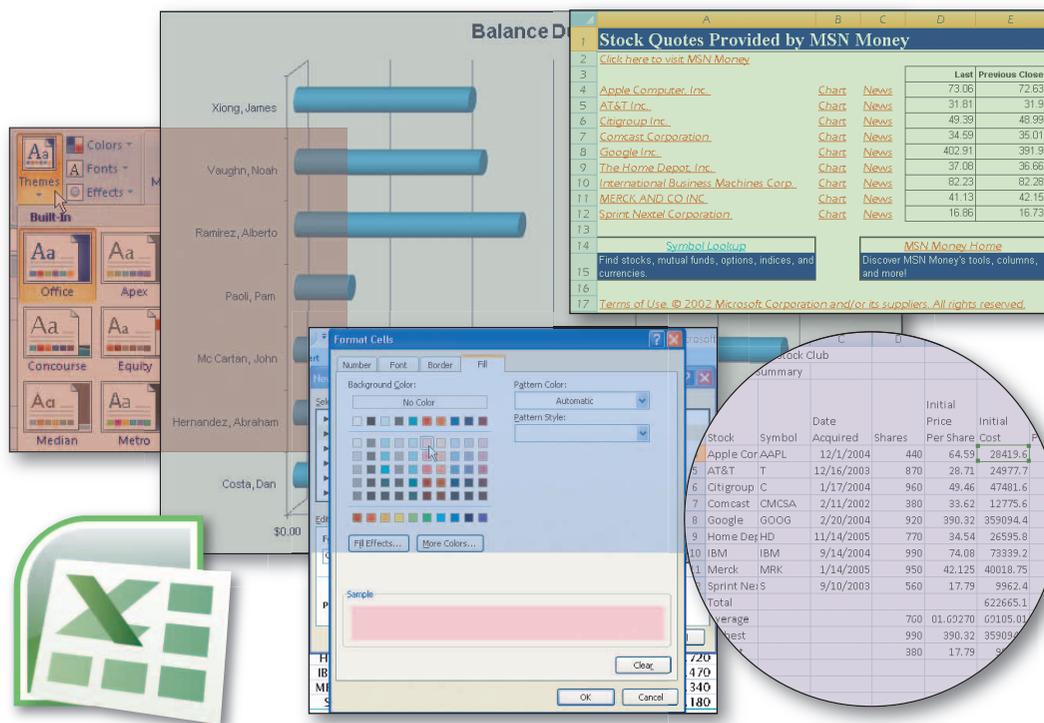


2 Formulas, Functions, Formatting, and Web Queries



Objectives

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

- Enter formulas using the keyboard and Point mode
- Apply the AVERAGE, MAX, and MIN functions
- Verify a formula using Range Finder
- Apply a theme to a workbook
- Add conditional formatting to cells
- Change column width and row height
- Check the spelling of a worksheet
- Set margins, headers and footers in Page Layout View
- Preview and print versions of a worksheet
- Use a Web query to get real-time data from a Web site
- Rename sheets in a workbook
- E-mail the active workbook from within Excel

