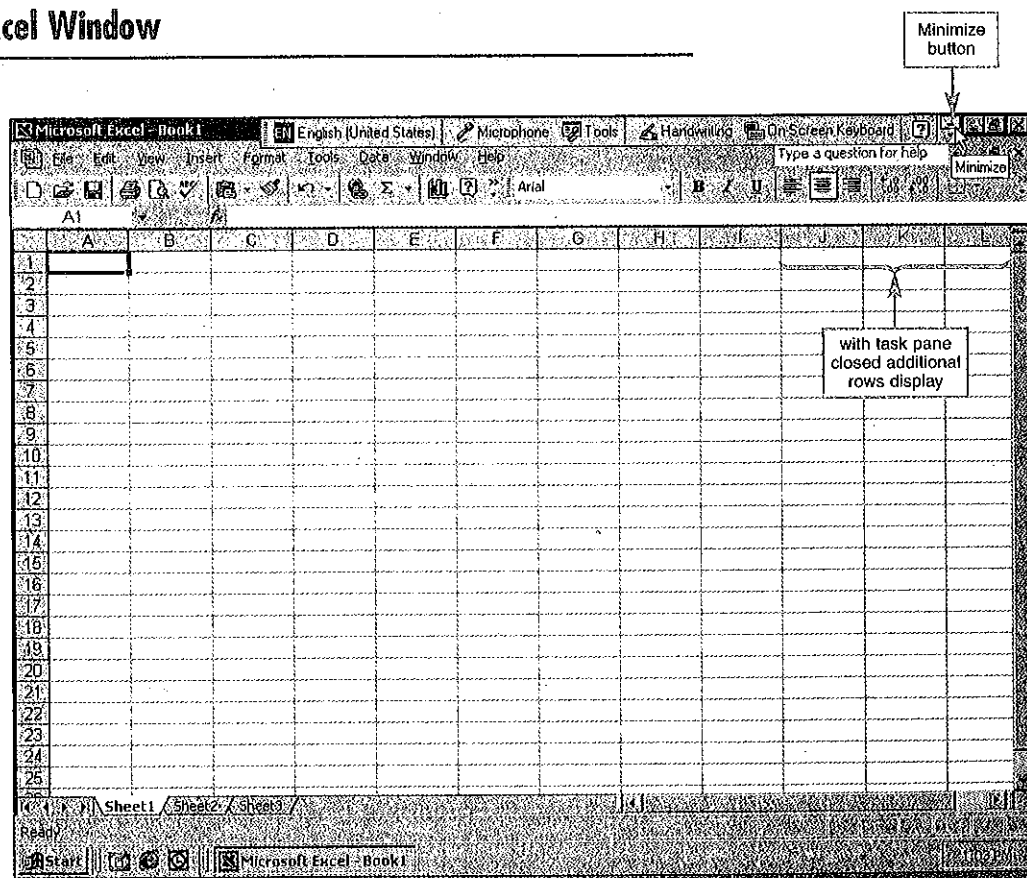

Minimize button

with task pane closed additional rows display

FIGURE 1-4

2 **Click the Minimize button on the Language bar. If the toolbars display positioned on the same row, click the Toolbar Options button and then point to Show Buttons on Two Rows.**

The Toolbar Options list displays showing the buttons that do not fit on the toolbars when buttons display on one row (Figure 1-5).
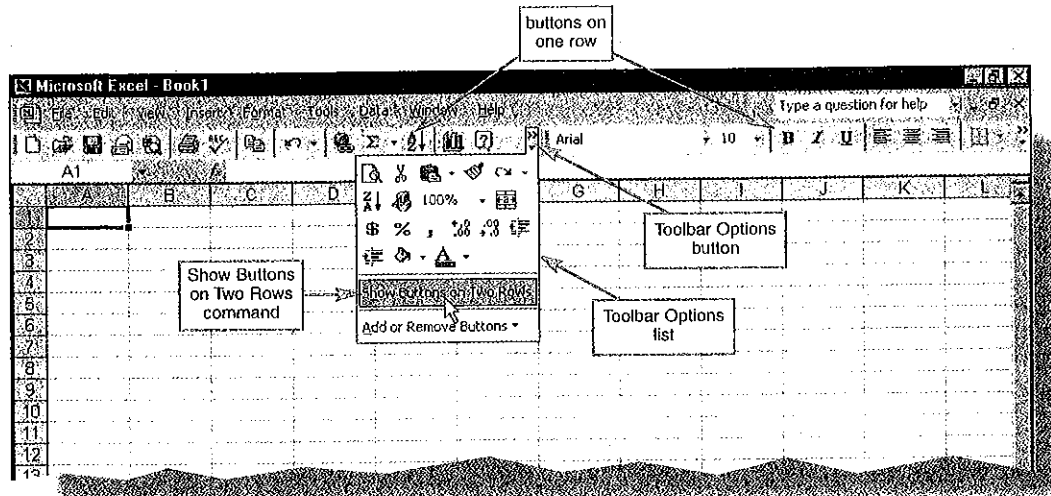
FIGURE 1-5

3 **Click Show Buttons on Two Rows.**

Excel displays the buttons on two separate rows (Figure 1-6). The Toolbar Options list shown in Figure 1-5 is empty because all of the buttons display on two rows.
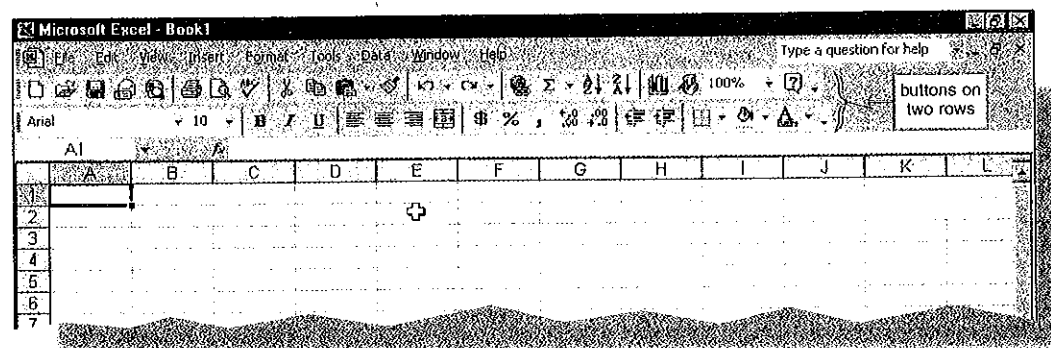
FIGURE 1-6

Worksheet Development

The key to developing a useful worksheet is careful planning. Careful planning can reduce your effort significantly and result in a worksheet that is accurate, easy to read, flexible, and useful. When analyzing a problem and designing a worksheet solution, you should follow these steps: (1) define the problem, including need, source of data, calculations, charting and Web or special requirements; (2) design the worksheet; (3) enter the data and formulas; and (4) test the worksheet.

As you work through creating a worksheet, you will find that certain Excel operations result in displaying a task pane. Besides the New Workbook task pane shown in Figure 1-3 on page E 1.08, Excel provides three additional task panes: the Clipboard task pane, the Search task pane, and the Insert Clip Art task pane. These task panes are discussed when they are used. You can display or hide a task pane by clicking the **Task Pane command** on the **View menu**. You can activate additional task panes by clicking the down arrow to the left of the Close button on the task pane title bar (Figure 1-3) and then selecting a task pane in the list. Using the Back and Forward buttons on the left side of the task pane title bar, you can switch between task panes.

The Excel Worksheet

When Excel starts, it creates a new blank workbook, called Book1. The **workbook** (Figure 1-7) is like a notebook. Inside the workbook are sheets, called **worksheets**. Each sheet name displays on a **sheet tab** at the bottom of the workbook. For example, Sheet1 is the name of the active worksheet displayed in the workbook called Book1. A new workbook opens with three worksheets. If necessary, you can add additional worksheets to a maximum of 255. If you click the tab labeled Sheet2, Excel displays the Sheet2 worksheet. This project uses only the Sheet1 worksheet.
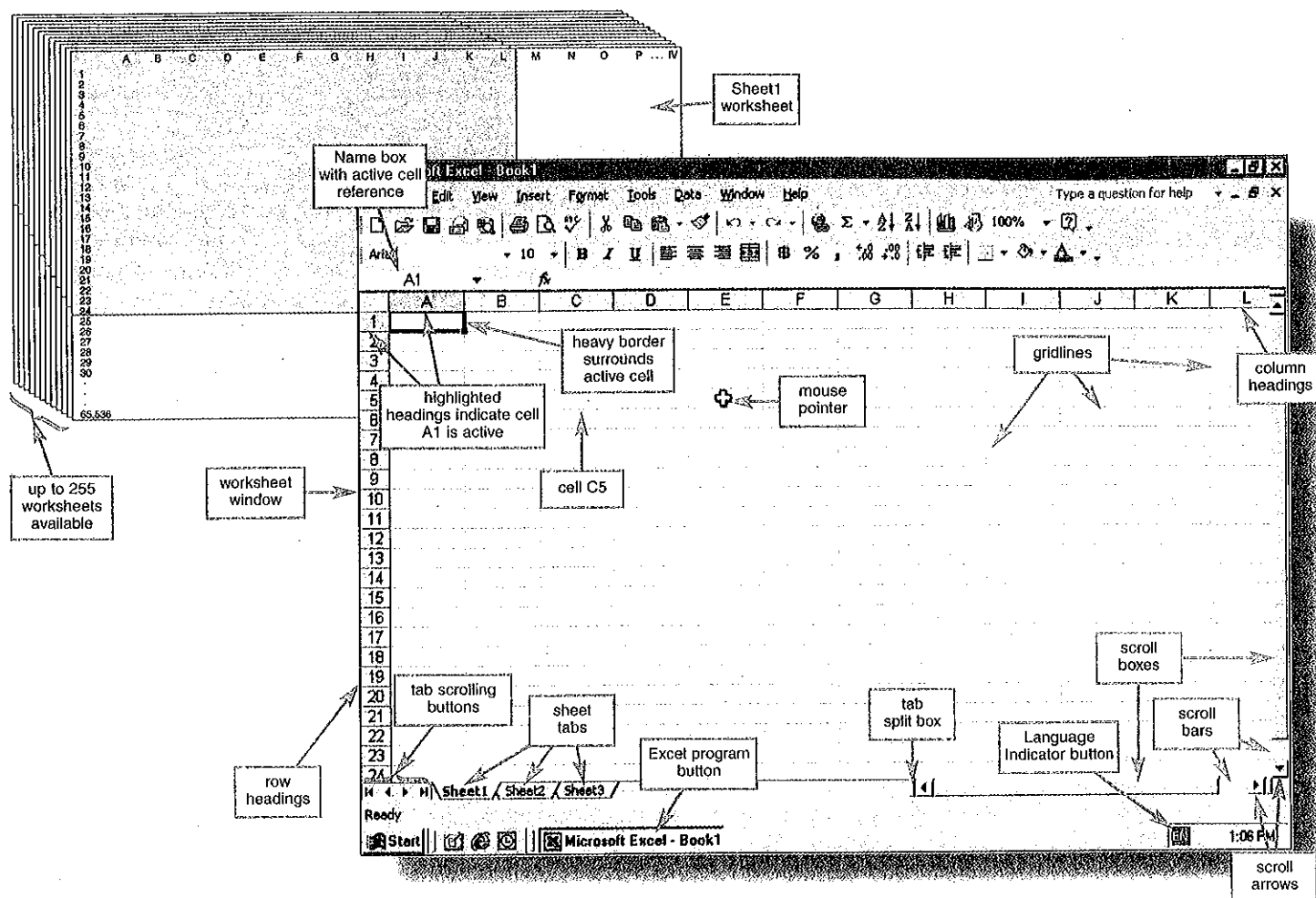
FIGURE 1-7

The Worksheet

The worksheet is organized into a rectangular grid containing columns (vertical) and rows (horizontal). A column letter above the grid, also called the **column heading**, identifies each column. A row number on the left side of the grid, also called the **row heading**, identifies each row. With the screen resolution set to 800 × 600, 12 columns (A through L) and 24 rows (1 through 24) of the worksheet display on the screen when the worksheet is maximized as shown in Figure 1-7.

The intersection of each column and row is a cell. A **cell** is the basic unit of a worksheet into which you enter data. Each worksheet in a workbook has 256 columns and 65,536 rows for a total of 16,777,216 cells. The column headings begin with A and end with IV. The row headings begin with 1 and end with 65,536. Only a small fraction of the active worksheet displays on the screen at one time.

A cell is referred to by its unique address, or **cell reference**, which is the coordinates of the intersection of a column and a row. To identify a cell, specify the column letter first, followed by the row number. For example, cell reference C5 refers to the cell located at the intersection of column C and row 5 (Figure 1-7).

One cell on the worksheet, designated the **active cell**, is the one into which you can enter data. The active cell in Figure 1-7 is A1. The active cell is identified in three ways. First, a heavy border surrounds the cell; second, the active cell reference displays immediately above column A in the **Name box**; and third, the column heading A and row heading 1 are highlighted so it is easy to see which cell is active (Figure 1-7).

The horizontal and vertical lines on the worksheet itself are called **gridlines**. Gridlines make it easier to see and identify each cell in the worksheet. If desired, you can turn the gridlines off so they do not display on the worksheet, but it is recommended that you leave them on.

The mouse pointer in Figure 1-7 on the previous page has the shape of a block plus sign. The mouse pointer displays as a **block plus sign** whenever it is located in a cell on the worksheet. Another common shape of the mouse pointer is the block arrow. The mouse pointer turns into the **block arrow** whenever you move it outside the worksheet or when you drag cell contents between rows or columns. The other mouse pointer shapes are described when they display on the screen.

Worksheet Window

You view the portion of the worksheet displayed on the screen through a **worksheet window** (Figure 1-7). Below and to the right of the worksheet window are **scroll bars**, **scroll arrows**, and **scroll boxes** that you can use to move the window around to view different parts of the active worksheet. To the right of the sheet tabs at the bottom of the screen is the **tab split box**. You can drag the tab split box (Figure 1-7) to increase or decrease the view of the sheet tabs. When you decrease the view of the sheet tabs, you increase the length of the horizontal scroll bar, and vice versa.

The menu bar, Standard toolbar, Formatting toolbar, formula bar, and Ask a question box display at the top of the screen, just below the title bar (Figure 1-8a).
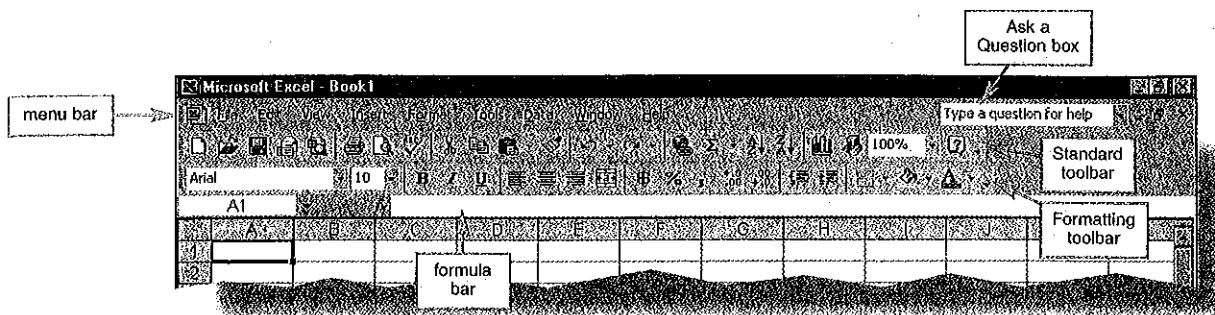
Menu Bar

The **menu bar** is a special toolbar that includes the menu names (Figure 1-8a). Each **menu name** represents a menu of commands that you can use to retrieve, store, print, and manipulate data on the worksheet. When you point to a menu name on the menu bar, the area of the menu bar containing the name changes to a button. To display a menu, such as the Edit menu, click the Edit menu name on the menu bar (Figures 1-8b and 1-8c). A **menu** is a list of commands. If you point to a command on the menu with an arrow to its right, a **submenu** displays from which you can choose a command.

When you click a menu name on the menu bar, a **short menu** displays listing the most recently used commands (Figure 1-8b). If you wait a few seconds or click the arrows at the bottom of the short menu, the full menu displays. The **full menu** lists all the commands associated with a menu (Figure 1-8c). You also can display a full menu immediately by double-clicking the menu name on the menu bar. In this book, when you display a menu, always display the full menu using one of the following techniques.

1. Click the menu name on the menu bar and then wait a few seconds.
2. Click the menu name and then click the arrows at the bottom of the short menu.
3. Click the menu name and then point to the arrows at the bottom of the short menu.
4. Double-click the menu name.

Both short and full menus display some **dimmed commands** that appear gray, or dimmed, instead of black, which indicates they are not available for the current selection. A command with a dark gray shading to the left of it on a full menu is called a **hidden command** because it does not display on a short menu. As you use Excel, it automatically personalizes the short menus for you based on how often you use commands. That is, as you use hidden commands, Excel *unhides* them and places them on the short menu.

(a) Menu bar and Toolbars
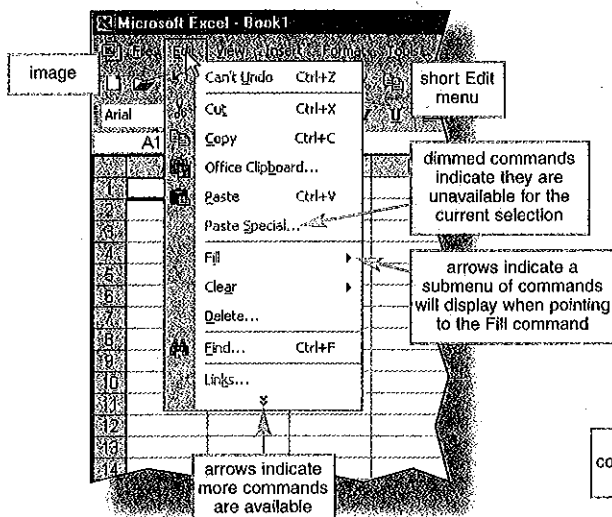
(b) Short Menu
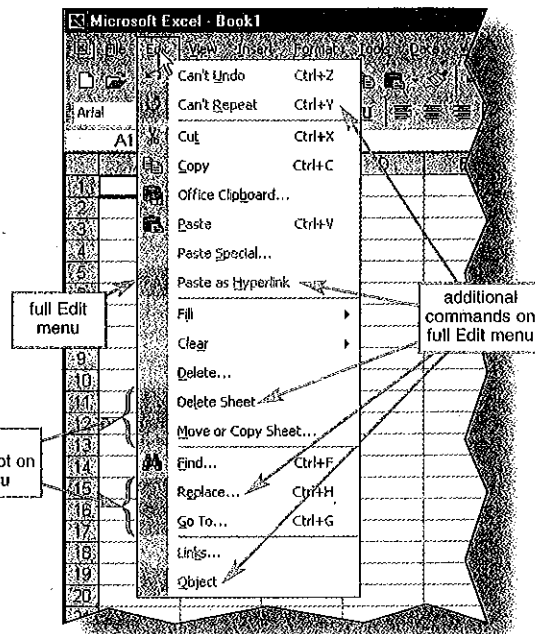
(c) Full Menu

FIGURE 1-8

The menu bar can change to include other menu names depending on the type of work you are doing in Excel. For example, if you are working with a chart sheet rather than a worksheet, the Chart menu bar displays with menu names that reflect charting commands.

Standard Toolbar and Formatting Toolbar

The **Standard toolbar** and the **Formatting toolbar** (Figure 1-8a) contain buttons and list boxes that allow you to perform frequent tasks more quickly than when using the menu bar. For example, to print a worksheet, you click the Print button on the Standard toolbar. Each button has a picture on the button face that helps you remember the button's function. Also, when you move the mouse pointer over a button or box, the name of the button or box displays below it in a **ScreenTip**.

Figures 1-9a and 1-9b on the next page illustrate the Standard and Formatting toolbars and describe the functions of the buttons. Each of the buttons and boxes will be explained in detail when they are used.

More About

Toolbars

You can move a toolbar to any location on the screen. Drag the move handle (Figure 1-10a on page E 1.14) to the desired location. Once the toolbar is in the window area, drag the title bar to move it. Each side of the screen is called a dock. You can drag a toolbar to a dock so it does not clutter the window.

(a) Standard Toolbar

New Save Search Print Spelling Copy Format Painter Redo AutoSum Sort Descending Drawing Microsoft Excel Help

Open E-mail Print Preview Cut Paste Undo Insert Hyperlink Sort Ascending Chart Wizard Zoom box Toolbar Options

(b) Formatting Toolbar

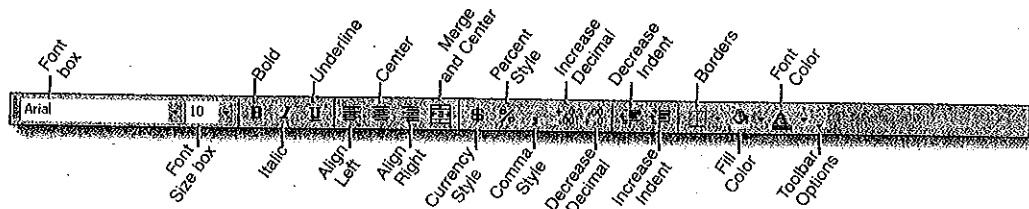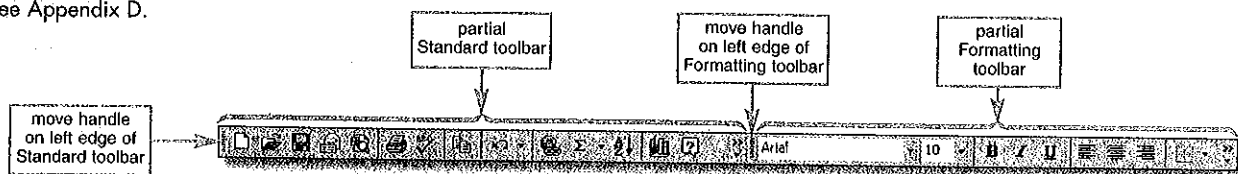Font box Bold Underline Center Merge and Center Percent Style Increase Decimal Decrease Indent Borders Font Color

Arial   10   B   U   ...

Font Size box Italic Align Left Align Right Currency Style Comma Style Decrease Decimal Increase Indent Fill Color Toolbar Options

FIGURE 1-9

When you first install Excel, both the Standard and Formatting toolbars are preset to display on the same row (Figure 1-10a), immediately below the menu bar. Unless the resolution of your display device is greater than 800 × 600, many of the buttons that belong on these toolbars do not display. Hidden buttons display in the Toolbar Options list (Figure 1-10b). In this mode, you also can display all the buttons on either toolbar by double-clicking the **move handle** on the left of each toolbar (Figure 1-10a).

partial Standard toolbar | move handle on left edge of Formatting toolbar | partial Formatting toolbar

move handle on left edge of Standard toolbar

(a) Standard and Formatting Toolbars on One Row

Toolbar Options button

Toolbar Options list shows demoted buttons

Show Buttons on Two Rows command

(b) Toolbar Options List

all buttons show when Standard and Formatting toolbars are on two rows
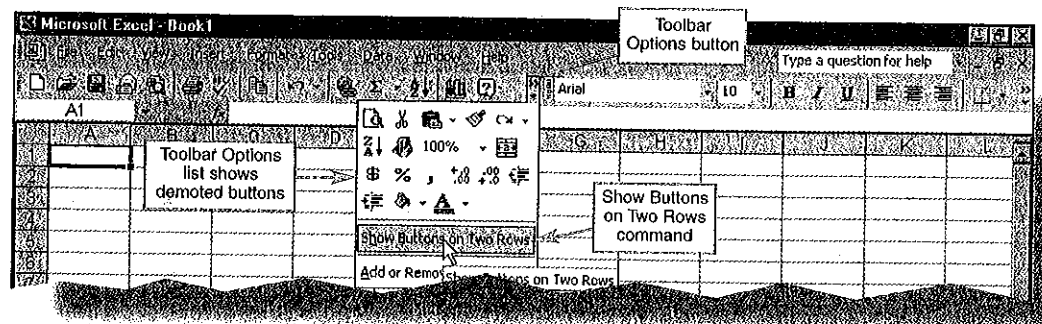
(c) Standard and Formatting Toolbars on Two Rows

FIGURE 1-10

In this book, the Standard and Formatting toolbars are shown on two rows, one under the other so that all buttons display (Figure 1-10c). You show the two toolbars on two rows by clicking the **Show Buttons on Two Rows command** in the Toolbar Options list (Figure 1-10b).

Formula Bar

Below the Standard and Formatting toolbars is the formula bar (Figure 1-11). As you type, the data displays in the **formula bar**. Excel also displays the active cell reference on the left side of the formula bar in the Name box.

Status Bar

Immediately above the Windows taskbar at the bottom of the screen is the status bar. The **status bar** displays a brief description of the command selected (highlighted) in a menu, the function of the button the mouse pointer is pointing to, or the mode of Excel. **Mode indicators**, such as Enter and Ready, display on the status bar and specify the current mode of Excel. When the mode is Ready, Excel is ready to accept the next command or data entry. When the mode indicator reads Enter, Excel is in the process of accepting data through the keyboard into the active cell.

In the middle of the status bar is the AutoCalculate area. The **AutoCalculate area** can be used in place of a calculator to view the sum, average, or other types of totals of a group of numbers on the worksheet. The AutoCalculate area is discussed in detail later in this project.