2 Formulas, Functions, Formatting, and Web Queries

Introduction

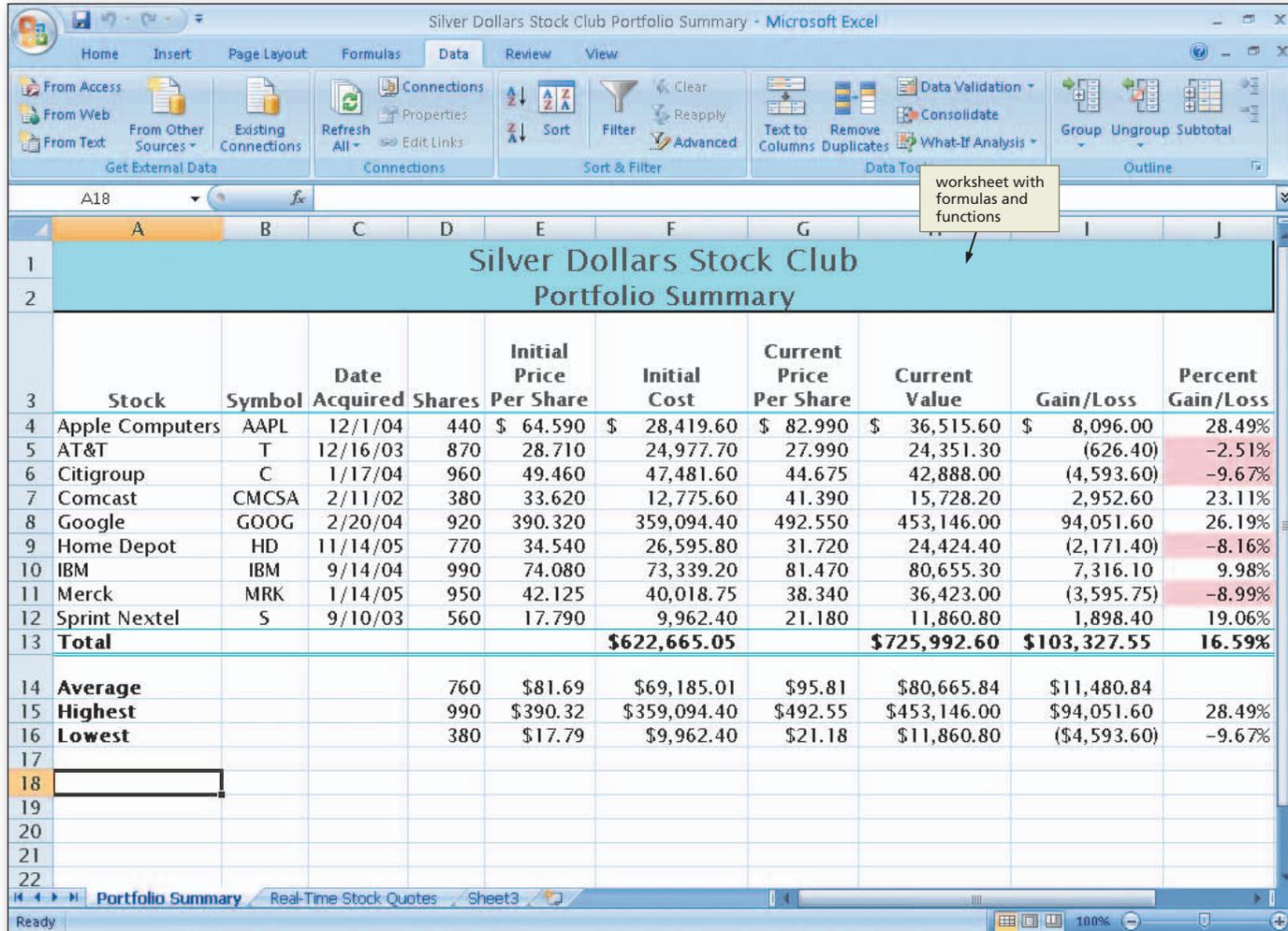
In Chapter 1, you learned how to enter data, sum values, format the worksheet to make it easier to read, and draw a chart. You also learned about using Help and saving, printing, and opening a workbook. This chapter continues to highlight these topics and presents some new ones.

The new topics covered in this chapter include using formulas and functions to create a worksheet. A **function** is a prewritten formula that is built into Excel. Other new topics include smart tags and option buttons, verifying formulas, applying a theme to a worksheet, adding borders, formatting numbers and text, using conditional formatting, changing the widths of columns and heights of rows, spell checking, e-mailing from within an application, renaming worksheets, using alternative types of worksheet displays and printouts, and adding page headers and footers to a worksheet. One alternative worksheet display and printout shows the formulas in the worksheet, instead of the values. When you display the formulas in the worksheet, you see exactly what text, data, formulas, and functions you have entered into it. Finally, this chapter covers Web queries to obtain real-time data from a Web site.