Keyboard indicators, such as CAPS (Caps Lock), NUM (Num Lock), and SCRL (Scroll) show which keys are engaged. Keyboard indicators display on the right side of the status bar within the small rectangular boxes (Figure 1-11).
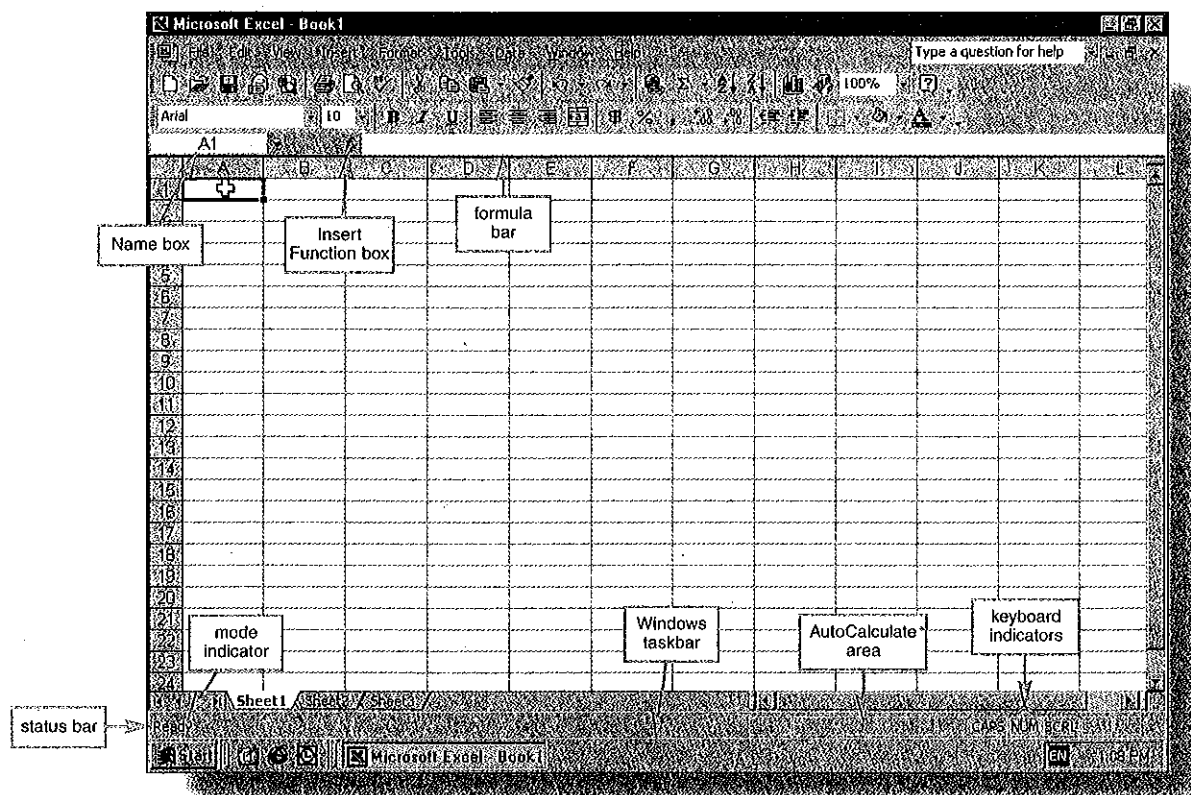
FIGURE 1-11

Speech Recognition and Speech Playback

With the **Office Speech Recognition software** installed and a microphone, you can speak the names of toolbar buttons, menus, menu commands, list items, alerts, and dialog box controls, such as OK and Cancel. You also can dictate cell entries, such as text and numbers. To indi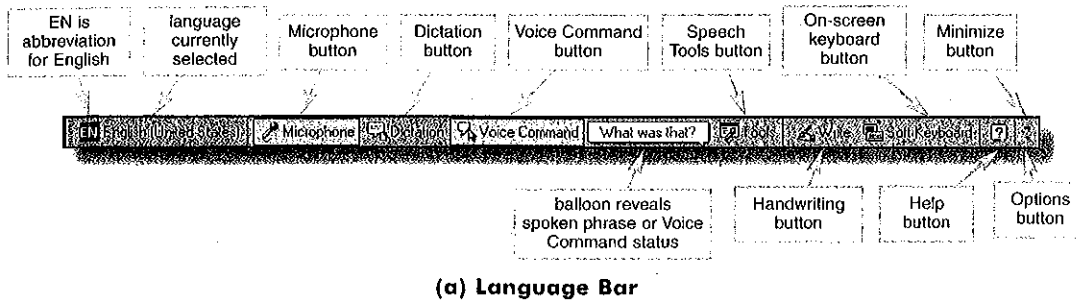cate whether you want to speak commands or dictate cell entries, you use the **Language bar** (Figure 1-12a). You can display the Language bar in two ways: (1) click the Language Indicator button in the taskbar tray status area by the clock, and then click Show the Language bar on the menu (Figure 1-12b); or (2) point to the **Speech command** on the **Tools menu** and then click the **Speech Recognition command** on the **Speech submenu**.

(a) **Language Bar**

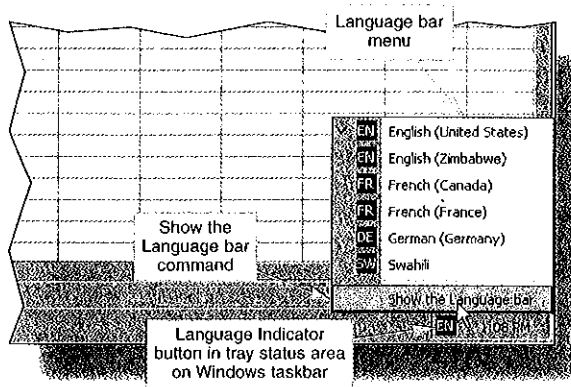(b) **Language Bar Menu**

FIGURE 1-12

If the Language Indicator button does not display in the tray status area, and if the Speech command is dimmed on the Tools menu, the Office Speech Recognition software is not installed. To install the software, you first must start Word and then click Speech on the Tools menu.

If you have speakers, you can instruct the computer to read a worksheet to you. By selecting the appropriate option, you can have the worksheet read in a male or female voice.

Additional information on the speech recognition and speech playback capabilities in Excel is available in Appendix B.

Selecting a Cell

To enter data into a cell, you first must select it. The easiest way to **select a cell** (make it active) is to use the mouse to move the block plus sign to the cell and then click.

An alternative method is to use the **arrow keys** that are located just to the right of the typewriter keys on the keyboard. An arrow key selects the cell adjacent to the active cell in the direction of the arrow on the key.

You know a cell is selected (active) when a heavy border surrounds the cell (cell A1 in Figure 1-11 on the previous page) and the active cell reference displays in the Name box on the left side of the formula bar.

Entering Text

In Excel, any set of characters containing a letter, hyphen (as in a telephone number), or space is considered **text**. Text is used to place titles on the worksheet, such as worksheet titles, column titles, and row titles. In Project 1 (Figure 1-13),

the worksheet title, Dynamite Music, identifies the worksheet. The worksheet subtitle, Fourth Quarter Sales, identifies the type of report. The column titles in row 3 (Boston, Chicago, Denver, Phoenix, and Total) identify the numbers in each column. The row titles in column A (Cassettes, Compact Discs, Vintage Vinyls, Web Downloads, and Total) identify the numbers in each row.

FIGURE 1-13

Entering the Worksheet Titles

The following steps show how to enter the worksheet titles in cells A1 and A2. Later in this project, the worksheet titles will be formatted so it displays as shown in Figure 1-13. Perform the following steps to enter the worksheet tiles.

Steps To Enter the Worksheet Titles

1 Click cell A1.

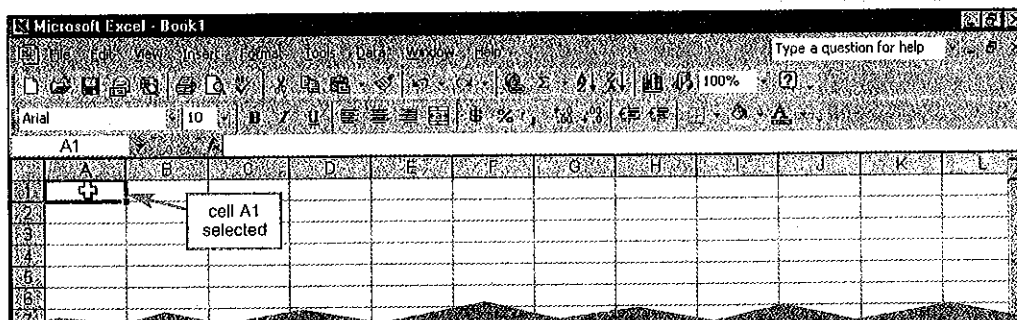Cell A1 becomes the active cell and a heavy border surrounds it (Figure 1-14).

FIGURE 1-14

2 Type Dynamite Music **in cell A1.**

The title displays in the formula bar and in cell A1. The text in cell A1 is followed by the insertion point (Figure 1-15). The insertion point is a blinking vertical line that indicates where the next typed character will display.
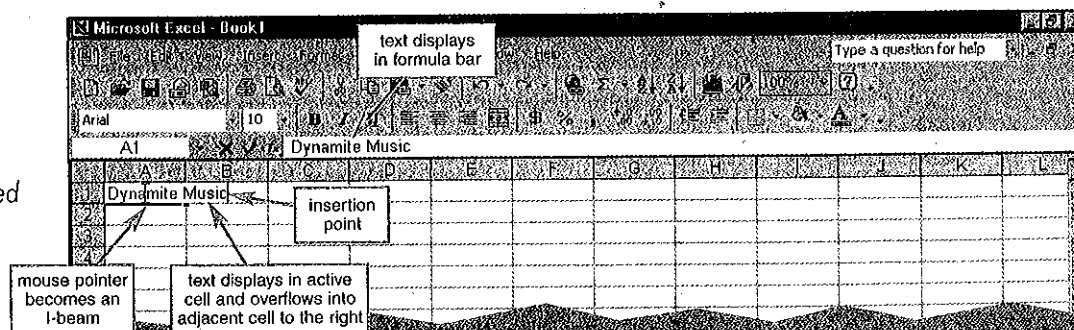

FIGURE 1-15

3 **Point to the Enter box (Figure 1-16).**

When you begin typing a cell entry, Excel displays two additional boxes in the formula bar: the Cancel box and the Enter box.
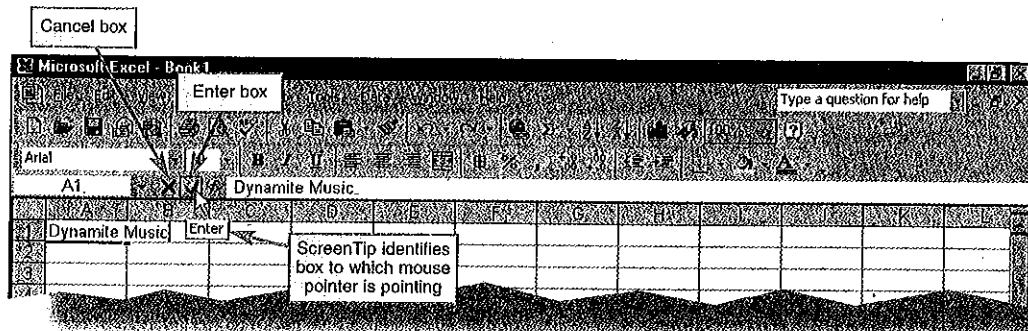
FIGURE 1-16

4 **Click the Enter box to complete the entry.**

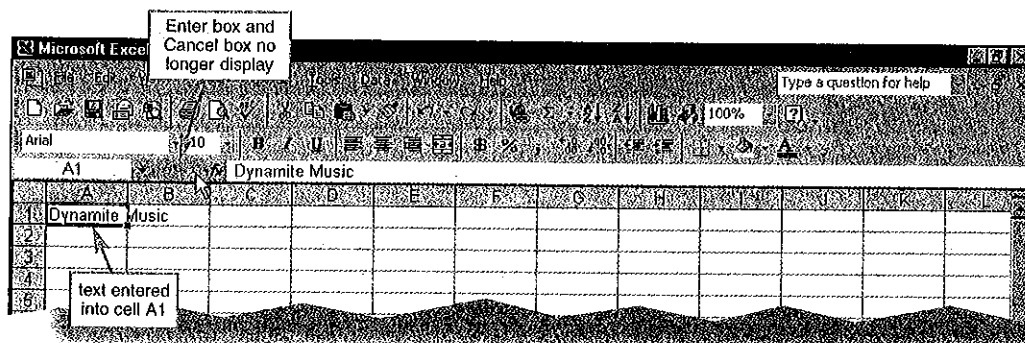Excel enters the worksheet title in cell A1 (Figure 1-17).

FIGURE 1-17

5 **Click cell A2 to select it. Type** Fourth Quarter Sales **as the cell entry. Click the Enter box to complete the entry.**

Excel enters the worksheet subtitle in cell A2 (Figure 1-18).
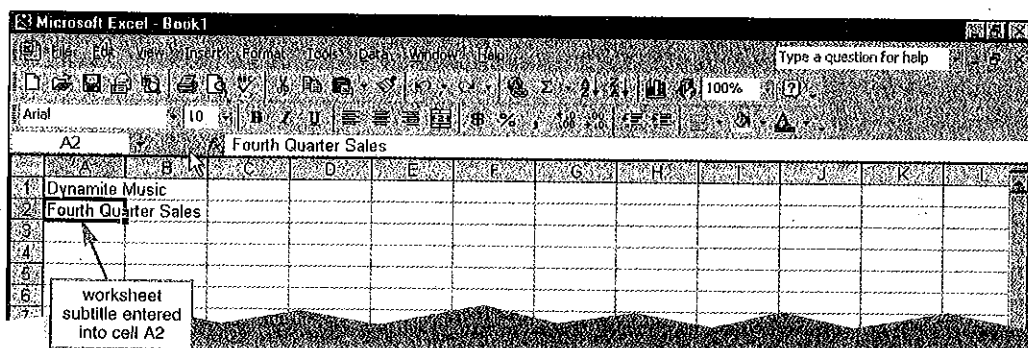
FIGURE 1-18

Other Ways

1. To complete entry, click any cell other than active cell
2. To complete entry, press ENTER key
3. To complete entry, press HOME, PAGE UP, PAGE DOWN, or END key
4. In Voice Command mode say, "Enter" to complete entry

In Steps 3 and 4, clicking the **Enter box** completes the entry. Clicking the **Cancel box** cancels the entry.

When you complete a text entry into a cell, a series of events occurs. First, Excel positions the text left-aligned in the cell. **Left-aligned** means the cell entry is positioned at the far left in the cell. Therefore, the D in the worksheet title, Dynamite Music, begins in the leftmost position of cell A1.

Second, when the text is longer than the width of a column, Excel displays the overflow characters in adjacent cells to the right as long as these adjacent cells contain no data. In Figure 1-17, the width of cell A1 is approximately nine characters. The text consists of 14 characters. Therefore, Excel displays the overflow characters from cell A1 in cell B1 because this cell is empty. If cell B1 contained data, only the first nine characters in cell A1 would display on the worksheet. Excel would hide the overflow characters, but they still would remain stored in cell A1 and display in the formula bar whenever cell A1 is the active cell.

Third, when you complete an entry by clicking the Enter box, the cell in which the text is entered remains the active cell.

Correcting a Mistake While Typing

If you type the wrong letter and notice the error before clicking the Enter box or pressing the ENTER key, use the BACKSPACE key to erase all the characters back to and including the one that is wrong. To cancel the entire entry before entering it into the cell, click the Cancel box in the formula bar or press the ESC key. If you see an error in a cell, select the cell and retype the entry. Later in this project, additional error-correction techniques are discussed.

AutoCorrect

The **AutoCorrect feature** of Excel works behind the scenes, correcting common mistakes when you complete a text entry in a cell. AutoCorrect makes three types of corrections for you:

1. Corrects two initial capital letters by changing the second letter to lowercase.
2. Capitalizes the first letter in the names of days.
3. Replaces commonly misspelled words with their correct spelling. For example, it will change the misspelled word *recieve* to *receive* when you complete the entry. AutoCorrect will correct the spelling automatically of more than 400 commonly misspelled words.

Entering Column Titles

To enter the column titles in row 3, select the appropriate cell and then enter the text, as described in the following steps.

Steps To Enter Column Titles

1 **Click cell B3.**

Cell B3 becomes the active cell. The active cell reference in the Name box changes from A2 to B3 (Figure 1-19).
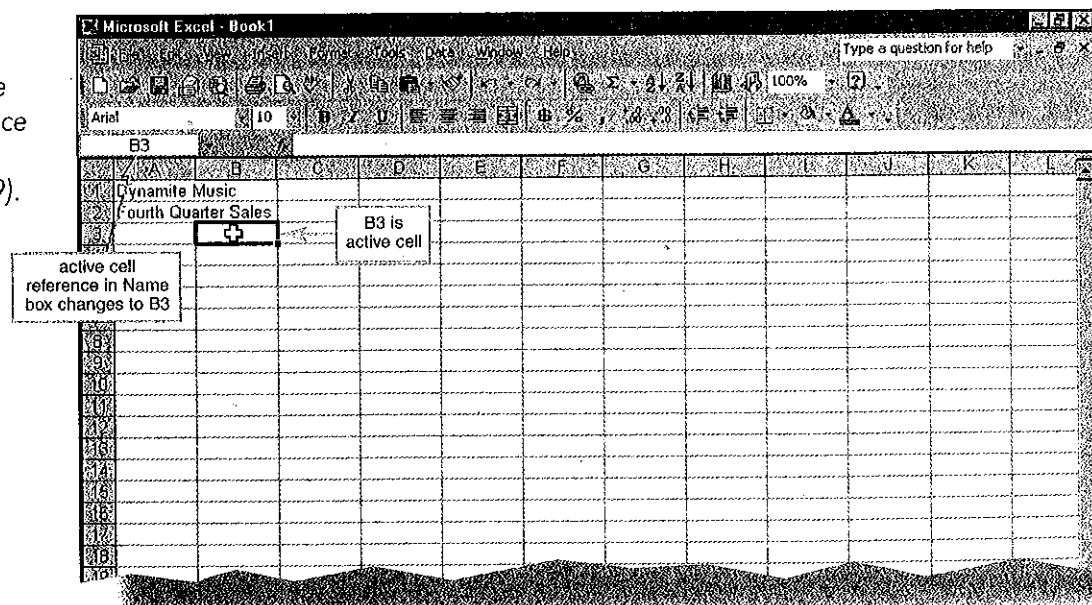

FIGURE 1-19

2 **Type** Boston **in cell B3.**

Excel displays Boston in the formula bar and in cell B3 (Figure 1-20).
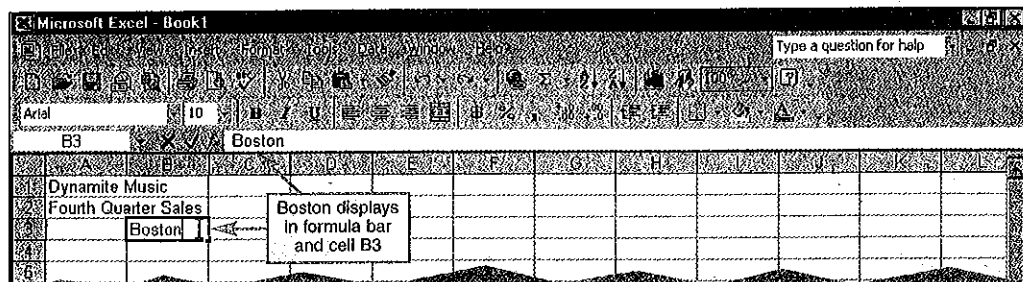
FIGURE 1-20

3 **Press the RIGHT ARROW key.**

Excel enters the column title, Boston, in cell B3 and makes cell C3 the active cell (Figure 1-21).
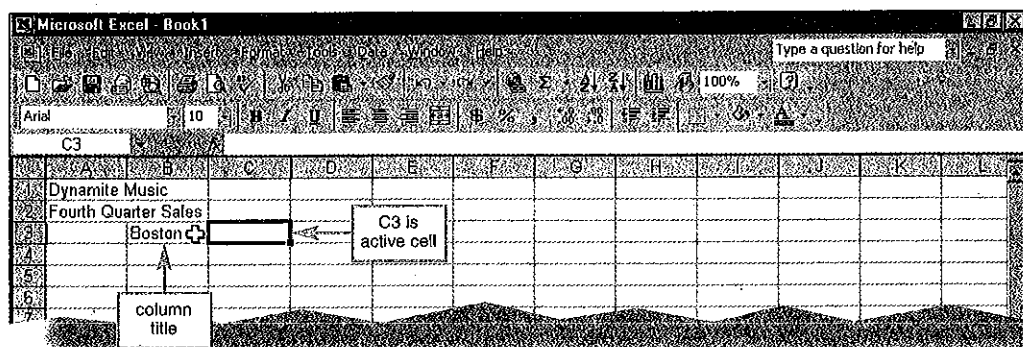
FIGURE 1-21

4 **Repeat Steps 2 and 3 for the remaining column titles in row 2. That is, enter** Chicago **in cell C3,** Denver **in cell D3,** Phoenix **in cell E3, and** Total **in cell F3. Complete the last entry in cell F3 by clicking the Enter box in the formula bar.**
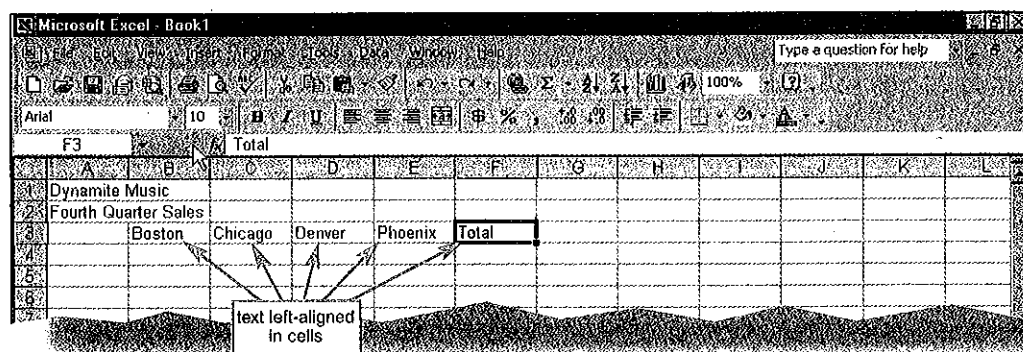
The column titles display left-aligned as shown in Figure 1-22.

FIGURE 1-22

If the next entry is in an adjacent cell, use the arrow keys to complete the entry in a cell. When you press an arrow key to complete an entry, the adjacent cell in the direction of the arrow (up, down, left, or right) becomes the active cell. If the next entry is in a non-adjacent cell, click the next cell in which you plan to enter data, or click the Enter box or press the ENTER key and then click the appropriate cell for the next entry.

Entering Row Titles

The next step in developing the worksheet in Project 1 is to enter the row titles in column A. This process is similar to entering the column titles and is described in the following steps.

Steps **To Enter Row Titles**

1 **Click cell A4. Type** Cassettes **and then press the DOWN ARROW key.**

Excel enters the row title, Cassettes, in cell A4, and cell A5 becomes the active cell (Figure 1-23).
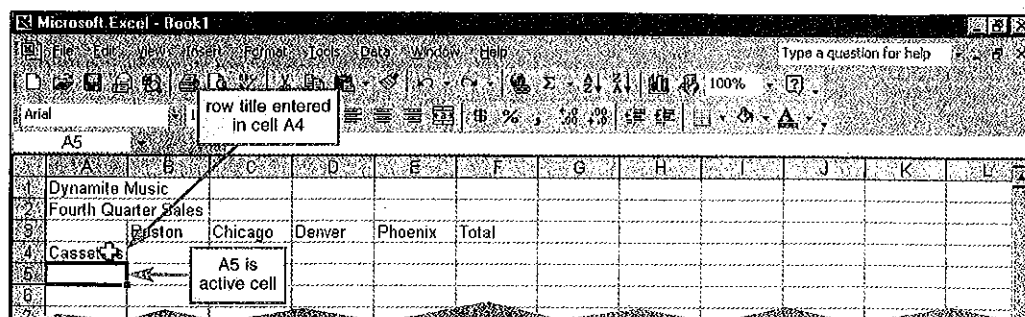
FIGURE 1-23

2 **Repeat Step 1 for the remaining row titles in column A. Enter** Compact Discs **in cell A5,** Vintage Vinyls **in cell A6,** Web Downloads **in cell A7, and** Total **in cell A8.**

The row titles display as shown in Figure 1-24.
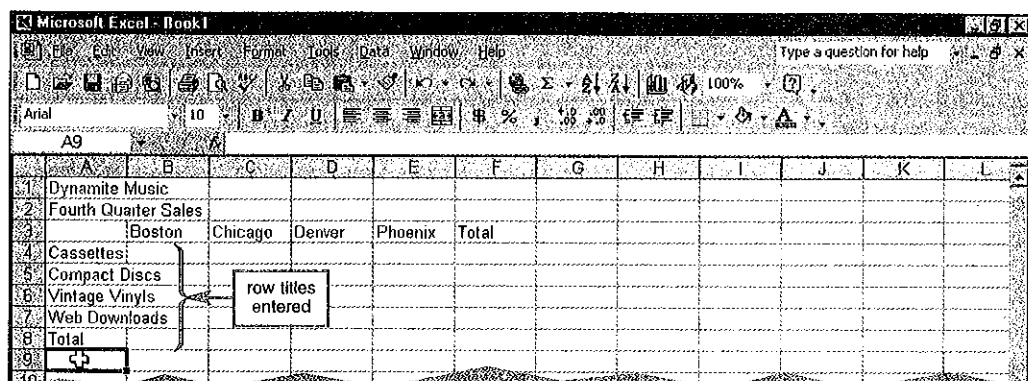
FIGURE 1-24

In Excel, text is left-aligned in a cell unless you change it by realigning it. Excel treats any combination of numbers, spaces, and nonnumeric characters as text. For example, the following entries are text:

401AX21, 921-231, 619 321, 883XTY

Entering Numbers

In Excel, you can enter numbers into cells to represent amounts. Numbers can contain only the following characters:

0 1 2 3 4 5 6 7 8 9 + - ( ) , / . $ % E e

Table 1-1	Dynamite Music Fourth Quarter Data			
	BOSTON	CHICAGO	DENVER	PHOENIX
Cassettes	53465.30	47917.35	31913.75	62350.10
Compact Discs	92023.75	70392.10	86140.55	83450.75
Vintage Vinyls	35482.56	30976.25	48612.75	34092.75
Web Downloads	78526.12	67626.60	67420.20	56732.80

If a cell entry contains any other keyboard character (including spaces), Excel interprets the entry as text and treats it accordingly. The use of the special characters is explained when they are used in the project.

In Project 1, the Dynamite Music Fourth Quarter numbers are summarized to the right in Table 1-1. These numbers, which represent fourth quarter sales for each of the stores and product groups, must be entered in rows 4, 5, 6, and 7. Perform the steps on the next page to enter these values one row at a time.

Steps | To Enter Numeric Data

1 **Click cell B4. Type** 53465.30 **and then press the RIGHT ARROW key.**

Excel enters the number 53465.30 in cell B4 and changes the active cell to cell C4 (Figure 1-25). Excel does not display the insignificant zero. The zero will reappear when the numbers are formatted with dollar signs and commas later in this project.
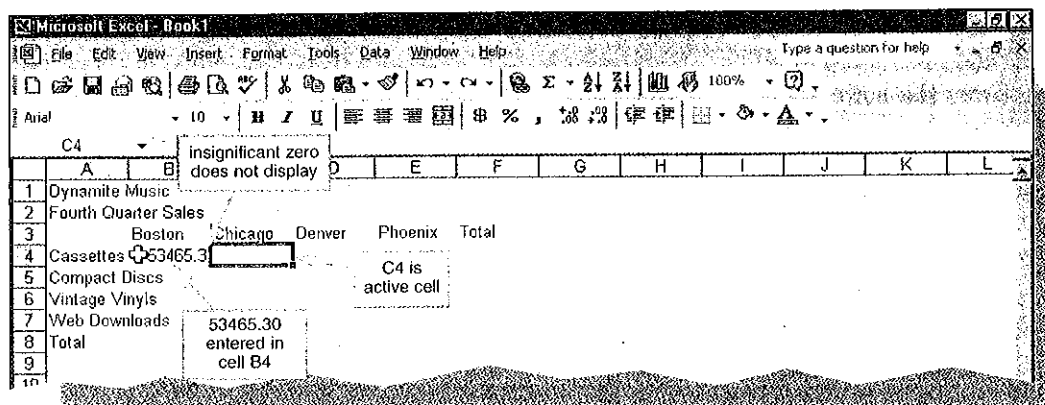
FIGURE 1-25

2 **Enter** 47917.35 **in cell C4,** 31913.75 **in cell D4, and** 62350.10 **in cell E4.**

Row 4 now contains the fourth quarter sales by store for the product group Cassettes (Figure 1-26). The numbers in row 4 are right-aligned, which means Excel displays the cell entry to the far right in the cell.
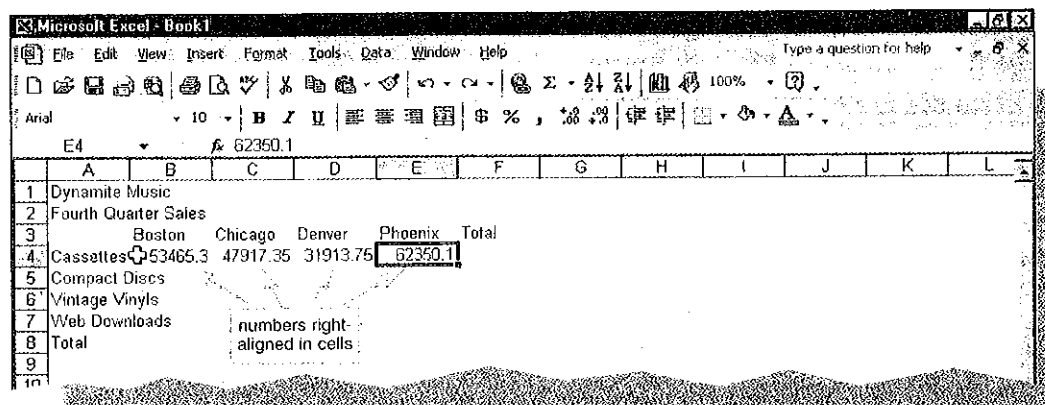
FIGURE 1-26

3 **Click cell B5. Enter the remaining fourth quarter sales provided in Table 1-1 on the previous page for each of the three remaining product groups in rows 5, 6, and 7.**

The fourth quarter sales display as shown in Figure 1-27.

FIGURE 1-27

More About
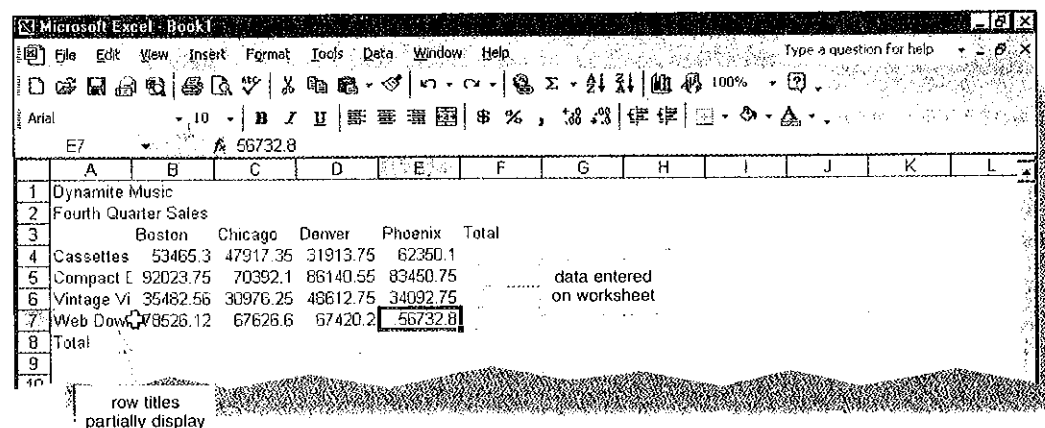
Entering Numbers as Text

There are times when you will want Excel to treat numbers, such as zip codes and telephone numbers, as text. To enter a number as text, start the entry with an apostrophe (').

As you can see in Figure 1-27, when you enter data into the cell in column B, the row titles in column A partially display. Later when the worksheet is formatted, the row titles will display in their entirety.

Steps 1 through 3 complete the numeric entries. You are not required to type dollar signs, commas, or trailing zeros. As shown in Figure 1-27, trailing zeros do not display. When you enter a number that has cents, however, you must add the decimal point and the numbers representing the cents when you enter the number. Later in this project, dollar signs, commas, and trailing zeros will be added to improve the appearance and readability of the numbers.

Calculating a Sum

The next step in creating the worksheet is to determine the total fourth quarter sales for the Boston store in column B. To calculate this value in cell B8, Excel must add the numbers in cells B4, B5, B6, and B7. Excel's **SUM function** provides a convenient means to accomplish this task.

To use the SUM function, first you must identify the cell in which the sum will be stored after it is calculated. Then, you can use the **AutoSum button** on the Standard toolbar to enter the SUM function as shown in the following steps.

Steps To Sum a Column of Numbers

1 **Click cell B8 and then point to the AutoSum button on the Standard toolbar.**

Cell B8 becomes the active cell (Figure 1-28).
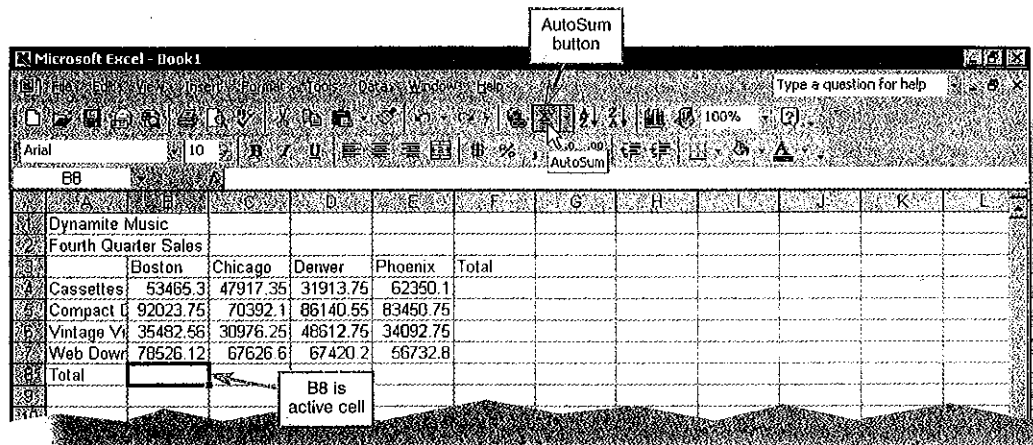
FIGURE 1-28

2 **Click the AutoSum button.**

Excel responds by displaying =SUM(B4:B7) in the formula bar and in the active cell B8 (Figure 1-29). A ScreenTip displays below the active cell. The B4:B7 within parentheses following the function name SUM is Excel's way of identifying the cells B4 through B7. Excel also surrounds the proposed cells to sum with a moving border, called a marquee.

FIGURE 1-29

3 Click the AutoSum button a second time.

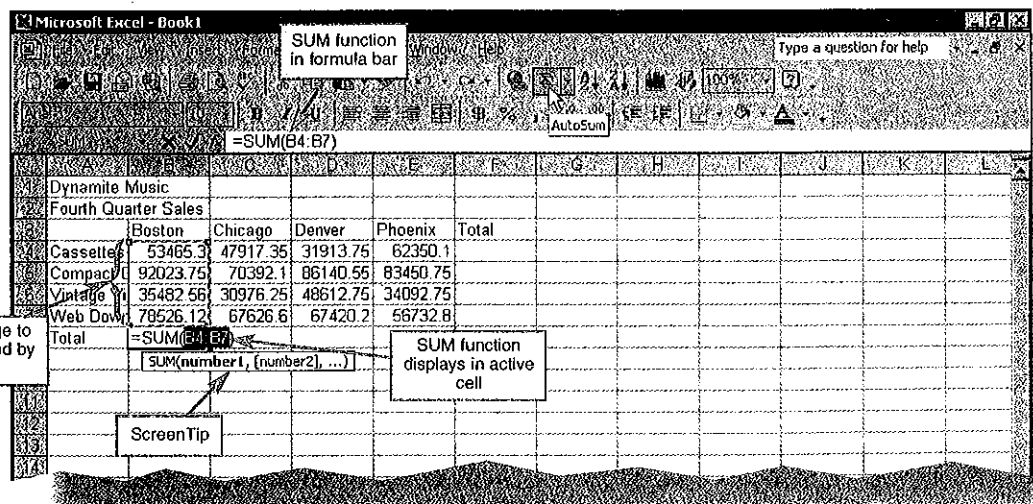Excel enters the sum of the fourth quarter sales in cell B8 (Figure 1-30). The SUM function assigned to cell B8 displays in the formula bar when cell B8 is the active cell.
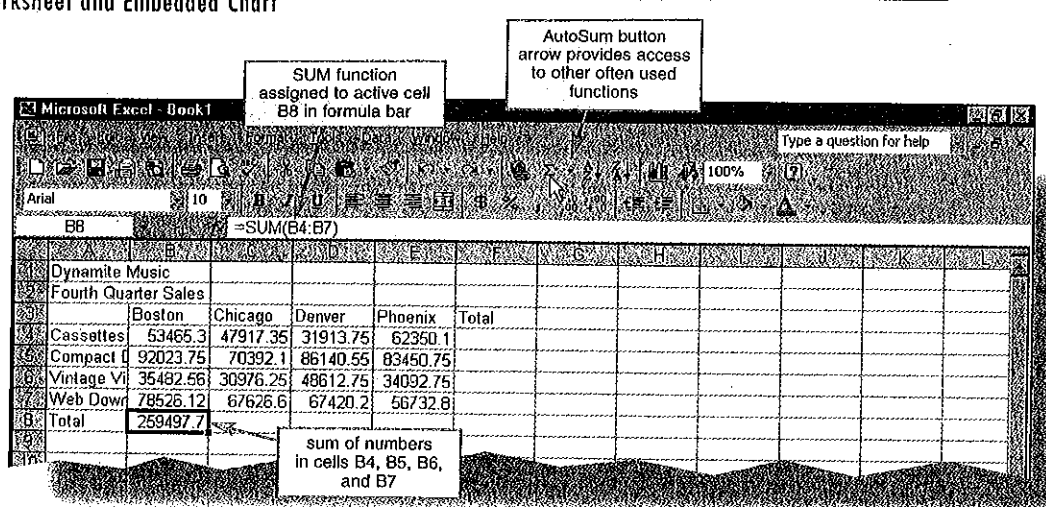

FIGURE 1-30

When you enter the SUM function using the AutoSum button, Excel automatically selects what it considers to be your choice of the group of cells to sum. The group of adjacent cells B4, B5, B6, and B7 is called a **range**. A range is a series of two or more adjacent cells in a column or row or a rectangular group of cells. Many Excel operations, such as summing numbers, take place on a range of cells.

When proposing the range to sum, Excel first looks for a range of cells with numbers above the active cell and then to the left. If Excel proposes the wrong range, you can drag through the correct range anytime prior to clicking the AutoSum button a second time. You also can enter the correct range by typing the beginning cell reference, a colon (:), and the ending cell reference.

If you click the AutoSum button arrow on the right side of the AutoSum button, Excel displays a list of often used functions from which you can choose. The list includes functions that allow you to determine the average, the minimum value, and the maximum value of a range of numbers.

Using the Fill Handle to Copy a Cell to Adjacent Cells

Excel also must calculate the totals for Chicago in cell C8, Denver in cell D8, and for Phoenix in cell E8. Table 1-2 illustrates the similarities between the entry in cell B8 and the entries required for the totals in cells C8, D8, and E8.

To place the SUM functions in cells C8, D8, and E8, you can follow the same steps shown previously in Figures 1-28 through 1-30. A second, more efficient method is to copy the SUM function from cell B8 to the range C8:E8. The cell being copied is called the **source area** or **copy area**. The range of cells receiving the copy is called the **destination area** or **paste area**.

Although the SUM function entries are similar in Table 1-2, they are not exact copies. The range in each SUM function entry to the right of cell B8 uses cell references that are one column to the right of the previous column. When you copy cell references, Excel automatically adjusts them for each new position, resulting in the SUM function entries illustrated in Table 1-2. Each adjusted cell reference is called a **relative reference**.

Table 1-2 Function Entries in Row 8

CELL	SUM FUNCTION ENTRIES	REMARK
B8	=SUM(B4:B7)	Sums cells B4, B5, B6, and B7
C8	=SUM(C4:C7)	Sums cells C4, C5, C6, and C7
D8	=SUM(D4:D7)	Sums cells D4, D5, D6, and D7
E8	=SUM(E4:E7)	Sums cells E4, E5, E6, and E7

The easiest way to copy the SUM formula from cell B8 to cells C8, D8, and E8 is to use the fill handle. The **fill handle** is the small black square located in the lower-right corner of the heavy border around the active cell. Perform the following steps to use the fill handle to copy cell B8 to the adjacent cells C8:E8.

Steps To Copy a Cell to Adjacent Cells in a Row

1 With cell B8 active, point to the fill handle.

The mouse pointer changes to a cross hair (Figure 1-31).
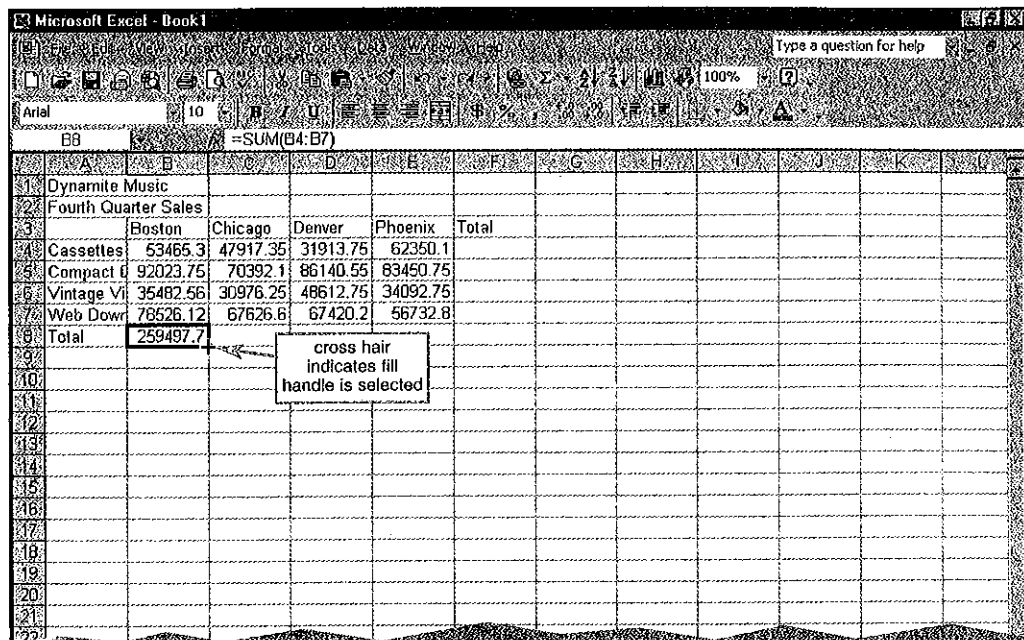
FIGURE 1-31

2 Drag the fill handle to select the destination area, range C8:E8.

Excel displays a shaded border around the destination area, range C8:E8, and the source area, cell B8 (Figure 1-32).
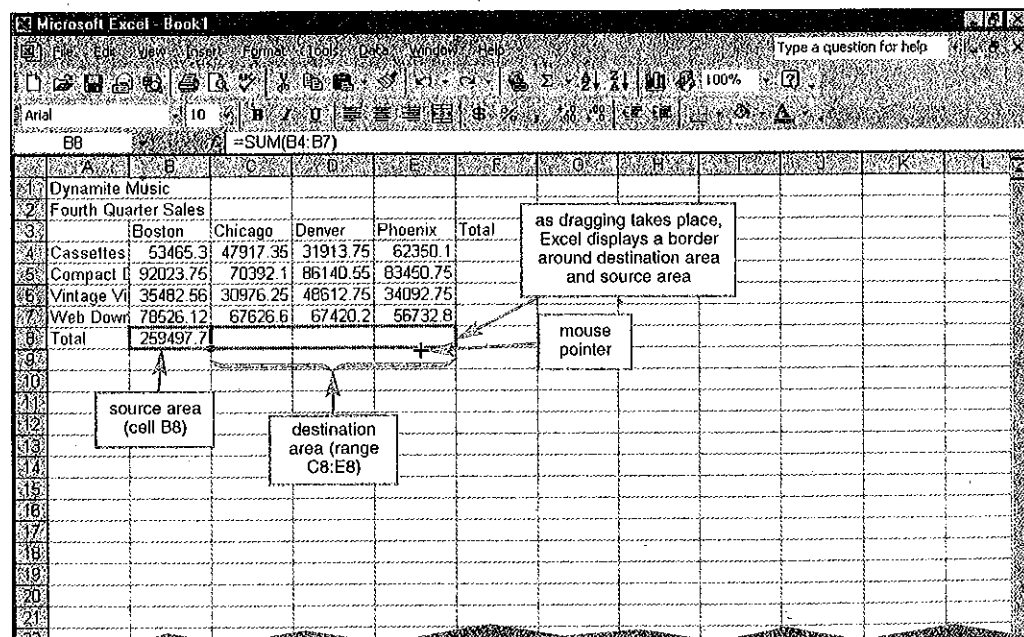
FIGURE 1-32

3 **Release the mouse button.**

Excel copies the SUM function in cell B8 to the range C8:E8 (Figure 1-33). In addition, Excel calculates the sums and enters the results in cells C8, D8, and E8. The Auto Fill Options button displays to the right and below the destination area.
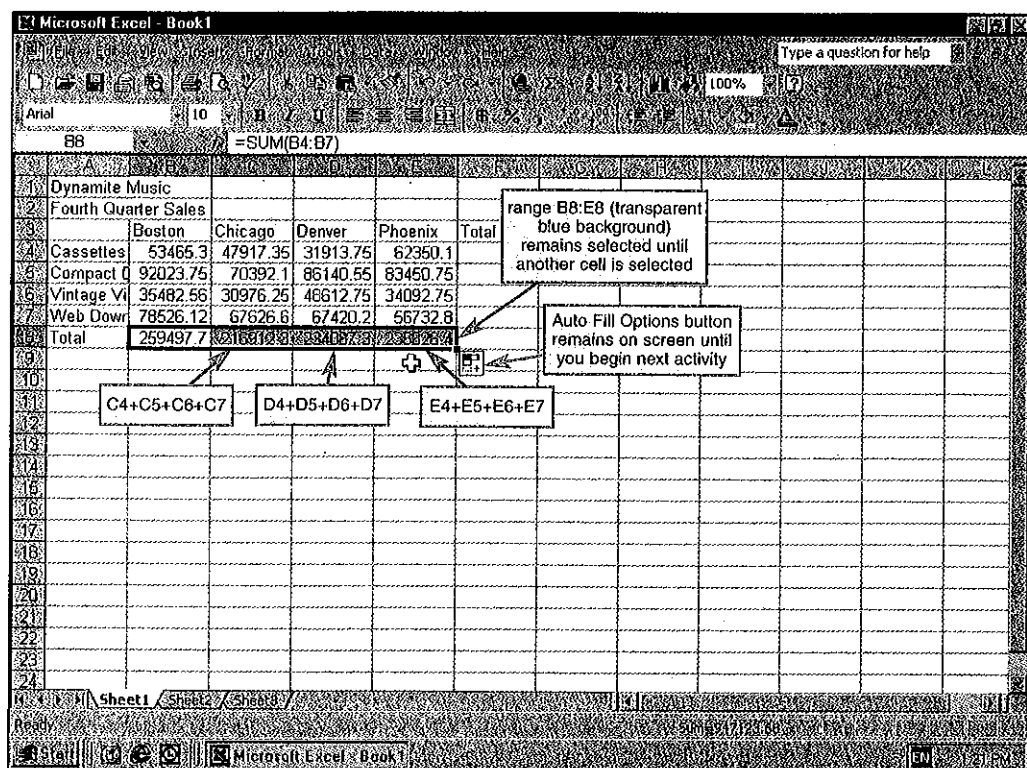
FIGURE 1-33

Once the copy is complete, Excel continues to display a heavy border and transparent (blue) background around cells B8:E8. The heavy border and transparent background indicate a selected range. Cell B8, the first cell in the range, does not display with the transparent background be cause it is the active cell. If you click any cell, Excel will remove the heavy border and transparent background. The heavy border and transparent (blue) background is called **see-through view**.

When you copy one range to another, Excel displays an Auto Fill Options button to the right and below the destination area (Figure 1-33). The **Auto Fill Options button** allows you choose whether you want to copy the value in the price area with formatting, without formatting, or only copy the format. To list the selections, click the Auto Fill Options button. The Auto Fill Options button disappears when you begin another activity.

Determining Row Totals

The next step in building the worksheet is to determine totals for each product group and total fourth quarter sales for the company in column F. Use the SUM function in the same manner as you did when the sales by store were totaled in row 8. In this example, however, all the rows will be totaled at the same time. The following steps illustrate this process.

Steps | **To Determine Multiple Totals at the Same Time**

1 Click cell F4.

Cell F4 becomes the active cell (Figure 1-34).

FIGURE 1-34

2 With the mouse pointer in cell F4 and in the shape of a block plus sign, drag the mouse pointer down to cell F8.

Excel highlights the range F4:F8 (Figure 1-35).

FIGURE 1-35

3 Click the AutoSum button on the Standard toolbar.

Excel assigns the appropriate SUM functions to cell F4, F5, F6, F7, and F8, and then calculates and displays the sums in the respective cells (Figure 1-36).

4 Select cell A9 to deselect the range F4:F8.

FIGURE 1-36

If each cell in the selected range is next to a row of numbers, Excel assigns the SUM function to each cell in the selected range when you click the AutoSum button. Thus, five SUM functions with different ranges were assigned to the selected range, one for each row. This same procedure could have been used earlier to sum the columns. That is, rather than selecting cell B8, clicking the AutoSum button twice, and then copying the SUM function to the range C8:E8, you could have selected the range B8:E8 and then clicked the AutoSum button once.

Formatting the Worksheet

The text, numeric entries, and functions for the worksheet now are complete. The next step is to format the worksheet. You **format** a worksheet to emphasize certain entries and make the worksheet easier to read and understand.

Figure 1-37a shows the worksheet before formatting. Figure 1-37b shows the worksheet after formatting. As you can see from the two figures, a worksheet that is formatted not only is easier to read, but also looks more professional.

(a) Before Formatting **(b) After Formatting**

FIGURE 1-37

To change the unformatted worksheet in Figure 1-37a to the formatted worksheet in Figure 1-37b, the following tasks must be completed:

1. Bold, enlarge, and change the color of the worksheet titles in cells A1 and A2.
2. Center the worksheet titles in cells A1 and A2 across columns A through F.
3. Format the body of the worksheet. The body of the worksheet, range A3:F8, includes the column titles, row titles, and numbers. Formatting the body of the worksheet results in numbers represented in a dollars-and-cents format, dollar signs in the first row of numbers and the total row, underlining that emphasizes portions of the worksheet, and modified column widths.

The process required to format the worksheet is explained in the remainder of this section. Although the format procedures will be carried out in the order described above, you should be aware that you can make these format changes in any order.

Fonts, Font Color, Font Size, and Font Style

Characters that display on the screen are a specific shape, size, color, and style. The **font type** defines the appearance and shape of the letters, numbers, and special characters. The **font size** specifies the size of the characters on the screen. Font size is gauged by a measurement system called points. A single point is about 1/72 of one inch in height. Thus, a character with a **point size** of 10 is about 10/72 of one inch in height.

Font style indicates how the characters are formatted. Common font styles include regular, bold, underlined, or italicized. The font also can display in a variety of colors.

When Excel begins, the preset font type for the entire workbook is Arial with a size and style of 10-point regular black. Excel allows you to change the font characteristics in a single cell, a range of cells, the entire worksheet, or the entire workbook.

Bolding a Cell

You **bold** an entry in a cell to emphasize it or make it stand out from the rest of the worksheet. Perform the following steps to bold the worksheet title in cell A1.

Steps | To Bold a Cell

1 **Click cell A1 and then point to the Bold button on the Formatting toolbar.**

The ScreenTip displays immediately below the Bold button to identify the function of the button (Figure 1-38).
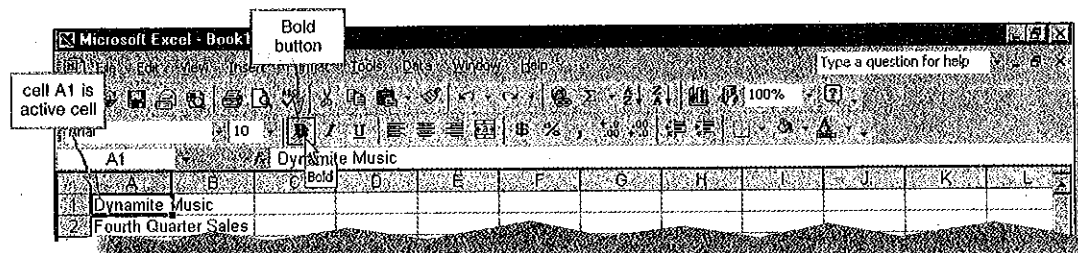
FIGURE 1-38

2 **Click the Bold button.**

Excel applies a bold format to the worksheet title, Dynamite Music (Figure 1-39).
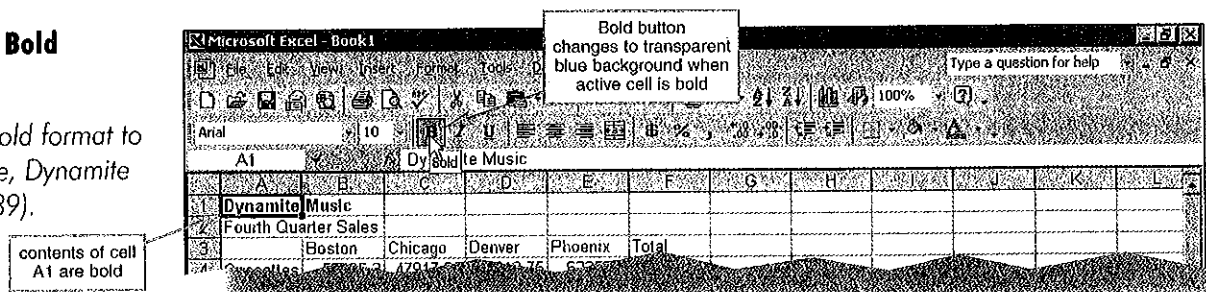
FIGURE 1-39

When the active cell is bold, the Bold button on the Formatting toolbar displays with a transparent blue background (Figure 1-39). Clicking the Bold button a second time removes the bold format.