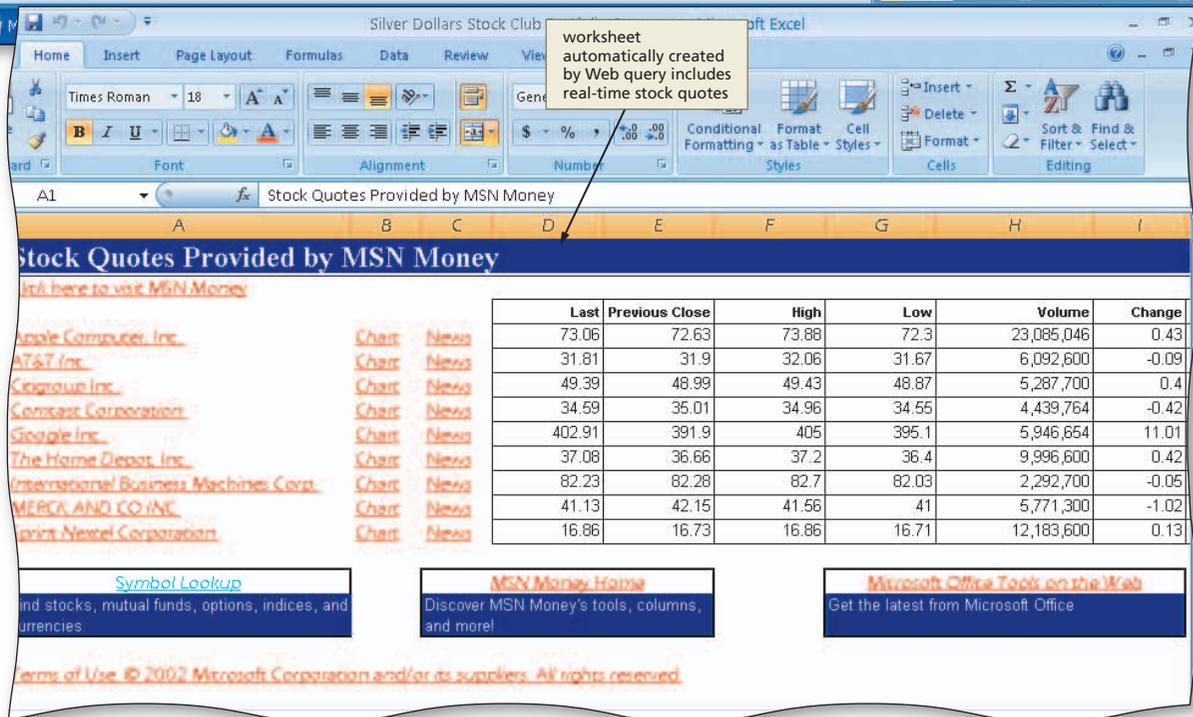
Project — Worksheet with Formulas, Functions, and Web Queries

The project in the chapter follows proper design guidelines and uses Excel to create the two worksheets shown in Figure 2-1. The Silver Dollars Stock Club was started and is owned by a national academic fraternity, which pools contributions from a number of local chapters. Each local chapter contributes \$150 per month; the money is then invested in the stock market for the benefit of the organization and as a tool to help members learn about investing. At the end of each month, the club's treasurer summarizes the club's financial status in a portfolio summary. This summary includes information such as the stocks owned by the club, the cost of the stocks to the club, and the gain or loss that the club has seen over time on the stock. As the complexity of the task of creating the summary increases, the treasurer wants to use Excel to create the monthly portfolio summary. The treasurer also sees an opportunity to use Excel's built-in capability to access real-time stock quotes over the Internet.

Recall that the first step in creating an effective worksheet is to make sure you understand what is required. The people who will use the worksheet usually provide requirements. The requirements document for the Silver Dollars Stock Club Portfolio Summary worksheet includes the following: needs, source of data, summary of calculations, Web requirements, and other facts about its development (Figure 2-2 on page EX 84). The real-time stock quotes (shown in Figure 2-1b) will be accessed via a Web query. The stock quotes will be returned to the active workbook on a separate worksheet. Microsoft determines the content and format of the Real-Time Stock Quotes worksheet.