Increasing the Font Size

Increasing the font size is the next step in formatting the worksheet title. You increase the font size of a cell so the entry stands out and is easier to read. Perform the steps on the next page to increase the font size of the worksheet title in cell A1.

Steps To Increase the Font Size of a Cell Entry

1 With cell A1 selected, click the Font Size box arrow on the Formatting toolbar and then point to 24 in the Font Size list.

The Font Size list displays as shown in Figure 1-40.
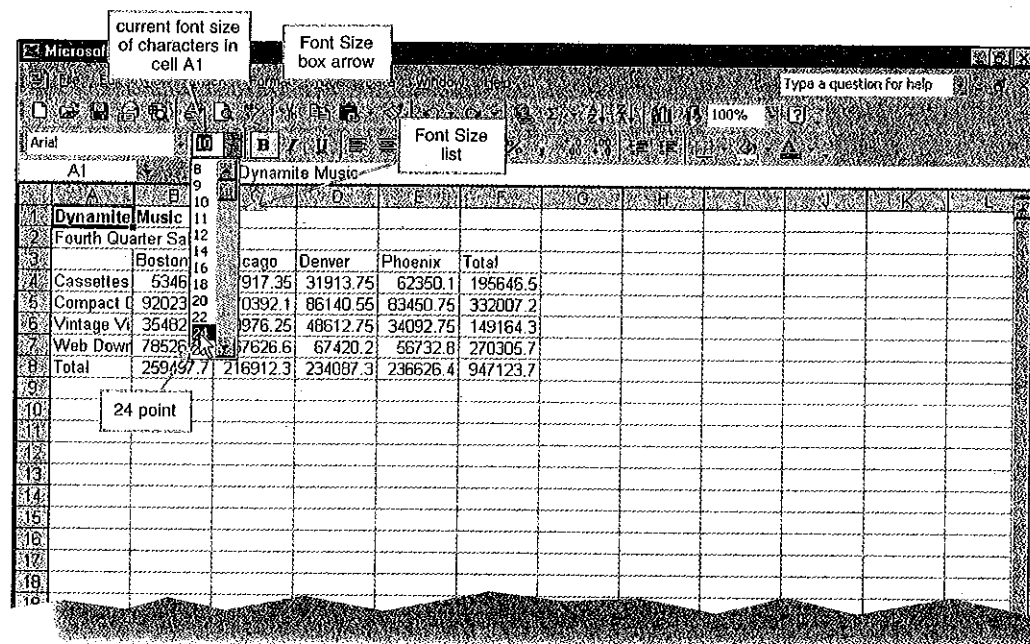
FIGURE 1-40

2 Click 24. The font size of the characters in the worksheet title in cell A1 increase from 10 point to 24 point (Figure 1-41).
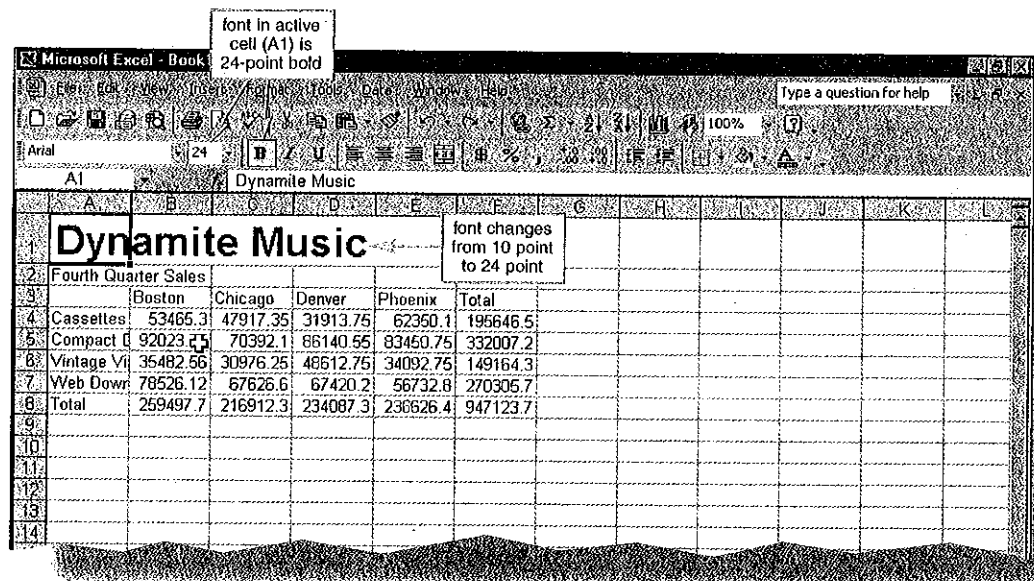
FIGURE 1-41

Other Ways

1. On Format menu click Cells, click Font tab, select font size in Size box, click OK button

2. Right-click cell, click Format Cells on shortcut menu, click Font tab, select font size in Size box, click OK button

3. InVoice Command mode say, "Font Size, [desired font size]"

An alternative to clicking a font size in the Font Size list is to click the Font Size box, type the font size, and then press the ENTER key. With cell A1 selected (Figure 1-41), the Font Size box shows the new font size 24 and the transparent blue Bold button shows the active cell is bold.

Changing the Font Color of a Cell

The next step is to change the color of the font in cell A1 from black to violet. Perform the following steps to change the color of the font.

Steps | To Change the Font Color of a Cell

1 **With cell A1 selected, click the Font Color button arrow on the Formatting toolbar. Point to the color Violet (column 7, row 3) on the Font Color palette.**

The Font Color palette displays (Figure 1-42).
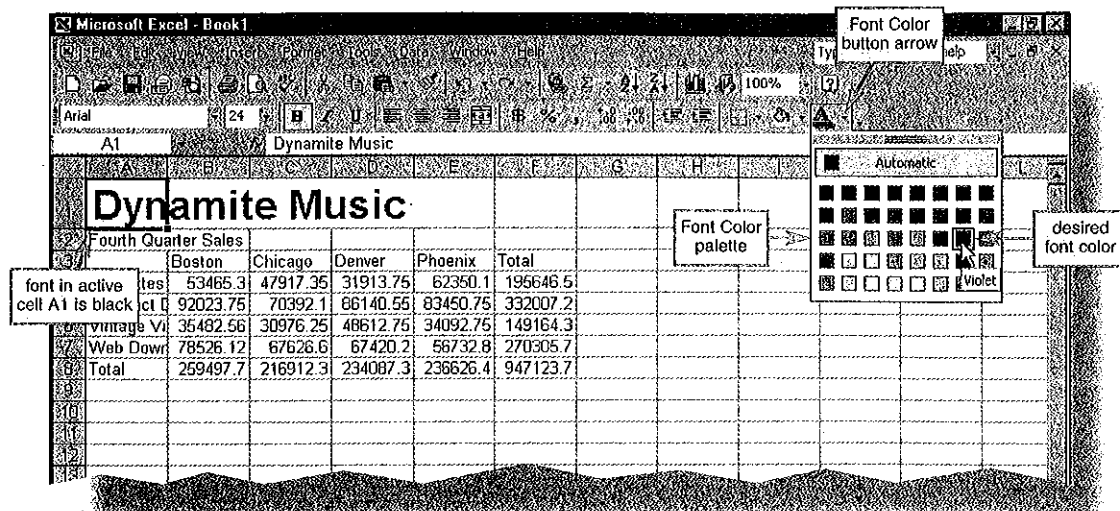
FIGURE 1-42

2 **Click Violet.**

The font in the worksheet title in cell A1 changes from black to violet (Figure 1-43).
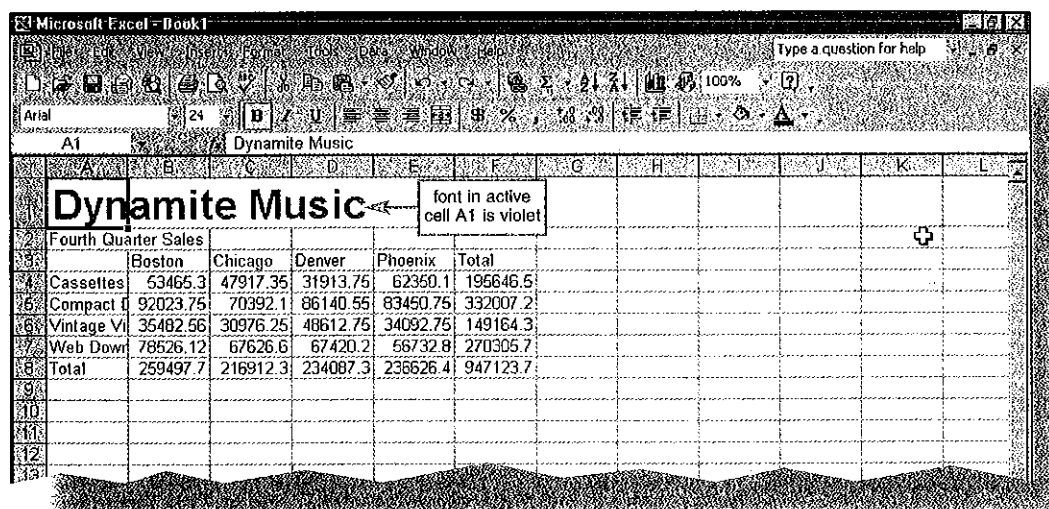
FIGURE 1-43

You can choose from 40 different font colors in the Font Color palette in Figure 1-42. Your Font Color palette may have more or fewer colors, depending on color settings of your operating system. When you choose a color, Excel changes the Font Color button on the Formatting toolbar to the chosen color. Thus, to change the font color of the text in another cell to the same color, you need only select the cell and click the Font Color button.

Centering the Worksheet Title across Columns

The final step in formatting the worksheet title is to center it across columns A through F. Centering a worksheet title across the columns used in the body of the worksheet improves the worksheet's appearance. Perform the steps on the next page to center the worksheet title.

Other Ways

1. On Format menu, click Cells, click Font tab, click Color button, select color, click OK button

2. Right-click cell, click Format Cells on shortcut menu, click Font tab, click Color button, select color, click OK button

3. In Voice Command mode say, "Font Color, [desired color]"

To Center a Cell's Contents across Columns

1 **With cell A1 selected, drag to cell F1. Point to the Merge and Center button on the Formatting toolbar.**

Excel highlights the selected cells (Figure 1-44).
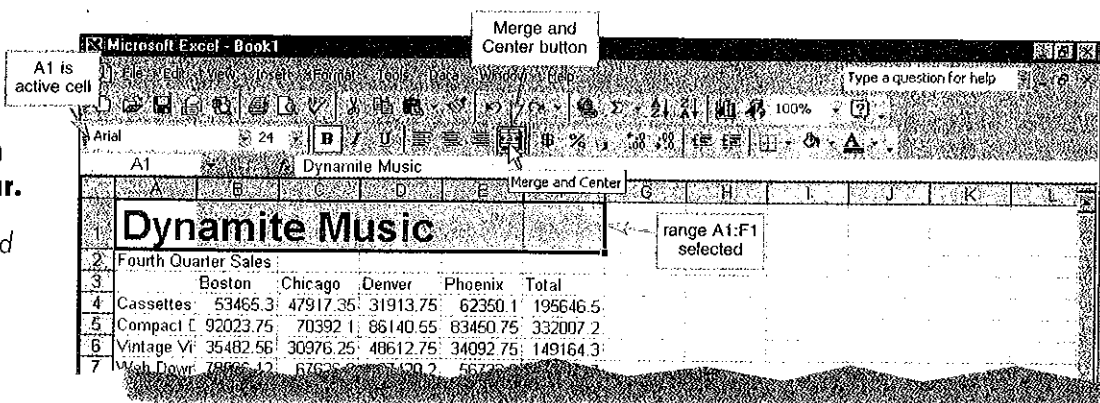
FIGURE 1-44

2 **Click the Merge and Center button.**

Excel merges the cells A1 through F1 to create a new cell A1 and centers the contents of cell A1 across columns A through F (Figure 1-45). After the merge, cells B1 through F1 no longer exist on the worksheet.
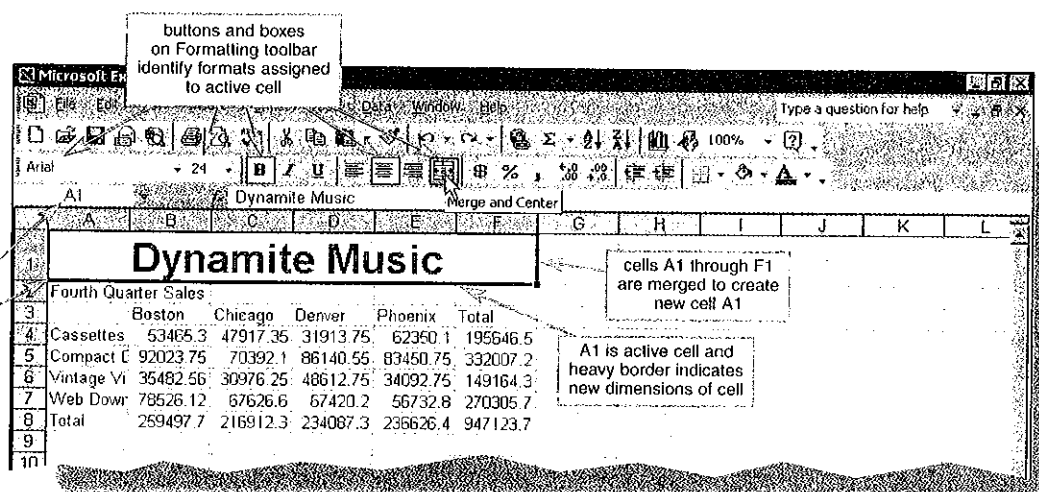
FIGURE 1-45

Other Ways

1. On Format menu click Cells, click Alignment tab, select Center Across Selection in Horizontal list, click OK button

2. Right-click cell, click Format Cells on shortcut menu, click Alignment tab, select Center Across Selection in Horizontal list, click OK button

3. In Voice Command mode say, "Merge and Center"

Excel not only centers the worksheet title across the range A1:F1, but it also merges cells A1 through F1 into one cell, cell A1. The alternative to merging cells is **splitting a cell**. You split a merged cell by selecting it and clicking the Merge and Center button. For example, if you click the Merge and Center button a second time in Step 2, it will change cell A1 to cells A1, B1, C1, D1, E1, and F1. For the Merge and Center button to work properly, all the cells except the leftmost cell in the range of cells must be empty.

Most formats assigned to a cell will display on the Formatting toolbar when the cell is selected. For example, with cell A1 selected in Figure 1-45 the font type and font size display in their appropriate boxes. Transparent blue buttons indicate an assigned format. To determine if less frequently used formats are assigned to a cell, point to the cell and right-click. Next, click Format Cells, and then click each of the tabs in the Format Cells dialog box.

Formatting the Worksheet Subtitle

The worksheet subtitle in cell A2 is to be formatted the same as the worksheet title in cell A1, except that the font size should be 16 rather than 24. Perform the following steps to format the worksheet subtitle in cell A2.

TO FORMAT THE WORKSHEET SUBTITLE

1 Select cell A2.

2 Click the Bold button on the Formatting toolbar.

3 Click the Font Size arrow on the Formatting toolbar and click 16.

4 Click the Font Color button.

5 Select the range A2:F2 and then click the Merge and Center button on the Formatting toolbar.

buttons and boxes on Formatting toolbar identify formats assigned to active cell A2

Font Color button is violet because violet was last color selected

16-point violet bold with text centered and merged
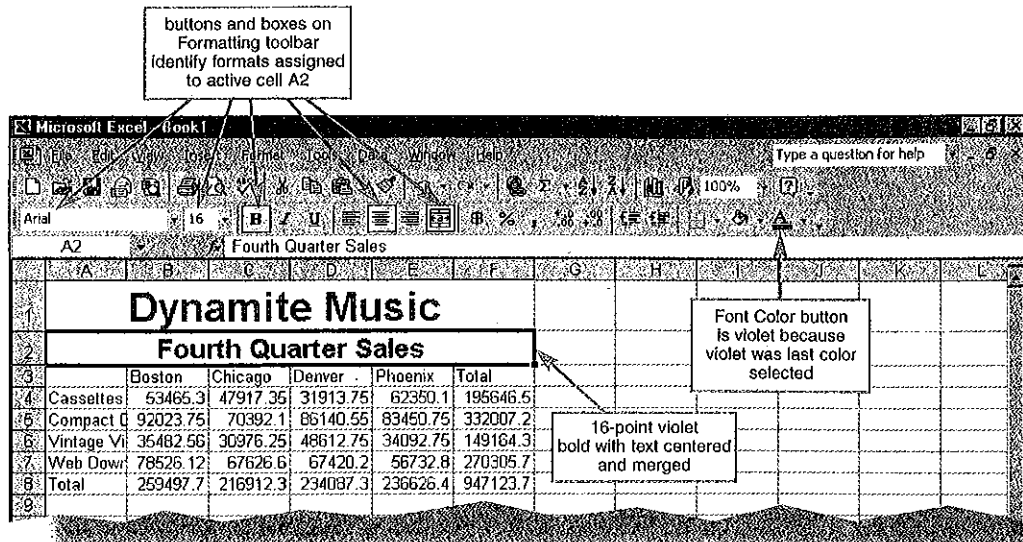
FIGURE 1-46

The worksheet subtitle in cell A2 display as shown in Figure 1-46.

With cell A2 selected, the buttons and boxes on the Formatting toolbar describe the primary formats assigned to cell A2. The steps used to format the worksheet subtitle in cell A2 were the same as the steps used to assign the formats to the worksheet title in cell A1, except for assigning the font color. To color the worksheet title font in cell A1 violet, the Font Color arrow and Font Color palette were used. To color the worksheet subtitle in cell A2 violet, the Font Color button was used. Recall that the Font Color button is assigned the last font color used, which was violet.

Using AutoFormat to Format the Body of a Worksheet

Excel has several customized format styles called **table formats** that allow you to format the body of the worksheet. Using table formats can give your worksheet a professional appearance. Follow these steps to format the range A3:F8 automatically using the **AutoFormat command** on the **Format menu.**

Steps To Use AutoFormat to Format the Body of a Worksheet

1 Select cell A3, the upper-left corner cell of the rectangular range to format. Drag the mouse pointer to cell F8, the lower-right corner cell of the range to format.

Excel highlights the range to format with a heavy border and transparent blue background (Figure 1-47).

upper-left corner cell of range to format

heavy border and blue background defines range

range to format (A3:F8)
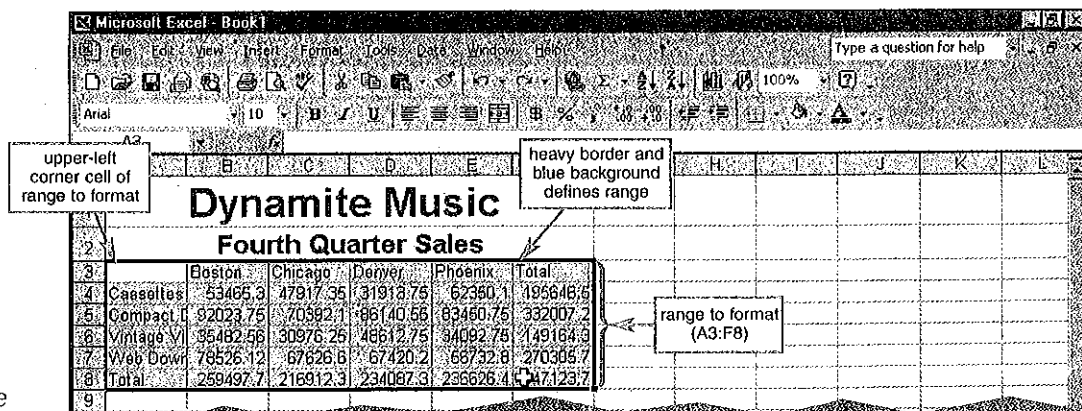
FIGURE 1-47

2 **Click Format on the menu bar and then point to AutoFormat.**

The Format menu displays (Figure 1-48).
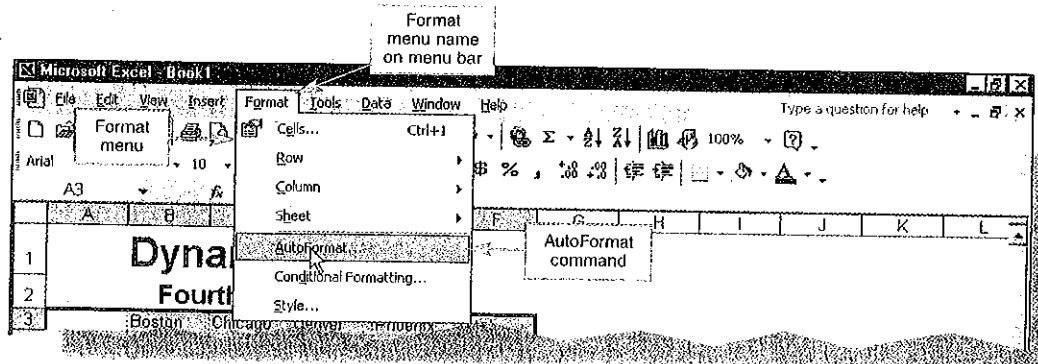
FIGURE 1-48

3 **Click AutoFormat. Click the Accounting 1 format in the AutoFormat dialog box. Point to the OK button.**

The AutoFormat dialog box displays with a list of customized formats (Figure 1-49). Each format illustrates how the body of the worksheet will display if it is chosen.
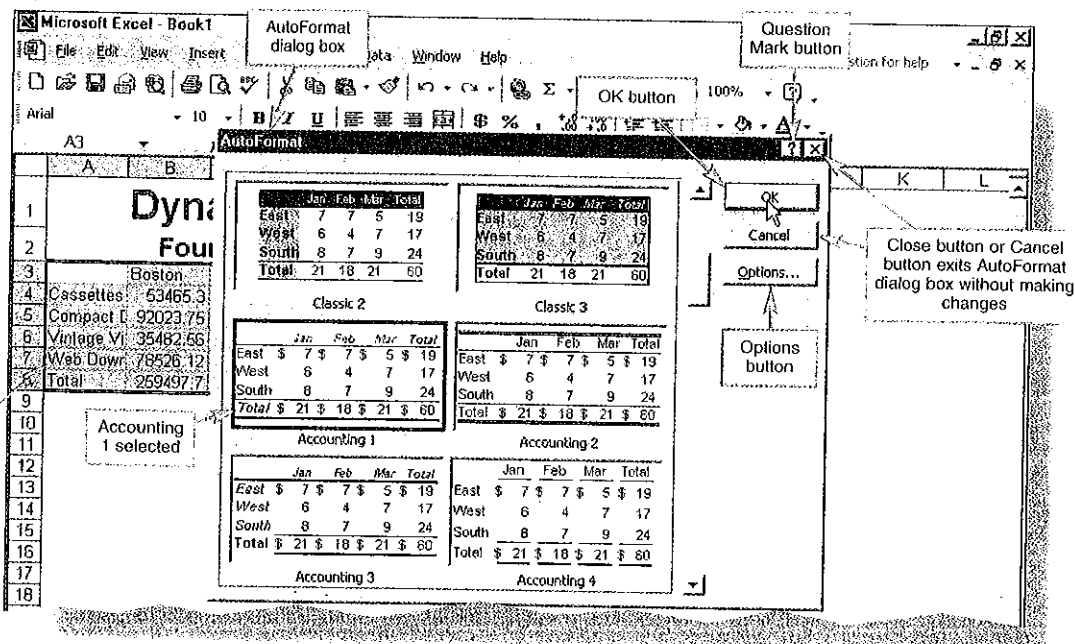
FIGURE 1-49

4 **Click the OK button. Select cell A10 to deselect the range A3:F8.**

Excel displays the worksheet with the range A3:F8 using the customized format, Accounting 1 (Figure 1-50).
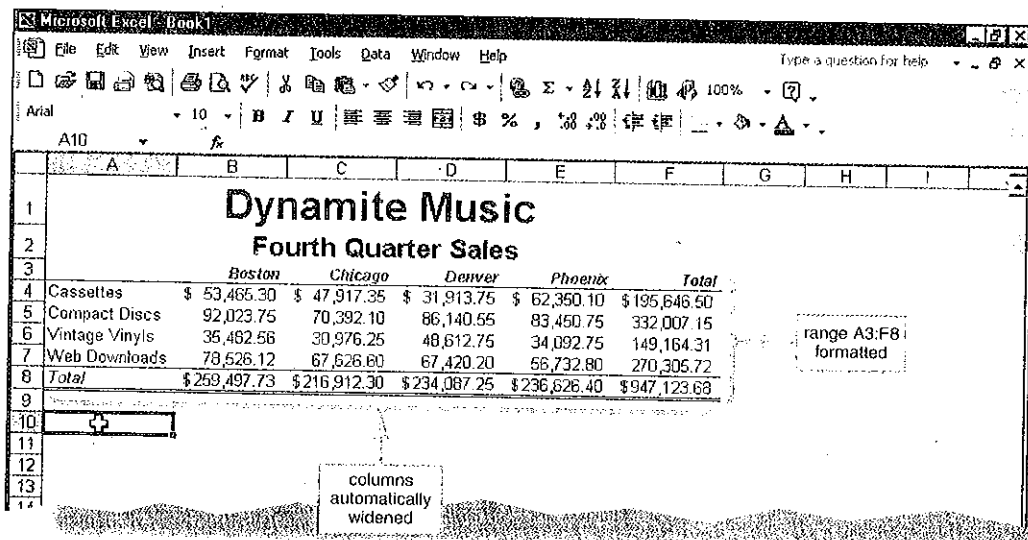
FIGURE 1-50

Other Ways

1. Press ALT+O, A
2. In Voice Command mode say, "Format, AutoFormat, [desired AutoFormat], OK"

The formats associated with Accounting 1 include bold, italic, right-aligned column titles; numbers displayed as dollars and cents with comma separators; numbers aligned on the decimal point; dollar signs in the first row of numbers and in the total row; and top and bottom rows display with borders. The width of column A also has been increased so the longest row title in cell A7, Web Downloads, just fits in the column. The widths of columns B through F have been increased so that the formatted numbers will fit in the cells.

The AutoFormat dialog box shown in Figure 1-49 includes 17 table formats and five buttons. Use the vertical scroll bar in the dialog box to view the 11 table formats that do not display. Each one of these table formats offers a different look. The one you choose depends on the worksheet you are creating. The last table format in the list, called None, removes all formats.

The five buttons in the dialog box allow you to cancel, complete the entries, get Help, and adjust a customized format. The **Close button** terminates current activity without making changes. You also can use the **Cancel button**, immediately below the **OK button**, for this purpose. Use the **Question Mark button**, to obtain Help on any box or button located in the dialog box. The **Options button** allows you to select additional formats to assign as part of the selected customized format.

The worksheet now is complete. The next step is to chart the fourth quarter sales for the four product groups by store. To create the chart, you must select the cell in the upper-left corner of the range to chart (cell A3). Rather than clicking cell A3 to select it, the next section describes how to use the Name box to select the cell.

Merging Table Formats

It is not uncommon to apply two or more of the table formats in Figure 1-49 to the same range. If you assign two table formats to a range, Excel does not remove the original format from the range; it simply adds the second table format to the first. Thus, if you decide to change a table format to another, select the table format None from the bottom of the list to clear the first table format.

Using the Name Box to Select a Cell

The Name box is located on the left side of the formula bar. To select any cell, click the Name box and enter the cell reference of the cell you want to select. Perform the following steps to select cell A3.

Steps To Use the Name Box to Select a Cell

1 **Click the Name box in the formula bar. Type** a3 **in the Name box.**

Even though cell A10 is the active cell, the Name box displays the typed cell reference a3 (Figure 1-51).

FIGURE 1-51

2 **Press the ENTER key.**

Excel changes the active cell from cell A10 to cell A3 (Figure 1-52).

A3 is active cell

Dynamite Music
Fourth Quarter Sales

	Boston	Chicago	Denver	Phoenix	Total
Cassettes	$ 53,465.30	$ 47,917.35	$ 31,913.75	$ 62,350.10	$195,646.50
Compact Discs	92,023.75	70,392.10	86,140.55	83,460.75	332,007.15
Vintage Vinyls	35,482.56	30,976.25	48,612.75	34,092.75	149,164.31
Web Downloads	78,526.12	67,626.60	67,420.20	56,732.80	270,305.72
Total	$ 269,497.73	$ 216,912.30	$ 234,087.25	$ 236,626.40	$ 947,123.68

FIGURE 1-52

As you will see in later projects, besides using the Name box to select any cell in a worksheet, you also can use it to assign names to a cell or range of cells.

Excel supports several additional ways to select a cell, as summarized in Table 1-3.

Table 1-3 Selecting Cells in Excel

KEY, BOX, OR COMMAND	FUNCTION
ALT+PAGE DOWN	Selects the cell one window to the right and moves the window accordingly.
ALT+PAGE UP	Selects the cell one window to the left and moves the window accordingly.
ARROW	Selects the adjacent cell in the direction of the arrow on the key.
CTRL+ARROW	Selects the border cell of the worksheet in combination with the arrow keys and moves the window accordingly. For example, to select the rightmost cell in the row that contains the active cell, press CTRL+RIGHT ARROW. You also can press the END key, release it, and then press the arrow key to accomplish the same task.
CTRL+HOME	Selects cell A1 or the cell one column and one row below and to the right of frozen titles and moves the window accordingly.
Find command on Edit menu	Finds and selects a cell that contains specific contents that you enter in the Find dialog box. If necessary, Excel moves the window to display the cell. You can press SHIFT+F5 or CTRL+F to display the Find dialog box.
F5 or Go To command on Edit menu	Selects the cell that corresponds to the cell reference you enter in the Go To dialog box and moves the window accordingly. You can press CTRL+G to display the Go To dialog box.
HOME	Selects the cell at the beginning of the row that contains the active cell and moves the window accordingly.
Name box	Selects the cell in the workbook that corresponds to the cell reference you enter in the Name box.
PAGE DOWN	Selects the cell down one window from the active cell and moves the window accordingly.
PAGE UP	Selects the cell up one window from the active cell and moves the window accordingly.

Adding a 3-D Column Chart to the Worksheet

The 3-D Column chart in Figure 1-53 is called an **embedded chart** because it is drawn on the same worksheet as the data.

For the Boston store, the light blue column represents the fourth quarter sales for the Cassettes product group ($53,465.30); the purple column represents the fourth quarter sales for Compact Discs ($92,023.75); the light yellow column represents the fourth quarter sales for Vintage Vinyls ($35,482.56); and the turquoise column represents the fourth quarter sales for Web Downloads ($78,526.12). For the stores Chicago, Denver, and Phoenix, the columns follow the same color scheme to represent the comparable fourth quarter sales. The totals from the worksheet are not represented because the totals were not in the range specified for charting.

Excel derives the scale along the vertical axis (also called the **y-axis** or **value axis**) of the chart on the basis of the values in the worksheet. For example, no value in the range B4:E7 is less than zero or greater than $100,000.00. Excel also determines the $20,000.00 increments along the y-axis automatically. The format used by Excel for the numbers along the y-axis includes representing zero (0) with a dash (Figure 1-53).

With the range to chart selected, you click the **Chart Wizard button** on the Standard toolbar to initiate drawing the chart. The area on the worksheet where the chart displays is called the **chart location**. The chart location is the range A10:F20, immediately below the worksheet data.

Follow the steps below to draw a 3-D Column chart that compares the fourth quarter sales by product group for the four stores.
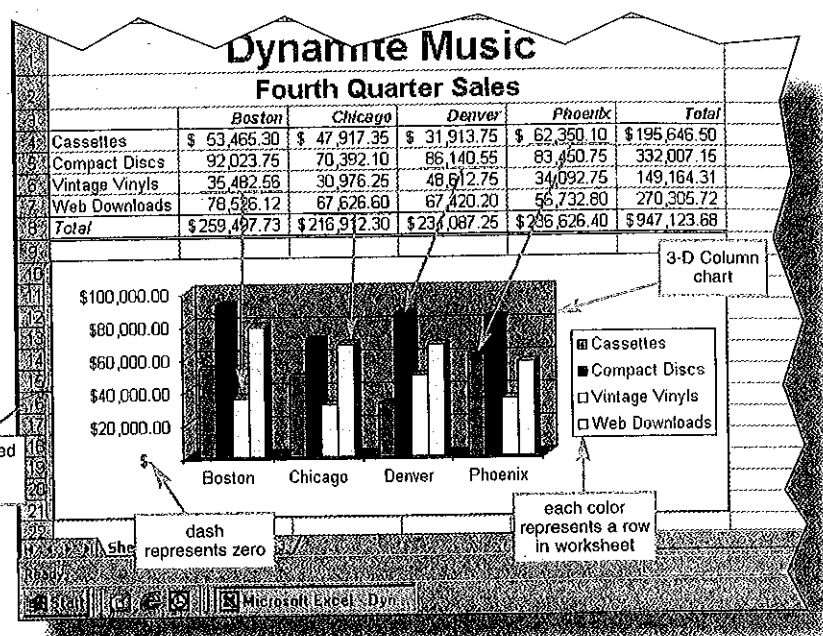
FIGURE 1-53

Steps To Add a 3-D Column Chart to the Worksheet

1 **With cell A3 selected, position the block plus sign mouse pointer within the cell's border and drag the mouse pointer to the lower-right corner cell (cell E7) of the range to chart (A3:E7). Point to the Chart Wizard button on the Standard toolbar.**

Excel highlights the range to chart (Figure 1-54).
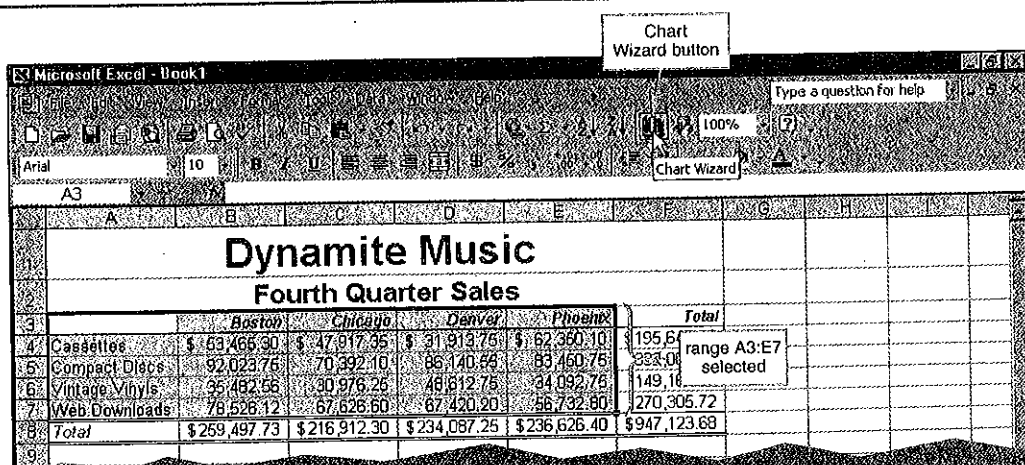
FIGURE 1-54

2 **Click the Chart Wizard button.**

The Chart Wizard - Step 1 of 4 - Chart Type dialog box displays.

3 **With Column selected in the Chart type list, click the 3-D Column chart sub-type (column 1, row 2) in the Chart sub-type area. Point to the Finish button.**

Column is highlighted in the Chart type list and Clustered column with a 3-D visual effect is highlighted in the Chart sub-type area (Figure 1-55).
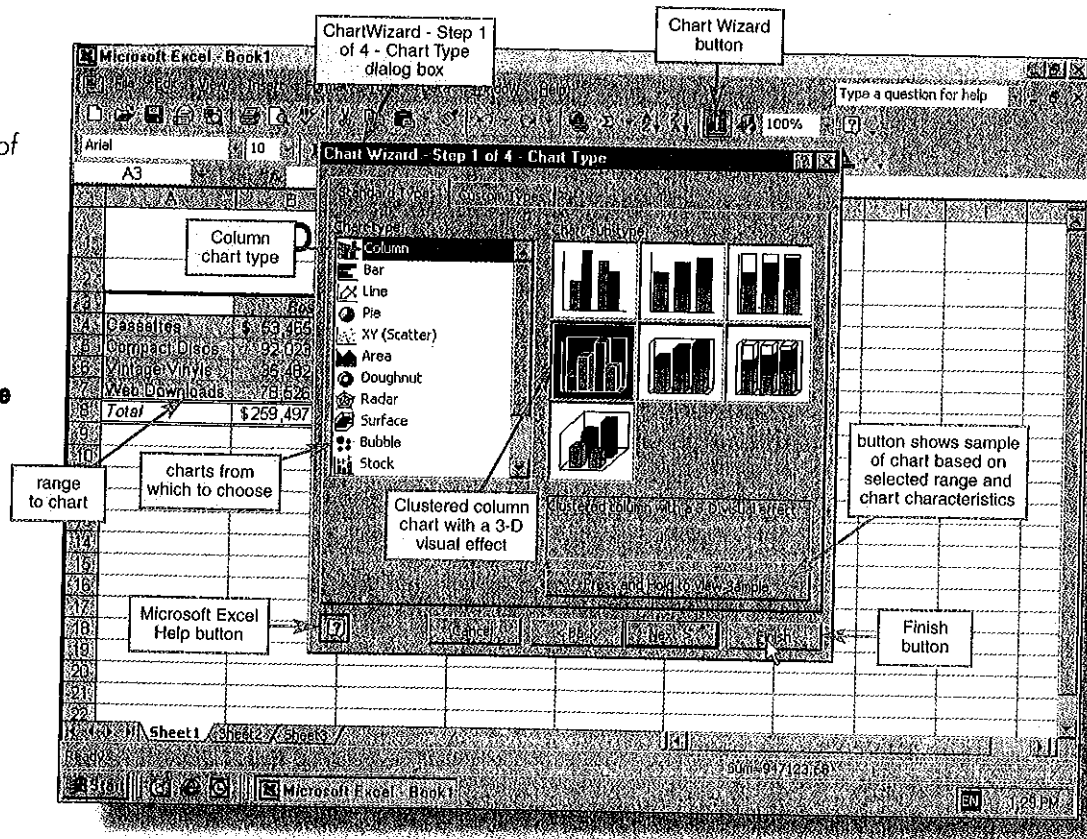
FIGURE 1-55

4 **Click the Finish button. If the chart toolbar displays, click its Close button. When the chart displays, point to an open area in the lower-right section of the Chart Area so the ScreenTip, Chart Area, displays.**

Excel draws the 3-D Clustered column chart (Figure 1-56). The chart displays in the middle of the window in a selection rectangle. The small sizing handles at the corners and along the sides of the selection rectangle indicate the chart is selected.
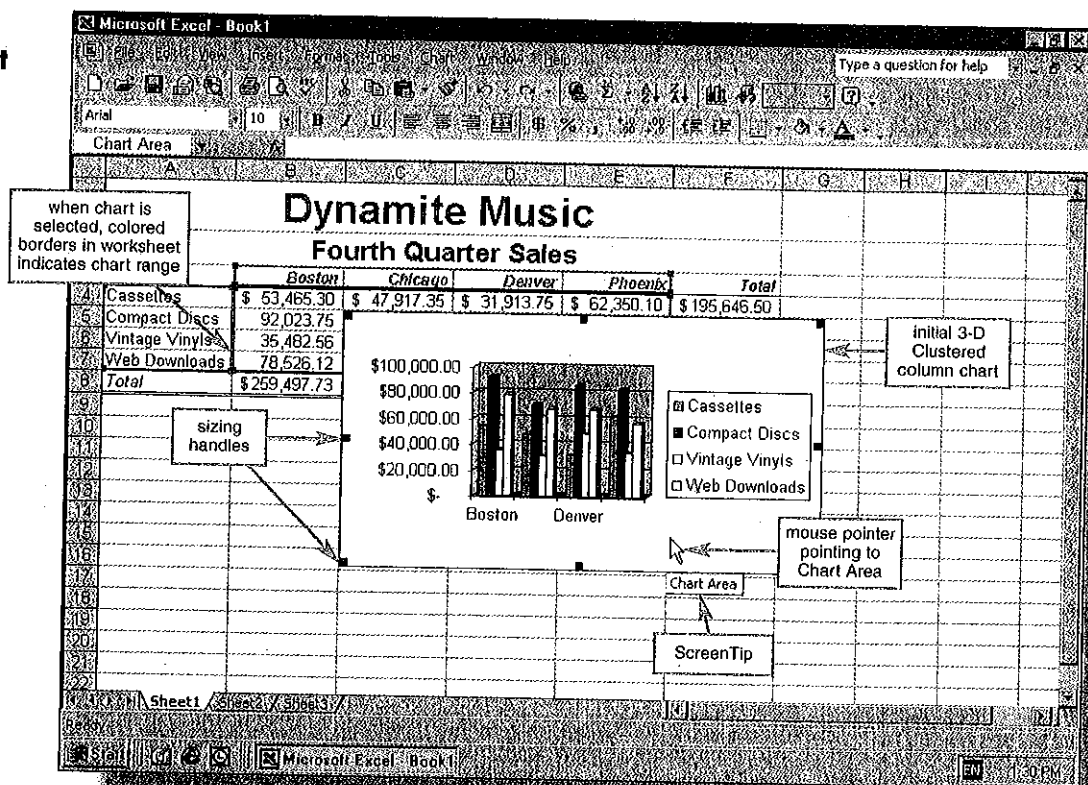
FIGURE 1-56

5 Drag the chart down and to the left to position the upper-left corner of the dotted line rectangle over the upper-left corner of cell A10 (Figure 1-57).

Excel displays a dotted line rectangle showing the new chart location. As you drag the selected chart, the mouse pointer changes to a cross hair with four arrowheads.
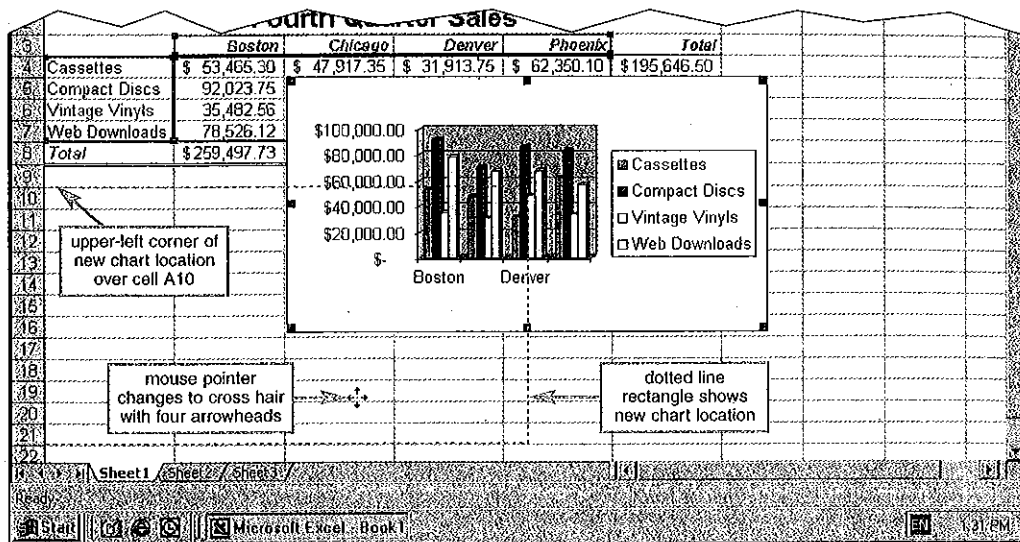
FIGURE 1-57

6 Release the mouse button. Point to the middle sizing handle on the right edge of the selection rectangle.

The chart displays in a new location (Figure 1-58). The mouse pointer changes to a horizontal line with two arrowheads when it points to a sizing handle.
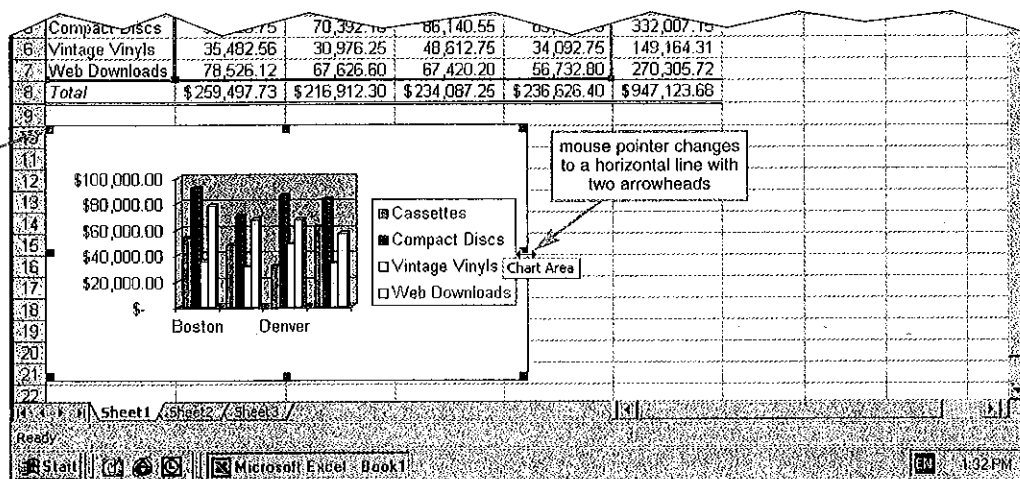
FIGURE 1-58

7 While holding down the ALT key, drag the sizing handle to the right edge of column F. Release the mouse button.

While you drag, the dotted line rectangle shows the new chart location (Figure 1-59). Holding down the ALT key while you drag a chart snaps (aligns) the new border to the worksheet gridlines.
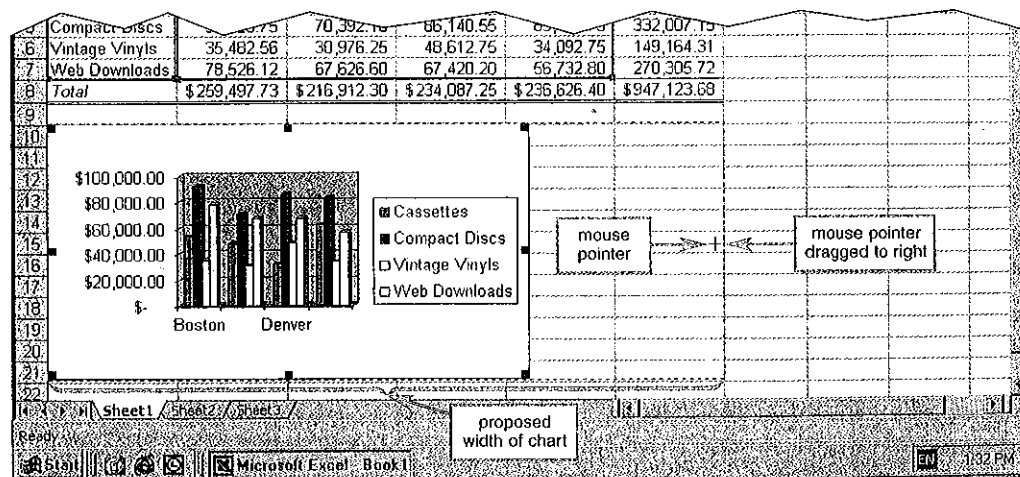
FIGURE 1-59

8 If necessary, hold down the ALT key and drag the lower-middle sizing handle down to the bottom border of row 21. Click cell H21 to deselect the chart.

The new chart location extends from the top of cell A10 to the bottom of cell F21 (Figure 1-60).
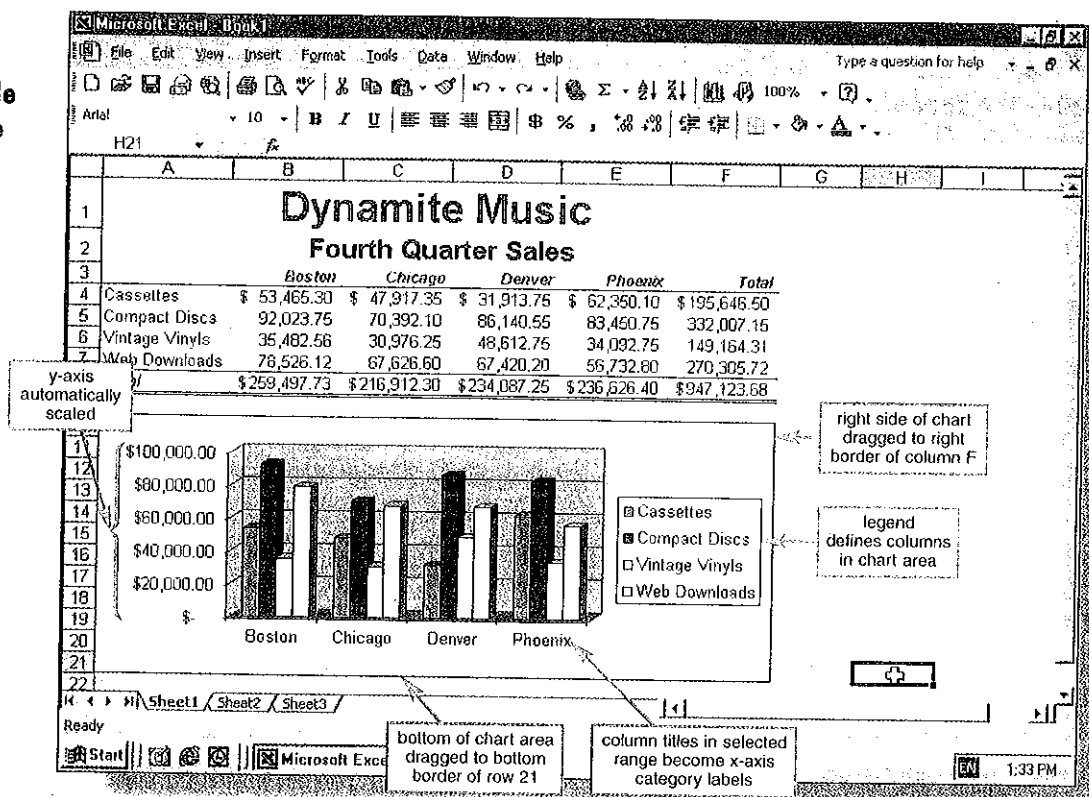
FIGURE 1-60

The embedded 3-D Column chart in Figure 1-60 compares the fourth quarter sales for the four product groups within each store. It also allows you to compare fourth quarter sales among the stores.

Excel automatically selects the entries in the topmost row of the range (row 3) as the titles for the horizontal axis (also called the **x-axis** or **category axis**) and draws a column for each of the 16 cells in the range containing numbers. The small box to the right of the column chart in Figure 1-55 on page E 1.38 contains the legend. The **legend** identifies each bar in the chart. Excel automatically selects the leftmost column of the range (column A) as titles within the legend. As indicated earlier, it also automatically scales the y-axis on the basis of the magnitude of the numbers in the chart range.

Excel offers 14 different chart types (Figure 1-55 on page E 1.38). The **default chart type** is the chart Excel draws if you click the Finish button in the first Chart Wizard dialog box. When you install Excel on a computer, the default chart type is the 2-D (two-dimensional) Column chart.

Saving a Workbook

While you are building a workbook, the computer stores it in memory. If the computer is turned off or if you lose electrical power, the workbook is lost. Hence, you must save on a floppy disk or hard disk any workbook that you will use later. A saved workbook is referred to as a **file**. The following steps illustrate how to save a workbook on a floppy disk in drive A using the Save button on the Standard toolbar.

Steps To Save a Workbook

1 **With a floppy disk in drive A, click the Save button on the Standard toolbar.**

The Save As dialog box displays (Figure 1-61). The preset Save in folder is Documents and Settings (your Save in folder may be different), the preset file name is Book1, and the file type is Microsoft Excel Workbook. The buttons on the top and on the side are used to select folders and change the display of file names and other information.
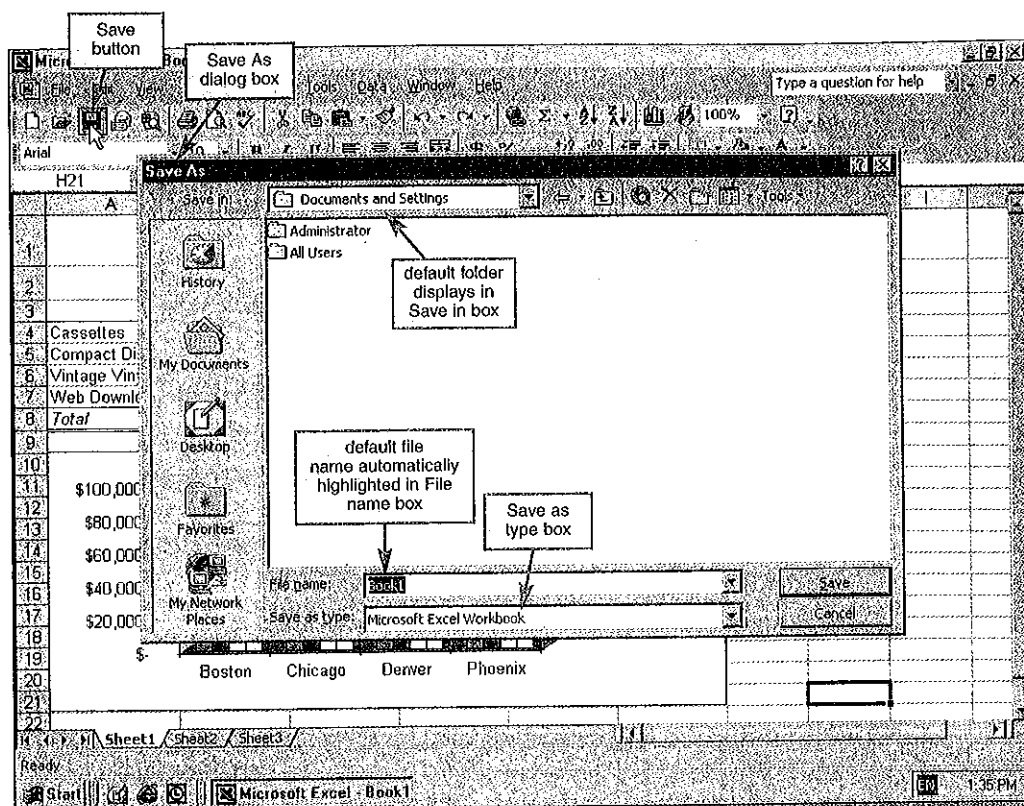
FIGURE 1-61

2 **Type** Dynamite Music 4th Quarter Sales **in the File name box. Point to the Save in box arrow.**

The new file name replaces Book1 in the File name text box (Figure 1-62). A file name can be up to 255 characters and can include spaces.
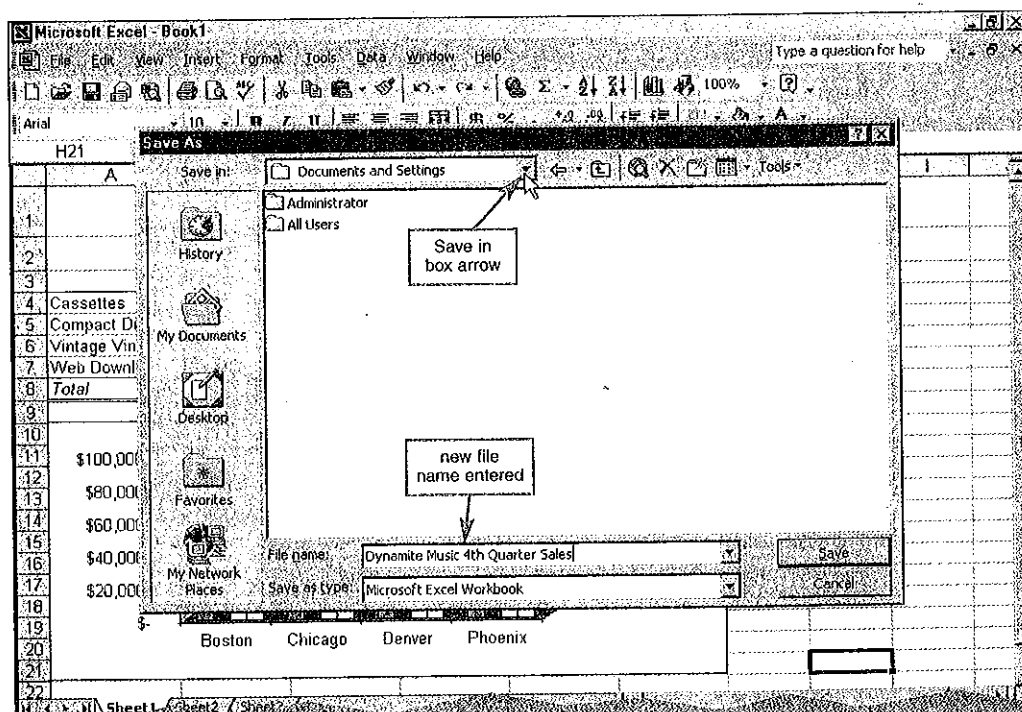
FIGURE 1-62

3 **Click the Save in box arrow and then point to 3½ Floppy (A:).**

A list of available drives and folders displays (Figure 1-63).
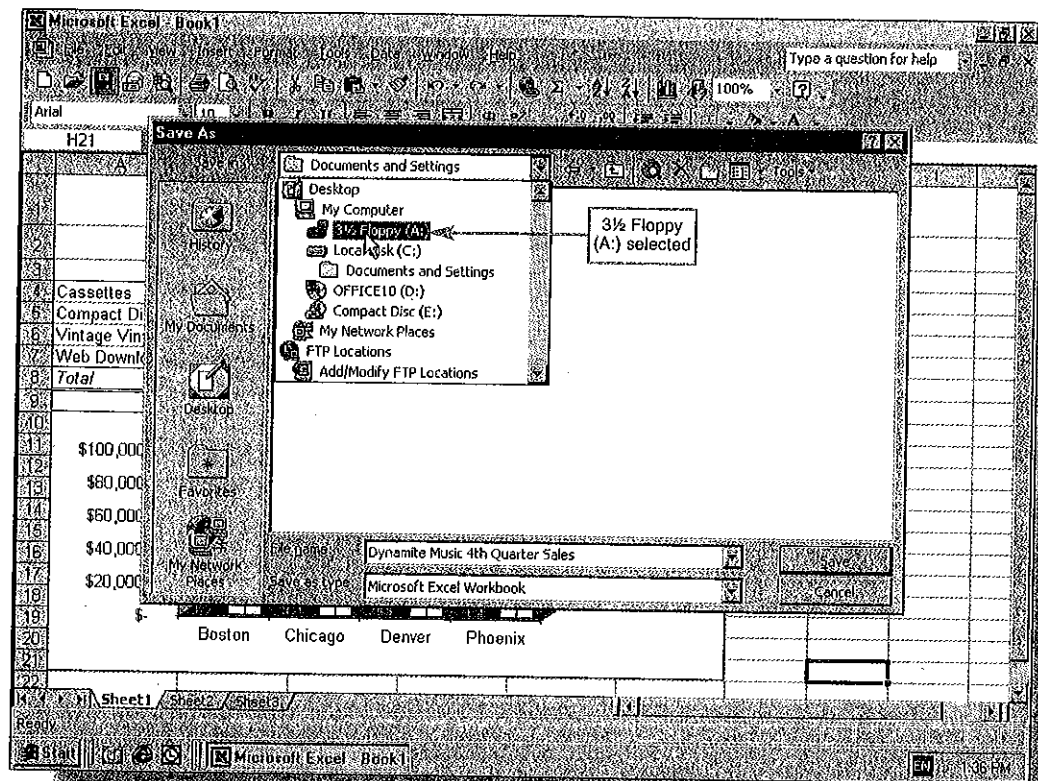
FIGURE 1-63

4 **Click 3½ Floppy (A:) and then point to the Save button in the Save As dialog box.**

Drive A becomes the selected drive (Figure 1-64).
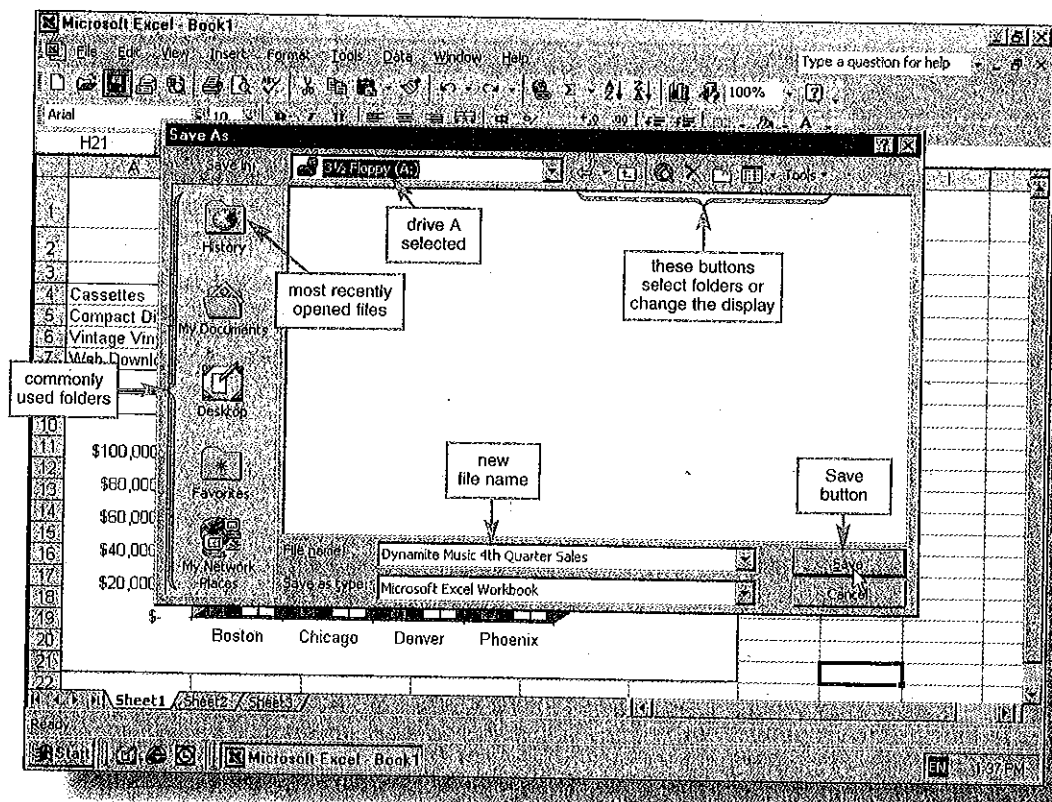
FIGURE 1-64

5 Click the Save button.

Excel saves the workbook on the floppy disk in drive A using the file name, Dynamite Music 4th Quarter Sales. Excel automatically appends the extension .xls to the file name you entered in Step 2, which stands for Excel workbook. Although the workbook is saved on a floppy disk, it also remains in memory and displays on the screen (Figure 1-65). The new file name displays on the title bar.

title bar displays new workbook file name

worksheet and embedded chart remain displayed on screen after being saved to drive A using file name Dynamite Music 4th Quarter Sales
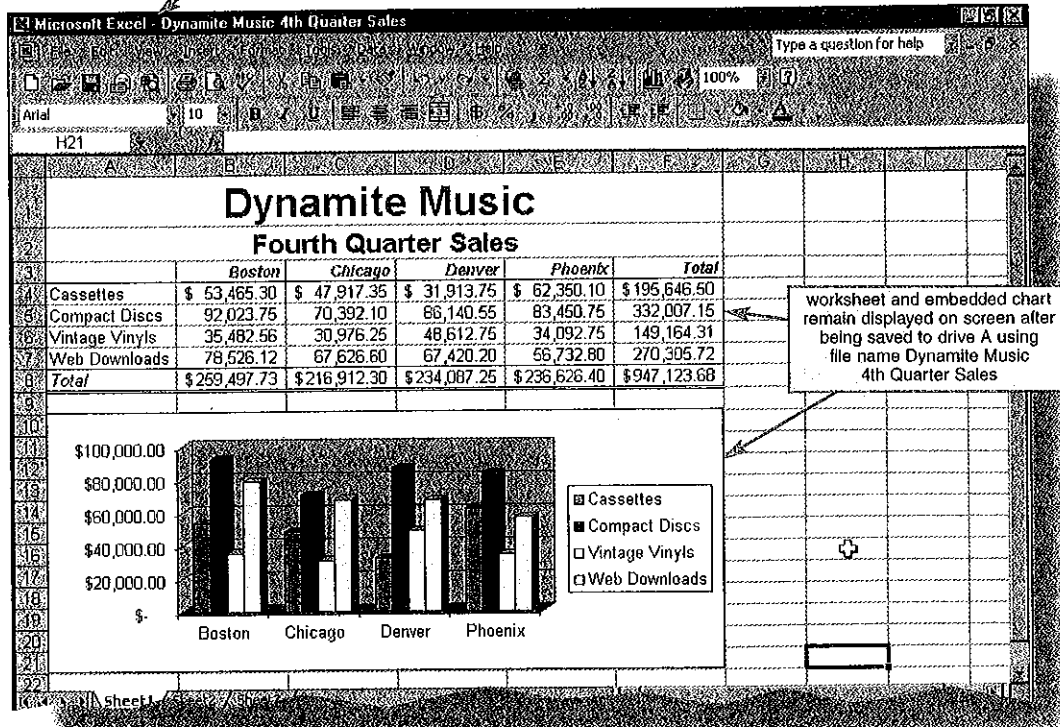
FIGURE 1-65

While Excel is saving the workbook, it momentarily changes the word Ready on the status bar to Saving. It also displays a horizontal bar on the status bar indicating the amount of the workbook saved. After the save operation is complete, Excel changes the name of the workbook in the title bar from Book1 to Dynamite Music 4th Quarter Sales (Figure 1-65).

The seven buttons at the top and to the right in the Save As dialog box in Figure 1-64 and their functions are summarized in Table 1-4.

When you click the **Tools button** in the Save As dialog box, a list displays. The **General Options command** in the list allows you to save a backup copy of the workbook, create a password to limit access to the workbook, and carry out other functions that are discussed later. Saving a backup workbook means that each time you save a workbook, Excel copies the current version of the workbook on disk to a file with the same name, but with the words, Backup of, appended to the front of the file name. In the case of a power failure or some other problem, use the backup version to restore your work.

You also can use the General Options command on the Tools list to assign a password to a workbook so others cannot open it. A password is case-sensitive and can be up to 15 characters long. **Case-sensitive** means Excel can differentiate between uppercase and lowercase letters. If you assign a password and forget the password, you cannot access the workbook.

Other Ways

1. On File menu click Save As, type file name, select drive or folder, click OK button

2. Press CTRL+S, type file name, select drive or folder, click OK button

3. In Voice Command mode say, "File, Save As, [type desired file name], Save"

Table 1-4 Save As Dialog Box Toolbar Buttons

BUTTON	BUTTON NAME	FUNCTION
	Default File Location	Displays contents of default file location
	Up One Level	Displays contents of next level up folder
	Search the Web	Starts browser and displays search engine
	Delete	Deletes selected file or folder
	Create	New Folder Creates new folder
	Views	Changes view of files and folders
	Tools	Lists commands to print or modify file names and folders

The five buttons on the left of the Save As dialog box in Figure 1-64 on page E 1.42 allow you to select frequently used folders. The **History button** displays a list of shortcuts (pointers) to the most recently used files in a folder titled Recent. You cannot save workbooks to the Recent folder.

Printing a Worksheet

Once you have created the worksheet, you might want to print it. A printed version of the worksheet is called a **hard copy** or **printout**.

You might want a printout for several reasons. First, to present the worksheet and chart to someone who does not have access to a computer, it must be in printed form. A printout, for example, can be handed out in a management meeting about fourth quarter sales. In addition, worksheets and charts often are kept for reference by people other than those who prepare them. In many cases, worksheets and charts are printed and kept in binders for use by others. Perform the following steps to print the worksheet.

Steps To Print a Worksheet

1 **Ready the printer according to the printer instructions. Point to the Print button on the Standard toolbar (Figure 1-66).**
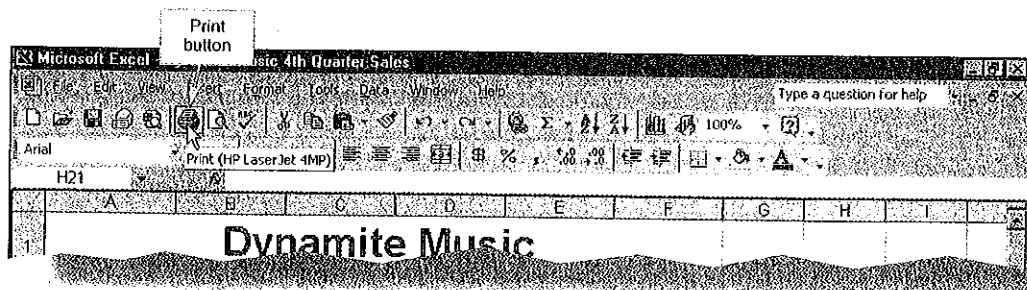
FIGURE 1-66

2 **Click the Print button. When the printer stops printing the worksheet and the chart, retrieve the printout.**

Excel sends the worksheet to the printer, which prints it (Figure 1-67).
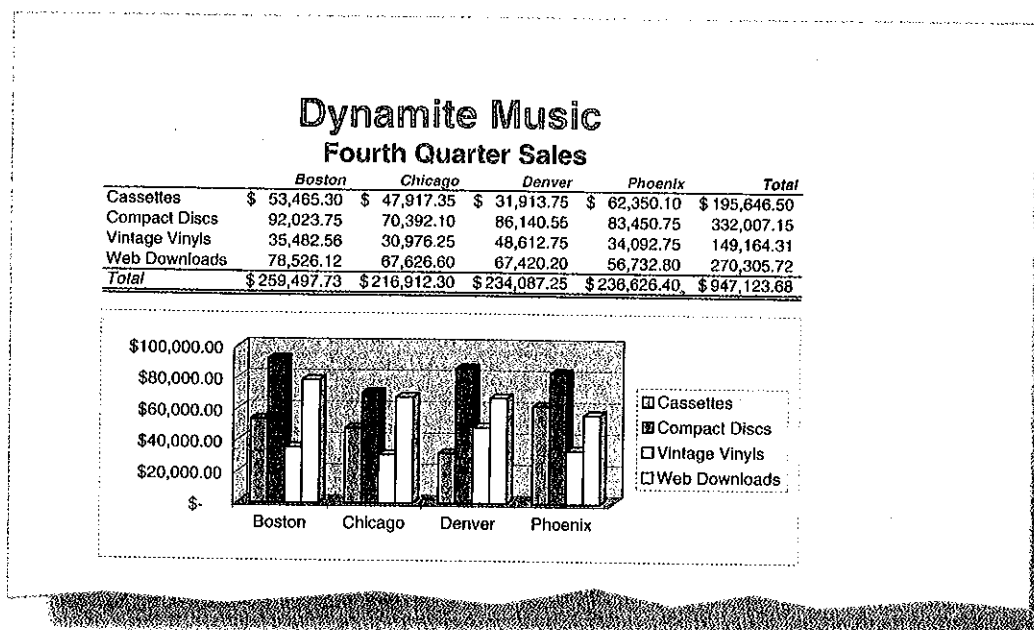
FIGURE 1-67

Prior to clicking the Print button, you can select which columns and rows in the 44worksheet to print. The range of cells you choose to print is called the **print area**. If you do not select a print area, as was the case in the previous set of steps, Excel automatically selects a print area on the basis of used cells. As you will see in future projects, Excel has many different print options, such as allowing you to preview the printout on the screen to see if the printout is satisfactory before sending it to the printer.

Quitting Excel

After you build, save, and print the worksheet and chart, Project 1 is complete. To quit Excel, complete the following steps.

Steps **To Quit Excel**

1 **Point to the Close button on the right side of the title bar (Figure 1-68).**
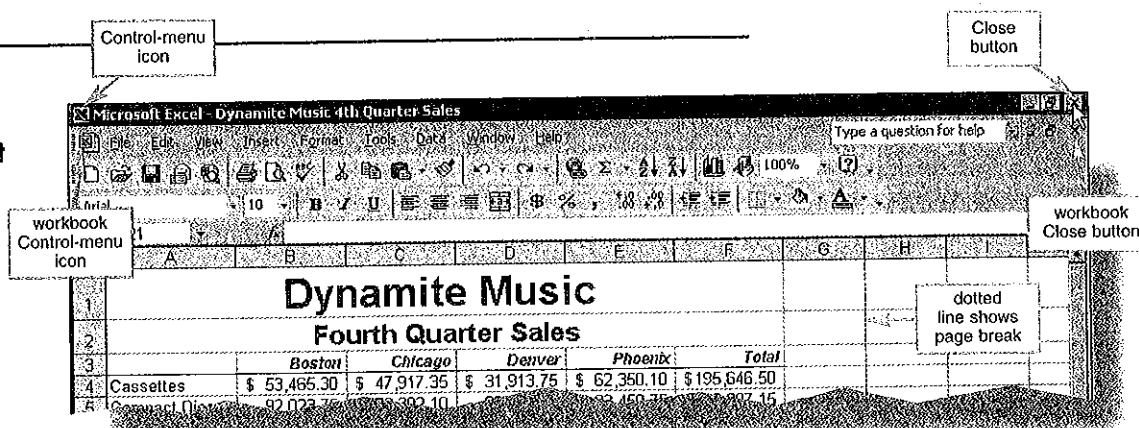
FIGURE 1-68

2 **Click the Close button.**

If you made changes to the workbook, the Microsoft Excel dialog box displays the question, Do you want to save the changes you made to 'Dynamite Music 4th Quarter Sales.xls'? (Figure 1-69). Clicking the Yes button saves the changes before quitting Excel. Clicking the No button quits Excel without saving the changes. Clicking the Cancel button cancels the exit and returns control to the worksheet.
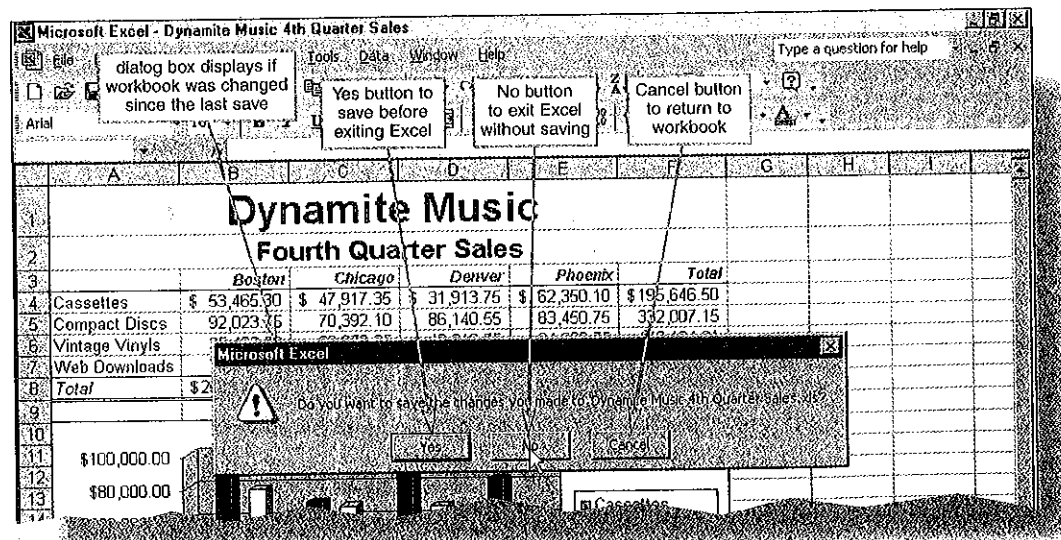
FIGURE 1-69

3 **Click the No button.**

In Figure 1-68 on the previous page, you can see that two Close buttons and two Control-menu icons display. The Close button and Control-menu icon on the title bar close Excel. The Close button and Control-menu icon on the menu bar close the workbook, but not Excel.

Starting Excel and Opening a Workbook

Once you have created and saved a workbook, you often will have reason to retrieve it from a floppy disk. For example, you might want to review the calculations on the worksheet and enter additional or revised data on it. The following steps assume Excel is not running.

Steps To Start Excel and Open a Workbook

1 With your floppy disk in drive A, click the Start button on the taskbar and then point to Open Office Document (Figure 1-70).
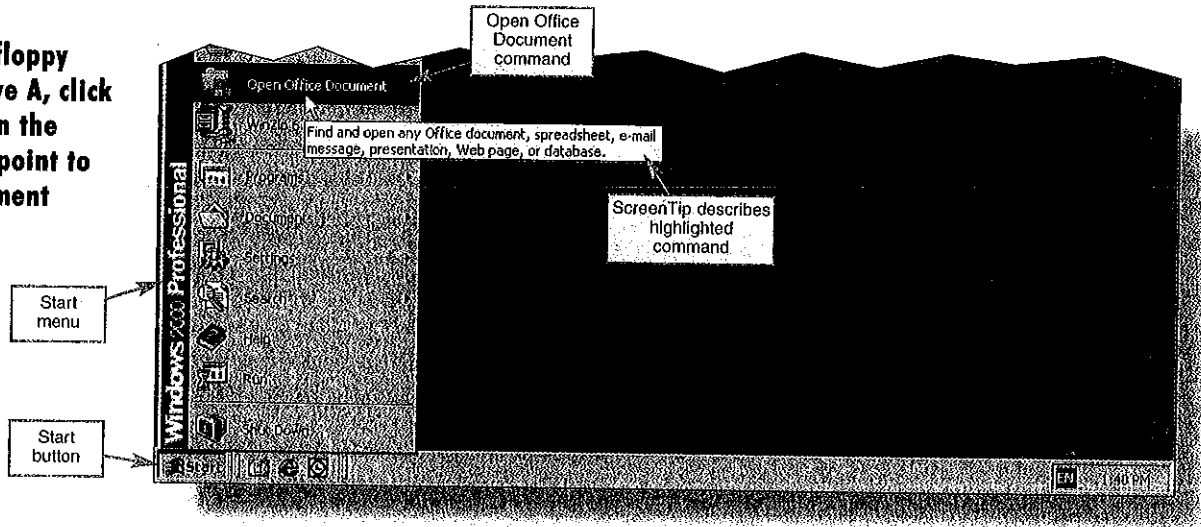
FIGURE 1-70

2 Click Open Office Document. If necessary, click the Look in box arrow and then click 3½ Floppy (A:) in the Look in list.

The Open Office Document dialog box displays (Figure 1-71).
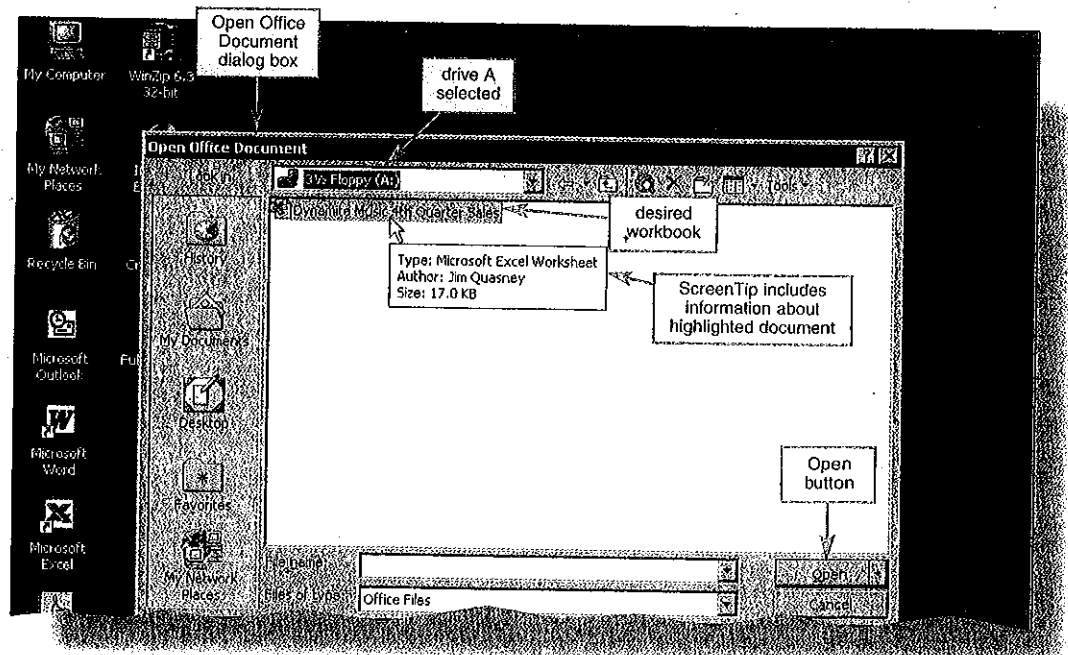
FIGURE 1-71

Double-click the file name Dynamite Music 4th Quarter Sales.

Excel starts, opens the workbook Dynamite Music 4th Quarter Sales.xls from drive A, and displays it on the screen (Figure 1-72). An alternative to double-clicking the file name is to click it and then click the Open button in the Open Office Document dialog box.
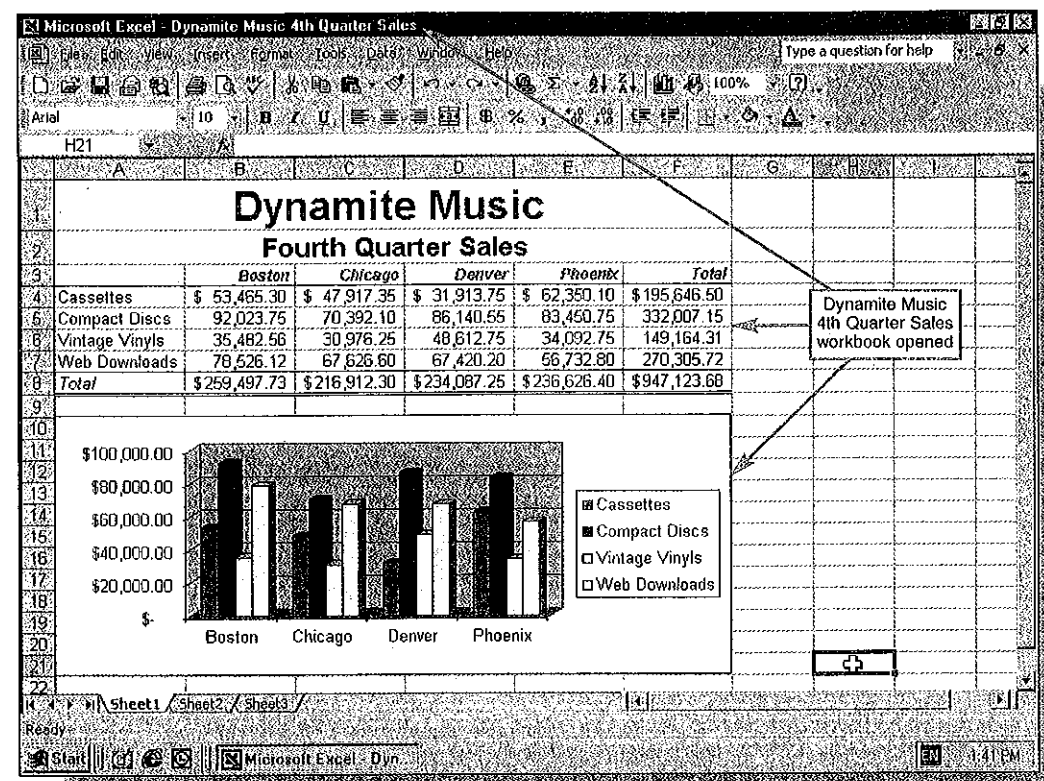
FIGURE 1-72

AutoCalculate

You easily can obtain a total, an average, or other information about the numbers in a range by using the AutoCalculate area on the status bar. All you need do is select the range of cells containing the numbers you want to check. Next, right-click the AutoCalculate area to display the shortcut menu (Figure 1-73 on the next page). The check mark to the left of the active function (Sum) indicates that the sum of the selected range displays. The function commands on the AutoCalculate shortcut menu are described in Table 1-5.

Table 1-5 AutoCalculate Shortcut Menu Commands

COMMAND	FUNCTION
None	No value displays in the AutoCalculate area
Average	Displays the average of the numbers in the selected range
Count	Displays the number of nonblank cells in the selected range
Count Nums	Displays the number of cells containing numbers in the selected range
Max	Displays the highest value in the selected range
Min	Displays the lowest value in the selected range
Sum	Displays the sum of the numbers in the selected range

The steps on the next page show how to display the average fourth quarter sales by store for the Cassettes product group.

Steps To Use the AutoCalculate Area to Determine an Average

1 Select the range B4:E4. Right-click the AutoCalculate area on the status bar.

The sum of the numbers in the range B4:E4 displays ($195,646.50) as shown in Figure 1-73 because Sum is active in the AutoCalculate area. You may see a total other than the sum in your AutoCalculate area. The shortcut menu listing the various types of functions displays above the AutoCalculate area.
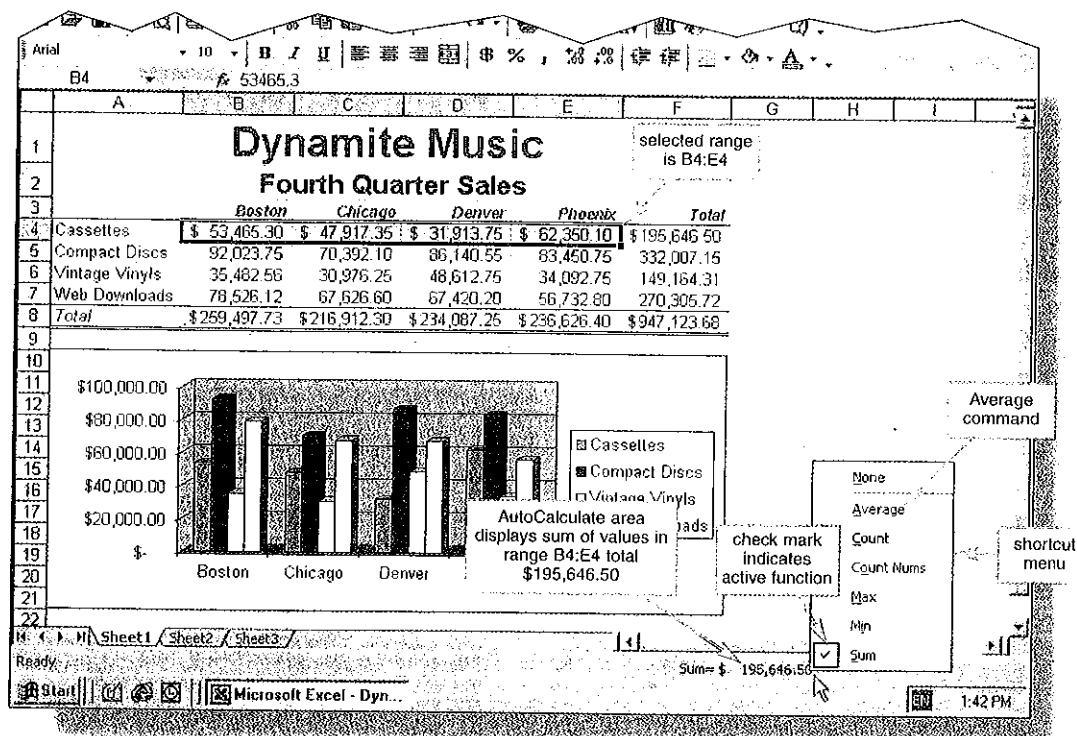
FIGURE 1-73

2 Click Average on the shortcut menu.

The average of the numbers in the range B4:E4 displays in the AutoCalculate area (Figure 1-74).

3 Right-click the AutoCalculate area and then click Sum on the shortcut menu.

The AutoCalculate area displays the sum as shown earlier in Figure 1-73.
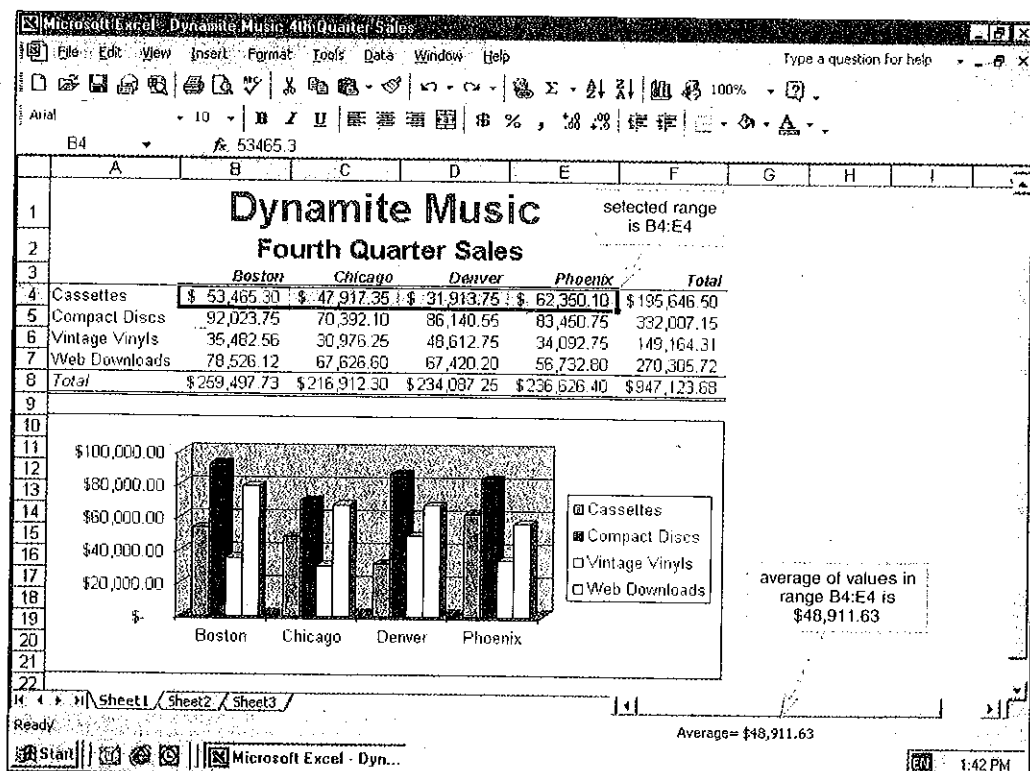
FIGURE 1-74

To change to any one of the other five functions for the range B4:E4, right-click the AutoCalculate area, then click the desired function.

The selection None at the top of the AutoCalculate shortcut menu in Figure 1-73 turns off the AutoCalculate area. Thus, if you select None, then no value will show in the AutoCalculate area when you select a range.

Correcting Errors

You can correct errors on a worksheet using one of several methods. The method you choose will depend on the extent of the error and whether you notice it while typing the data or after you have entered the incorrect data into the cell.

Correcting Errors While You Are Typing Data into a Cell

If you notice an error while you are typing data into a cell, press the BACKSPACE key to erase the portion in error and then type the correct characters. If the error is a major one, click the Cancel box in the formula bar or press the ESC key to erase the entire entry and then reenter the data from the beginning.

In-Cell Editing

If you find an error in the worksheet after entering the data, you can correct the error in one of two ways:

1. If the entry is short, select the cell, retype the entry correctly, and click the Enter box or press the ENTER key. The new entry will replace the old entry.

2. If the entry in the cell is long and the errors are minor, the **Edit mode** may be a better choice. Use the Edit mode as described below.

   a. Double-click the cell containing the error. Excel switches to Edit mode, the active cell contents display in the formula bar, and a flashing insertion point displays in the active cell (Figure 1-75). This editing procedure is called **in-cell editing** because you can edit the contents directly in the cell. The active cell contents also display in the formula bar.

   b. Make your changes, as indicated below.

      (1) To insert between two characters, place the insertion point between the two characters and begin typing. Excel inserts the new characters at the location of the insertion point.

      (2) To delete a character in the cell, move the insertion point to the left of the character you want to delete and then press the DELETE key, or place the insertion point to the right of the character you want to delete and then press the BACKSPACE key. You also can use the mouse to drag through the character or adjacent characters you want to delete and then press the DELETE key or click the **Cut button** on the Standard toolbar.

      (3) When you are finished editing an entry, click the Enter box or press the ENTER key.

FIGURE 1-75

When Excel enters the Edit mode, the keyboard usually is in Insert mode. In **Insert mode,** as you type a character, Excel inserts the character and moves all characters to the right of the typed character one position to the right. You can change to Overtype mode by pressing the INSERT key. In **Overtype mode,** Excel overtypes, or replaces, the character to the right of the insertion point. The INSERT key toggles the keyboard between Insert mode and Overtype mode.

While in Edit mode, you may have reason to move the insertion point to various points in the cell, select portions of the data in the cell, or switch from inserting characters to overtyping characters. Table 1-6 summarizes the more common tasks used during in-cell editing.

Table 1-6 Summary of In-Cell Editing Tasks

TASK	MOUSE	KEYBOARD
Move the insertion point to the beginning of data in a cell	Point to the left of the first character and click	Press HOME
Move the insertion point to the end of data in a cell	Point to the right of the last character and click	Press END
Move the insertion point anywhere in a cell	Point to the appropriate position and click the character	Press RIGHT ARROW or LEFT ARROW
Highlight one or more adjacent characters	Drag the mouse pointer through adjacent characters	Press SHIFT+RIGHT ARROW or SHIFT+LEFT ARROW
Select all data in a cell	Double-click the cell with the insertion point in the cell	
Delete selected characters	Click the Cut button on the Standard toolbar	Press DELETE
Delete characters to the left of insertion point		Press BACKSPACE
Toggle between Insert and Overtype modes		Press INSERT

Undoing the Last Entry

Excel provides the **Undo command** on the **Edit menu** and the **Undo button** on the Standard toolbar (Figure 1-76) that you can use to erase the most recent worksheet entries. Thus, if you enter incorrect data in a cell and notice it immediately, click the Undo command or Undo button and Excel changes the cell contents to what they were prior to entering the incorrect data.
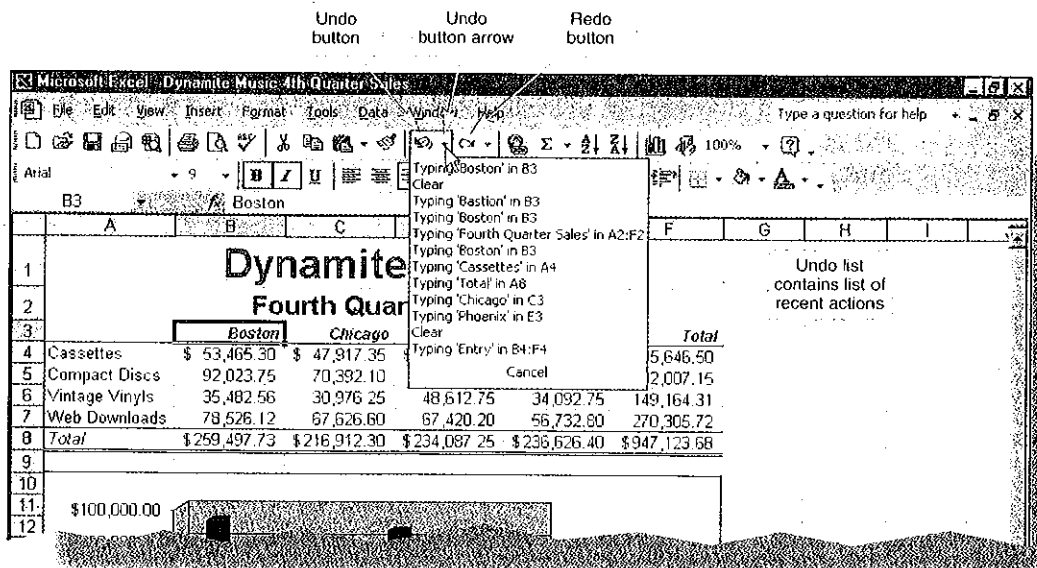
FIGURE 1-76

If Excel cannot undo an action, then the Undo button is inoperative. Excel remembers the last 16 actions you have completed. Thus, you can undo up to 16 previous actions by clicking the Undo button arrow to display the Undo list and clicking the action to be undone (Figure 1-76). You can drag through several actions in the Undo list to undo all of them at once.

Next to the Undo button on the Standard toolbar is the Redo button. The **Redo button** allows you to repeat previous actions. You also can click Redo on the Edit menu rather than using the Redo button.

Clearing a Cell or Range of Cells

If you enter data into the wrong cell or range of cells, you can erase, or clear, the data using one of several methods. *Never press the* SPACEBAR *to clear a cell.* Pressing the SPACEBAR enters a blank character. A blank character is text and is different from an empty cell, even though the cell may appear empty.

Excel provides four methods to clear the contents of a cell or a range of cells, which are discussed below.

TO CLEAR CELL CONTENTS USING THE FILL HANDLE

1 Select the cell or range of cells and point to the fill handle so the mouse pointer changes to a cross hair.

2 Drag the fill handle back into the selected cell or range until a shadow covers the cell or cells you want to erase. Release the mouse button.

TO CLEAR CELL CONTENTS USING THE SHORTCUT MENU

1 Select the cell or range of cells to be cleared.

2 Right-click the selection.

3 Click Clear Contents on the shortcut menu.

TO CLEAR CELL CONTENTS USING THE DELETE KEY

1 Select the cell or range of cells to be cleared.

2 Press the DELETE key.

TO CLEAR CELL CONTENTS USING THE CLEAR COMMAND

1 Select the cell or range of cells to be cleared.

2 Click Edit on the menu bar and then point to Clear.

3 Click All on the Clear submenu.

You also can select a range of cells and click the Cut button on the Standard toolbar or click Cut on the Edit menu. Be aware, however, that the Cut button or Cut command not only deletes the contents from the range, but also copies the contents of the range to the Office Clipboard.

Clearing the Entire Worksheet

Sometimes, everything goes wrong. If this happens, you may want to clear the worksheet entirely and start over. To clear the worksheet, follow the steps on the next page.

More About

The Undo Button

The Undo button can undo far more complicated worksheet activities than just removing the latest entry from a cell. In fact, most commands can be undone if you click the Undo button before you make another entry or issue another command. You cannot undo a save or print, but, as a general rule, the Undo button can restore the worksheet data and settings to what they were the last time Excel was in Ready mode. With Excel 2002, you have multiple-level undo and redo capabilities.

More About

Getting Back to Normal

If you accidentally assign unwanted formats to a range of cells, you can use the Clear command on the Edit menu to delete the formats of a selected range. Doing so changes the format to Normal style. To view the characteristics of the Normal style, click Style on the Format menu or press ALT+APOSTROPHE (').

TO CLEAR THE ENTIRE WORKSHEET

1 Click the Select All button on the worksheet (Figure 1-76 on page E 1.50).

2 Press the DELETE key or click Edit on the menu bar, point to Clear and then click All on the Clear submenu.

The **Select All button** selects the entire worksheet. Instead of clicking the Select All button, you also can press CTRL+A. You also can clear an unsaved workbook by clicking the workbook's Close button or by clicking the **Close command** on the File menu. If you close the workbook, click the **New button** on the Standard toolbar or click the **New command** on the File menu to begin working on the next workbook.

To delete an embedded chart, complete the following steps.

TO DELETE AN EMBEDDED CHART

1 Click the chart to select it.

2 Press the DELETE key.

Excel Help System

At any time while you are using Excel, you can get answers to questions using the Excel Help system. You can activate the Excel Help system by using the Ask a Question box on the menu bar, the Microsoft Excel Help button on the Standard toolbar, or the Help menu (Figure 1-77). Used properly, this form of online assistance can increase your productivity and reduce your frustrations by minimizing the time you spend learning how to use Excel.

The following section shows how to get answers to your questions using the Ask a Question box. Additional information on using the Excel Help system is available in Appendix A and Table 1-7 on page E1.54.

Obtaining Help Using the Ask a Question Box on the Menu Bar

The **Ask a Question box** on the right side of the menu bar lets you type free-form questions such as. *how do I save* or *how do I create a Web page*, or you can type in terms such as, *copy, save,* or *formatting*. Excel responds by displaying a list of topics related to what you entered. The following steps show how to use the Ask a . Question box to obtain information on formatting a worksheet.

More About

Quick Reference

For a table that lists how to complete the tasks covered in this book using the mouse, menu, shortcut menu, and keyboard, see the Quick Reference Summary at the back of this book or visit the Shelly Cashman Series Office XP Web page (scsite.com/offxp/qr.htm) and then click Microsoft Excel 2002.

More About

The Excel Help System

The best way to become familiar with the Excel Help system is to use it. Appendix A includes detailed information on the Excel Help system and exercises that will help you gain confidence in using it.

Steps To Obtain Help Using the Ask a Question Box

1 **Type** formatting **in the Ask a Question box on the right side of the menu bar (Figure 1-77).**
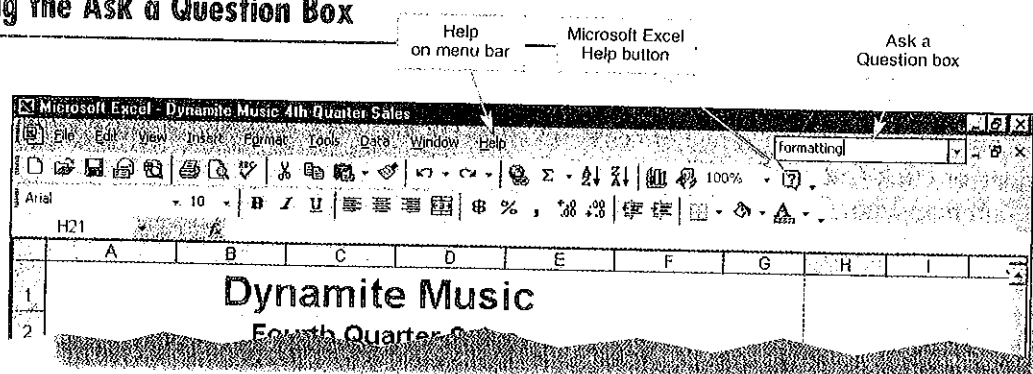
FIGURE 1-77

2 **Press the ENTER key. When the list of topics displays below the Ask a Question box, point to the topic, About formatting worksheets and data.**

A list of topics displays relating to the term, formatting. The mouse pointer changes to a hand indicating it is pointing to a link (Figure 1-78).

Ask a Question box arrow

list of topics related to formatting

mouse pointer changes to hand

Dynamite Music
Fourth Quarter Sales

	Boston	Chicago	Denver	Phoenix	Total
Cassettes	$ 53,465.30	$ 47,917.35	$ 31,913.75	$ 62,350.10	$ 195,646.50
Compact Discs	92,023.75	70,392.10	86,140.55	83,450.75	332,007.15
Vintage Vinyls	35,482.56	30,976.25	48,612.75	34,092.75	149,164.31
Web Downloads	78,526.12	67,626.60	67,420.20	56,732.80	270,305.72
Total	$ 259,497.73	$ 216,912.30	$ 234,087.25	$ 236,626.40	$ 947,123.68

$100,000.00

formatting
- About formatting worksheets and data
- Save a workbook in another file format
- Troubleshoot formatting worksheets
- Change formatting of text
- Copy formats from one cell or range to another
- See more...

FIGURE 1-78

3 **Click About formatting worksheets and data. When the Microsoft Excel Help window displays, double-click its title bar to maximize it.**

Excel opens a Microsoft Excel Help window that provides Help information about worksheet formatting (Figure 1-79).

4 **Click the Close button on the Microsoft Excel Help window title bar.**

The Microsoft Excel Help window closes and the worksheet is active.

Microsoft Excel Help window

Print button

help on the topic About formatting worksheets and data

Close button

Auto Tile button

Options button

▶ Hide All

Show/Hide button

Type your question here and then click Search.

Back and Forward buttons

About formatting worksheets and data

Use these formatting features to effectively display your data.

Format text and individual characters To make text stand out, you can format all of the text in a cell or selected characters. Select the characters you want to format, and then click a button on the Formatting toolbar.

Rotate text and borders The data in a column is often very narrow while the label for the column is much wider. Instead of creating unnecessarily wide columns or abbreviated labels, you can rotate text and apply borders that are rotated to the same degree as the text.

September	October	November	December
12%	9%	6%	11%
5%	8%	4%	7%
10%	9%	7%	9%
8%	12%	8%	5%
5%	8%	4%	7%

Add borders, colors, and patterns To distinguish between different types of information in a worksheet, you can apply borders to cells, shade cells with a background color, or shade cells with a color pattern.

Eastern 1998

Qtr 1

Gulf	$ 5,000
Safari	$ 9,000
Tennis	$ 1,500
Total Sales	$ 15,500

FIGURE 1-79

Use the buttons in the upper-left corner of the Microsoft Excel Help window (Figure 1-79) to navigate through the Help system, change the display, and print the contents of the window.

As you enter questions and terms in the Ask a Question box, Excel adds them to its list. Thus, if you click the Ask a Question box arrow (Figure 1-78), a list of previously asked questions and terms will display.

Table 1-7 summarizes the 11 categories of Help available to you. Because of the way the Excel Help system works, be sure to review the rightmost column of Table 1-7 if you have difficulties activating the desired category of Help. Additional information on using the Excel Help system is available in Appendix A.

Table 1-7 Excel Help System

TYPE	DESCRIPTION	HOW TO ACTIVATE
Answer Wizard	Answers questions or searches for terms that you type in your own words.	Click the Microsoft Excel Help button on the Standard toolbar. Click the Answer Wizard tab.
Ask a Question box	Answers questions or searches for terms that you type in your own words.	Type a question or term in the Ask a Question box on the menu bar and then press the ENTER key.
Contents sheet	Groups Help topics by general categories. Use when you know only the general category of the topic in question.	Click the Microsoft Excel Help button on the Standard toolbar. Click the Contents tab.
Detect and Repair	Automatically finds and fixes errors in the application.	Click Detect and Repair on the Help menu.
Hardware and Software Information	Shows Product ID and allows access to system information and technical support information.	Click About Microsoft Excel on the Help menu and then click the appropriate button.
Help for Lotus 1-2-3 Users	Used to assist Lotus 1-2-3 users who are learning Microsoft Excel.	Click Lotus 1-2-3 Help on the Help menu.
Index sheet	Similar to an index in a book. Use when you know exactly what you want.	Click the Microsoft Excel Help button on the Standard toolbar. If necessary, maximize the Help window by double-clicking its title bar. Click the Index tab.
Office Assistant	Similar to the Ask a Question box in that the Office Assistant answers questions that you type in your own words, offers tips, and provides help for a variety of Excel features.	Click the Office Assistant icon. If the Office Assistant does not display, click Show the Office Assistant on the Help menu.
Office on the Web	Used to access technical resources and download free product enhancements on the Web.	Click Office on the Web on the Help menu.
Question Mark button	Used to identify unfamiliar items in a dialog box.	Click the Question Mark button in the title bar of a dialog box and then click an item in the dialog box.
What's This? command	Used to identify unfamiliar items on the screen.	Click What's This? on the Help menu, and then click an item on the screen.

Quitting Excel

To quit Excel, complete the following steps.

TO QUIT EXCEL

1. Click the Close button on the right side of the title bar (see Figure 1-68 on page E 1.45).

2. If the Microsoft Excel dialog box displays, click the No button.

CASE PERSPECTIVE SUMMARY

The worksheet created in this project allows the management of Dynamite Music to examine fourth quarter sales for the four key product groups. Furthermore, the 3-D Column chart should meet the needs of Nadine Mitchell, who as you recall, would rather view the numbers graphically.

Project Summary

In creating the Dynamite Music Fourth Quarter Sales worksheet and chart in this project, you gained a broad knowledge of Excel. First, you were introduced to starting Excel. You learned about the Excel window and how to enter text and numbers to create a worksheet. You learned how to select a range and how to use the AutoSum button to sum numbers in a column or row. Using the fill handle, you learned how to copy a cell to adjacent cells.

Once the worksheet was built, you learned how to change the font size of the title, bold the title, and center the title across a range using buttons on the Formatting toolbar. Using the steps and techniques presented in the project, you formatted the body of the worksheet using the AutoFormat command, and you used the Chart Wizard to add a 3-D Column chart. After completing the worksheet, you saved the workbook on disk, printed the worksheet and chart, and then quit Excel. You learned how to start Excel by opening an Excel document, use the AutoCalculate area, and edit data in cells. Finally, you learned how to use the Excel Help system to answer your questions.

What You Should Know

Having completed this project, you now should be able to perform the following tasks:

- Add a 3-D Column Chart to the Worksheet *(E 1.37)*
- Bold a Cell *(E 1.29)*
- Center a Cell's Contents across Columns *(E 1.32)*
- Change the Font Color of a Cell *(E 1.31)*
- Clear Cell Contents Using the Clear Command *(E 1.51)*
- Clear Cell Contents Using the DELETE Key *(E 1.51)*
- Clear Cell Contents Using the Fill Handle *(E 1.51)*
- Clear Cell Contents Using the Shortcut Menu *(E 1.51)*
- Clear the Entire Worksheet *(E 1.52)*
- Copy a Cell to Adjacent Cells in a Row *(E 1.25)*
- Customize the Excel Window *(E 1.09)*
- Delete an Embedded Chart *(E 1.52)*
- Determine Multiple Totals at the Same Time *(E 1.27)*
- Enter Column Titles *(E 1.19)*
- Enter Numeric Data *(E 1.22)*
- Enter Row Titles *(E 1.21)*
- Enter the Worksheet Titles *(E 1.17)*
- Format the Worksheet Subtitle *(E 1.33)*
- Increase the Font Size of a Cell Entry *(E 1.30)*
- Obtain Help Using the Ask a Question Box *(E 1.52)*
- Print a Worksheet *(E 1.44)*
- Quit Excel *(E 1.45, E 1.54)*
- Save a Workbook *(E 1.41)*
- Start Excel *(E 1.08)*
- Start Excel and Open a Workbook *(E 1.46)*
- Sum a Column of Numbers *(E 1.23)*
- Use AutoFormat to Format the Body of a Worksheet *(E 1.33)*
- Use the AutoCalculate Area to Determine an Average *(E 1.48)*
- Use the Name Box to Select a Cell *(E 1.35)*

More About

Microsoft Certification

The Microsoft Office User Specialist (MOUS) Certification program provides an opportunity for you to obtain a valuable industry credential — proof that you have the Excel 2002 skills required by employers. For more information, see Appendix E or visit the Shelly Cashman Series MOUS Web page at scsite.com/offxp/cert.htm.

1 Marco Polo's Travel Bookstore 1st Quarter Sales Worksheet

Instructions: Start Excel. Open the workbook Magellan's Travel Bookstore 1st Quarter Sales from the Data Disk. See the inside back cover of this book for instructions for downloading the Data Disk or see your instructor for information on accessing the files required in this book.

Make the changes to the worksheet described in Table 1-8 so it appears as shown in Figure 1-80. As you edit the values in the cells containing numeric data, watch in the totals in row 8, the totals in column G, and the chart change. When you enter a new value, Excel automatically recalculates the formulas. After you have successfully made the changes listed in the table, the total sales in cell G8 should be $1,486,082.12.

Table 1-8 New Worksheet Data	
CELL	CHANGE CELL CONTENTS TO
A1	Marco Polo's Travel Bookstore
B4	78,221.46
C4	69,789.50
D6	74,943.13
F6	86,699.98
F7	98,421.43
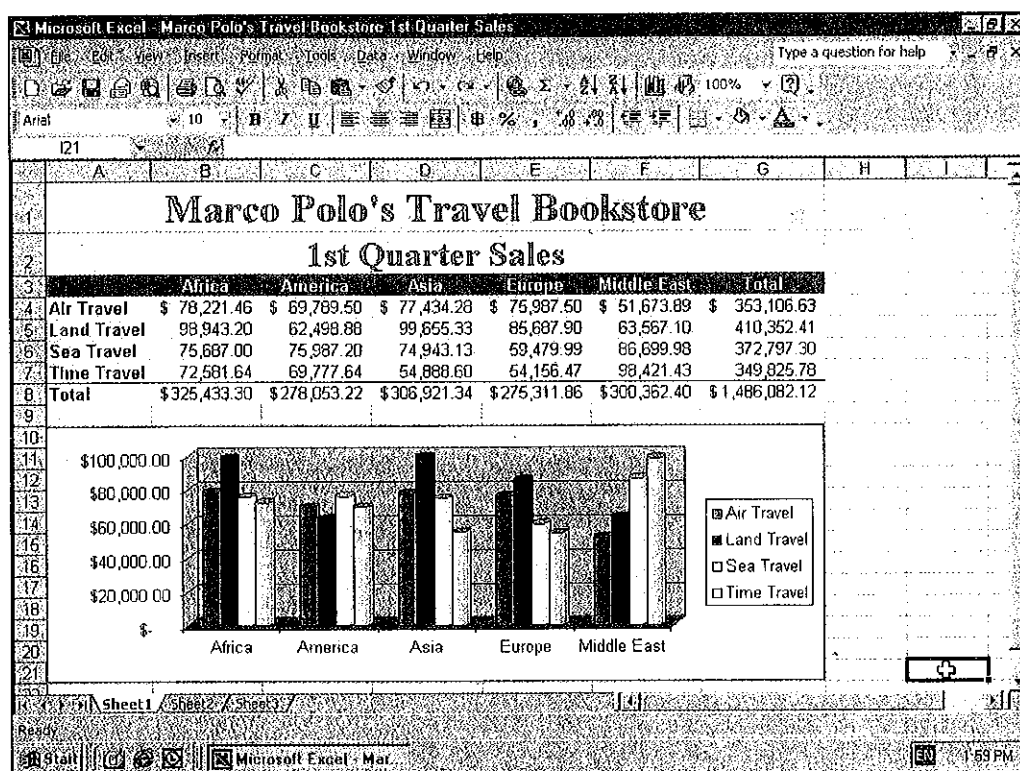
FIGURE 1-80

To learn how to split cells, click cell A1 and then click the Merge and Center button to split cell A1 into cells A1, B1, C1, D1, E1, F1, and G1. To re-merge the cells into one, select the range A1:G1 and click the Merge and Center button.

Enter your name, course, laboratory assignment number, date, and instructor name in cells A24 through A28. Save the workbook. Use the file name, Marco Polo's Travel Bookstore 1st Quarter Sales. Print the revised worksheet and hand in the printout to your instructor.
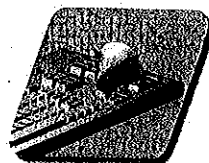
In the Lab

1 Madonna's Virtual Sojourn Annual Sales Analysis Worksheet

Problem: The president of Madonna's Virtual Sojourn, a travel agency that courts college age students, needs a sales analysis worksheet similar to the one shown in Figure 1-81. Your task is to develop the worksheet.
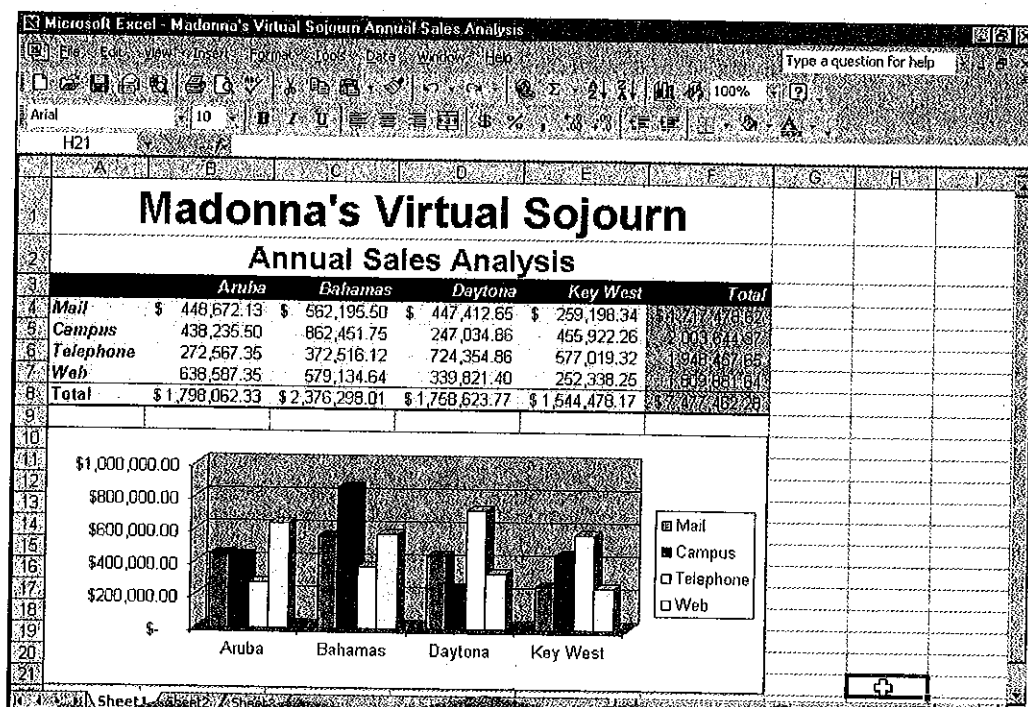
FIGURE 1-81

Instructions: Perform the following tasks.

1. Create the worksheet shown in Figure 1-81 using the sales amounts and categories in Table 1-9.

Table 1-9 Madonna's Virtual Sojourn Annual Sales Data				
	ARUBA	BAHAMAS	DAYTONA	KEY WEST
Mail	448,672.13	562,195.50	447,412.65	259,198.34
Campus	438,235.50	862,451.75	247,034.86	455,922.26
Telephone	272,567.35	372,516.12	724,354.86	577,019.32
Web	638,587.35	579,134.64	339,821.40	252,338.25

2. Determine the totals for the types of sales channels, travel destinations, and company totals.
3. Format the worksheet title, Madonna's Virtual Sojourn, to 26-point Arial, bold brown font, centered across columns A through F. Do not be concerned if the edges of the worksheet title do not display.
4. Format the worksheet subtitle, Annual Sales Analysis, to 18-point Arial, bold brown font, centered across columns A through F.
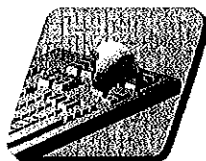
In the Lab

5. Format the range A3:F8 using the AutoFormat command on the Format menu as follows: (a) Select the range A3:F8 and then apply the table format Accounting 1; and (b) with the range A3:F8 still selected, apply the table format Colorful 2. Excel appends the formats of Colorful 2 to the formats of Accounting 1.

6. Select the range A3:E7 and then use the Chart Wizard button on the Standard toolbar to draw a Clustered column with a 3-D visual effect chart (column 1, row 2 in Chart sub-type list). Move the chart to the upper-left corner of cell A10 and then drag the lower-right corner of the chart location to cell F21. If all the labels along the horizontal axis do not display as shown in Figure 1-81, select a cell in column F, click Format on the menu bar, point to Column on the Format menu, click Width on the Column submenu, increase the column width by two or more units, and then click the OK button.

7. Enter your name, course, laboratory assignment number, date, and instructor name in cells A24 through A28.

8. Save the workbook using the file name Madonna's Virtual Sojourn Annual Sales Analysis.

9. Print the worksheet.

10. Make the following two corrections to the sales amounts: $596,321.75 for Bahamas sales by telephone (cell C6), $157,390.58 for Key West sales by mail (cell E4). After you enter the corrections, the company totals should equal $7,599,460.15 in cell F8.

11. Print the revised worksheet. Close the workbook without saving the changes.

2 Razor Sharp Scooter 3rd Quarter Expenses Worksheet

Problem: As the chief accountant for Razor Sharp Scooter, Inc., the vice president has asked you to create a worksheet to analyze the 3rd quarter expenses for the company by department and expense category (Figure 1-82). The expenses for the 3rd quarter are shown in Table 1-10.

Table 1-10 Razor Sharp Scooter 3rd Quarter Expenses					
	FINANCE	HELP DESK	MARKETING	SALES	SYSTEMS
Benefits	12378.23	11934.21	15823.10	10301.60	4123.89
Travel	23761.45	15300.89	6710.35	18430.15	6510.25
Wages	18001.27	13235.50	17730.58	12000.45	20931.53
Other	6145.20	3897.21	4910.45	8914.34	1201.56

Instructions: Perform the following tasks.

1. Create the worksheet shown in Figure 1-82 on the next page using the data in Table 1-10.

2. Direct Excel to determine totals expenses for the five departments, the totals for each expense category, and the company total.

3. Format the worksheet title, Razor Sharp Scooter, in 24-point Arial bold violet font, and center it across columns A through G.

4. Format the worksheet subtitle, 3rd Quarter Expenses, in 18-point Arial bold violet font, and center it across columns A through G.

(continued)

In the Lab

Razor Sharp Scooter 3rd Quarter Expenses Worksheet *(continued)*

Razor Sharp Scooter
3rd Quarter Expenses

	Finance	Help Desk	Marketing	Sales	Systems	Totals
Benefits	$12,378.23	$11,934.21	$15,823.10	$10,301.60	$ 4,123.89	$ 54,561.03
Travel	23,761.45	15,300.89	6,710.35	18,430.15	6,510.25	70,713.09
Wages	18,001.27	13,235.50	17,730.58	12,000.45	20,931.53	81,899.33
Other	6,145.20	3,897.21	4,910.45	8,914.34	1,201.56	25,068.76
Total	$60,286.15	$44,367.81	$45,174.48	49,646.54	$32,767.23	$232,242.21

FIGURE 1-82

5. Use the AutoFormat command on the Format menu to format the range A3:G8. Use the table format Accounting 2.

6. Use the ChartWizard button on the Standard toolbar to draw the 3-D Cone chart (column 1, row 1 in the Chart sub-type list), as shown in Figure 1-82. Chart the range A3:F7 and use the chart location A10:G21. If all the labels along the horizontal axis do not display as shown in Figure 1-82, select a cell in column G, click Format on the menu bar, point to Column on the Format menu, click Width on the Column submenu, increase the column width by two or more units, and then click the OK button.

7. Enter your name, course, laboratory assignment number, date, and instructor name in cells A24 through A28.

8. Save the workbook using the file name, Razor Sharp Scooter 3rd Quarter Expenses. Print the worksheet.

9. Two corrections to the expenses were sent in from the accounting department. The correct expenses are $22,537.43 for wages in the Finance department and $21,962.75 for travel in the Sales department. After you enter the two corrections, the company total should equal $240,310.97 in cell G8. Print the revised worksheet.

10. Use the Undo button to change the worksheet back to the original numbers in Table 1-10. Use the Redo button to change the worksheet back to the revised state.

11. Hand in all printouts to your instructor. Close the workbook without saving the changes.
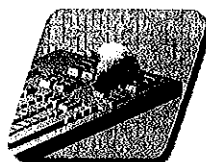
3 College Cash Flow Analysis Worksheet

Problem: Attending college is an expensive proposition and your resources are limited. To plan for your four-year college career, you have decided to organize your anticipated resources and expenses in a worksheet. The data required to prepare your worksheet is shown in Table 1-11.

Table 1-11 College Cash Flow Analysis				
RESOURCES	FRESHMAN	SOPHOMORE	JUNIOR	SENIOR
Financial Aid	5,025.00	5326.50	5646.09	5984.86
Job	1,525.00	1616.50	1713.49	1816.30
Parents	2,600.00	2756.00	2921.36	3096.64
Savings	1,100.00	1166.00	1235.96	1310.12
EXPENSES	FRESHMAN	SOPHOMORE	JUNIOR	SENIOR
Clothes	540.00	572.40	606.74	643.15
Entertainment	725.00	768.50	814.61	863.49
Miscellaneous	355.00	376.30	398.88	422.81
Room & Board	3480.00	3688.80	3910.13	4144.74
Tuition & Books	5150.00	5459.00	5786.54	6133.73

Part 1 Instructions: Using the numbers in Table 1-11, follow the steps below to create the worksheet shown in columns A through F in Figure 1-83 on the next page.

1. Enter the worksheet title in cell A1 and the section titles, Resources and Expenses, in cells A2 and A9, respectively.
2. Use the AutoSum button to calculate the totals in rows 8 and 16 and column F.
3. Increase the font in the worksheet title to 24 and change its color to red. Center the worksheet title in cell A1 across columns A through F. Increase the font size in the table titles in cells A2 and A9 to 18 and change their color to green.
4. Format the range A3:F8 using the AutoFormat command on the Format menu as follows: (a) Select the range A3:F8 and then apply the table format Accounting 1; and (b) with the range A3:F8 still selected, apply the table format List 1. Format the range A10:F16 using the AutoFormat command on the Format menu as follows: (a) Select the range A10:F16 and then apply the table format Accounting 1; and (b) with the range A3:F8 still selected, apply the table format List 1.
5. Enter your name in cell A19 and your course, laboratory assignment number, date, and instructor name in cells A20 through A23. Save the workbook using the file name, College Resources and Expenses.
6. Print the worksheet in landscape orientation. You print in landscape orientation by clicking Landscape on the Page tab in the Page Setup dialog box. Click Page Setup on the File menu to display the Page Setup dialog box. Click the Save button on the Standard toolbar to save the workbook with the new print settings.
7. All Junior-year expenses in column D increased by $500. Re-enter the new Junior-year expenses. Change the financial aid for the Junior year by the amount required to cover the increase in expenses. The totals in cells F8 and F16 should equal $47,339.82. Print the worksheet. Close the workbook without saving changes. Hand in the two printouts to your instructor.

In the Lab

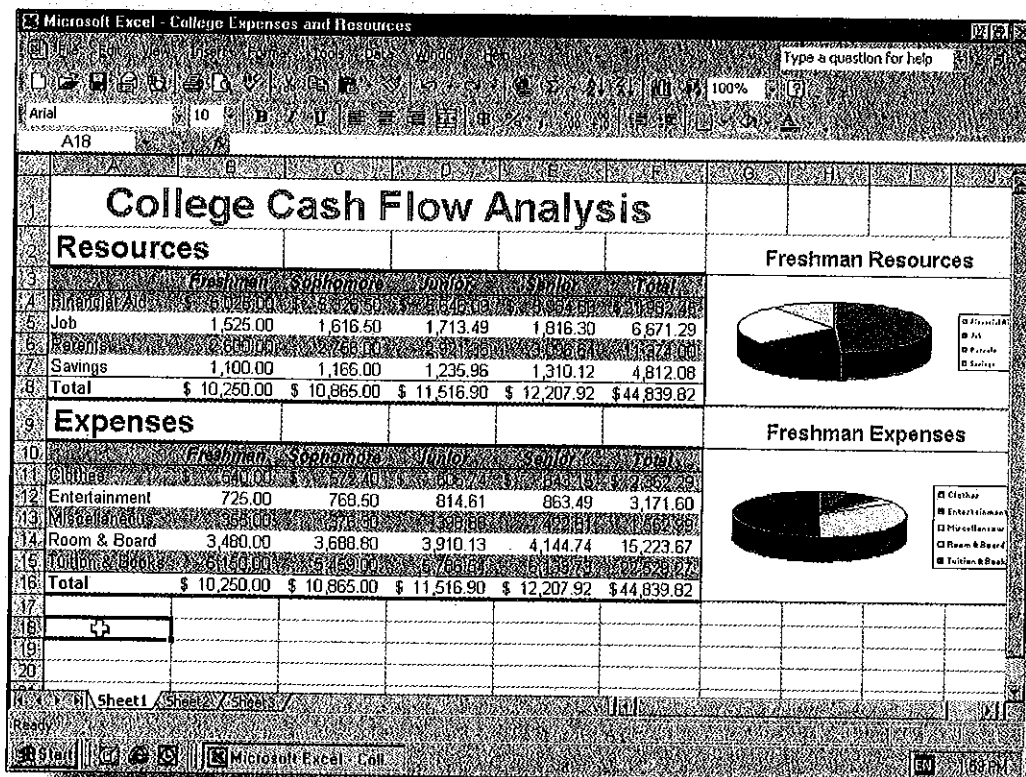**College Cash Flow Analysis Worksheet** *(continued)*

FIGURE 1-83

Part 2 Instructions: Open the workbook College Resources and Expenses created in Part 1. Draw a 3-D Pie chart in the range G3:J8 that shows the contribution of each category of resource for the freshman year. Chart the range A4:B7. Add the Pie chart title shown in cell G2 in Figure 1-83. Change the Pie chart title's font to 12-point, bold green. Center the Pie chart title over the range G2:J2. Draw a 3-D Pie chart in the range G10:J16 that shows the contribution of each category of expense for the Freshman year. Chart the range A11:B15. Add the Pie chart title shown in cell G9 in Figure 1-83. Change the Pie chart title's font to 12-point, bold green. Center the Pie chart title over the range G9:J9. Save the workbook using the file name, College Resources and Expenses 2. Print the worksheet. Hand in the printout to your instructor.

Part 3 Instructions: Open the workbook College Resources and Expenses 2 created in Part 2. A close inspection of Table 1-11 on the previous page shows a 6% increase each year over the previous year. Use the Ask a Question box on the menu bar to learn how to enter the data for the last three years using a formula and the Copy command. For example, the formula to enter in cell C4 is =B4 * 1.06. Enter formulas to replace all the numbers in the range C4:E7 and C11:E15. If necessary, reformat the tables as described in Part 1. The worksheet should appear as shown in Figure 1-83, except that some of the totals will be off by 0.01 due to round-off errors. Save the worksheet using the file name, College Resources and Expenses 3. Print the worksheet. Press CTRL+ACCENT (`) to display the formulas. Print the formulas version. Hand in both printouts to your instructor.
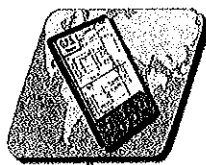
Cases and Places

The difficulty of these case studies varies:
▶ are the least difficult; ▶▶ are more difficult; and ▶▶▶ are the most difficult.

1 ▶ You work part time for Kylie's Pet Shop. Your primary responsibilities include caring for the pets. Your manager, Elma Presley, recently learned that you are enrolled in a computer class. She has asked you to prepare a worksheet and chart to help her analyze the 3rd quarter sales by store and by pet (Table 1-12). Use the concepts and techniques presented in this project to create the worksheet and chart.

Table 1-12   Kylie's Pet Shop 3rd Quarter Sales

	BOSTON	CLEVELAND	SAN DIEGO	DALLAS
Birds	16734	17821	24123	17989
Cats	15423	12134	16574	33401
Dogs	13495	26291	17345	27098
Fish	25462	22923	28034	25135

2 ▶ Computer Discount Sales sells computers throughout the state of Indiana. The number of servers, desktop computers, notebook computers, and handheld computers sold has increased each year from 1998 through 2002, as indicated in Table 1-13. Create a worksheet and 3-D Column chart that illustrates these increases. Use the concepts and techniques presented in this project to create the worksheet and chart.

Table 1-13   Computer Discount Sales 1998-2002

	SERVERS	DESKTOPS	NOTEBOOKS	HANDHELDS
1998	7323	22231	6125	225
1999	7498	32356	26315	1257
2000	7615	38489	36727	13313
2001	7734	42501	46501	24407
2002	7944	52578	56623	26761

3 ▶ As a newspaper reporter, you are preparing an article on the coming election based on a recent survey of the electorate, arranged by age of those polled (Table 1-14). You have been asked to produce a worksheet to accompany your article. Use the concepts and techniques presented in this project to create the worksheet and an embedded Column chart.

Table 1-14   Valley Heights Mayoral Race Election Poll Results

	18-29	30-41	42-53	54-65	66+
Green	625	301	512	440	205
Sabol	235	279	357	213	410
Walker	462	732	433	176	399
Webb	724	521	321	835	276

Cases and Places

4 ▶ Alyssa's Boutique on 5th Avenue in New York sells costume jewelry to an exclusive clientele. The company is trying to decide whether it is feasible to open another boutique in the Boston area. You have been asked to develop a worksheet totaling all the revenue received last year from customers living in the Boston area. The revenue from customers living in the Boston area by quarter is: Quarter 1, $104,561.38; Quarter 2, $91,602.55; Quarter 3, $258,220.10; and Quarter 4, $333,725.25. Create a 3-D Pie chart to illustrate Boston-area revenue contribution by quarter. Use the AutoCalculate area to find the average quarterly revenue.

5 ▶▶ The Virtual Reality Theater is a movie house that shows virtual reality movies at weekday evening, weekend matinee, and weekend evening screenings. Three types of tickets are sold at each presentation: general admission, senior citizen, and children. The theater management has asked you to prepare a worksheet, based on the revenue from a typical week, that can be used in reevaluating its ticket structure. During an average week, weekday evening shows generate $9,835 from general admission ticket sales, $5,630 from senior citizen ticket sales, and $1,675 from children ticket sales. Weekend matinee shows make $7,250 from general admission ticket sales, $2,345 from senior citizen ticket sales, and $3,300 from children ticket sales. Weekend evening shows earn $9,230 from general admission ticket sales, $8,125 from senior citizen ticket sales, and $1,600 from children ticket sales. Use the concepts and techniques presented in this project to prepare a worksheet that includes total revenues for each type of ticket and for each presentation time, and a Bar chart illustrating ticket revenues.

6 ▶▶▶ Athletic footwear stores must track carefully the sales of their different shoe brands so they can restock their inventory promptly. Visit an athletic shoe store and make a list of the top five brands of running shoes. Find out how many of each brand was sold each of the last three months. Using this information, create a worksheet showing the number of each brand sold each month, the total number of running shoes sold each month, the total number of each brand sold over three months, and a total number of all running shoes sold over three months. Include a 3-D Column chart to illustrate the data.

7 ▶▶▶ Visit the Registrar's office at your school and obtain the ages of students majoring in at least five different academic departments this semester. Separate the ages of the students in the departments by four different age groups. Using this information, create a worksheet showing the number of attending students by age group in each department. Include totals and a 3-D Column chart.