(a) Worksheet



(b) Web Query

Figure 2-1

REQUEST FOR NEW WORKSHEET	
Date Submitted:	April 8, 2008
Submitted By:	Juan Castillo
Worksheet Title:	Silver Dollars Stock Club Portfolio Summary
Needs:	An easy-to-read worksheet that summarizes the club's investments (Figure 2-3). For each stock, the worksheet is to include the stock name, stock symbol, date acquired, shares, initial price per share, initial cost, current price per share, current value, gain/loss, and percent gain/loss. Also include totals and the average, highest value, and lowest value for each column of numbers. Use the import data capabilities of Excel to access real-time stock quotes using Web queries.
Source of Data:	The data supplied by Juan includes the stock names, symbols, dates acquired, number of shares, initial price per share, and current price per share. This data is shown in Table 2-1 on page EX 88.
Calculations:	The following calculations must be made for each of the stocks: 1. Initial Cost = Shares × Initial Price Per Share 2. Current Value = Shares × Current Price Per Share 3. Gain/Loss = Current Value – Initial Cost 4. Percent Gain/Loss = Gain/Loss / Initial Cost 5. Compute the totals for initial cost, current value, and gain/loss. 6. Use the AVERAGE function to determine the average for the number of shares, initial price per share, initial cost per share, current price per share, current value, and gain/loss. 7. Use the MAX and MIN functions to determine the highest and lowest values for the number of shares, initial price per share, initial cost per share, current price per share, current value, gain/loss, and percent gain/loss.
Web Requirements:	Use the Web query feature of Excel to get real-time stock quotes for the stocks owned by the Silver Dollars Stock Club.
Approvals	
Approval Status:	X Approved
	Rejected
Approved By:	Members of the Silver Dollars Stock Club
Date:	April 15, 2008
Assigned To:	J. Quasney, Spreadsheet Specialist

Figure 2-2

BTW

Aesthetics versus Function

In designing a worksheet, functional considerations should come first, before visual aesthetics. The function, or purpose, of a worksheet is to provide a user with direct ways to accomplish tasks. Avoid the temptation to use flashy or confusing visual elements within the worksheet, unless they will help the user more easily complete a task.

Overview

As you read this chapter, you will learn how to create the worksheet shown in Figure 2-1 by performing these general tasks:

- Enter formulas and apply functions in the worksheet
- Add conditional formatting to the worksheet
- Apply a theme to the worksheet
- Work with the worksheet in Page Layout View
- Print a part of the worksheet
- Perform a Web query to get real-time data from a Web site and create a new worksheet
- E-mail the worksheet

Plan Ahead

General Project Decisions

While creating an Excel worksheet, you need to make several decisions that will determine the appearance and characteristics of the finished worksheet. As you create the worksheet required to meet the requirements shown in Figure 2–2, you should follow these general guidelines:

- 1. Plan the layout of the worksheet.** As discussed in Chapter 1 and shown in Figure 2–3, rows typically contain items analogous to items in a list. In the case of the stock club’s data, the individual stocks serve this purpose and each stock should be placed in a row. As the club adds more stocks, the number of rows in the worksheet will increase. Information about each stock and associated calculations should appear in columns.
- 2. Determine the necessary formulas and functions needed.** Values such as initial cost and current value are calculated from known values. The formulas for these calculations should be known in advance of creating the worksheet. Values such as the average, highest, and lowest values can be calculated using Excel functions as opposed to relying on complex formulas.
- 3. Identify how to format various elements of the worksheet.** As discussed in Chapter 1 and shown in Figure 2–3, the appearance of the worksheet affects its ability to communicate clearly. Numeric data should be formatted in generally accepted formats, such as using commas as thousands separators and parentheses for negative values.
- 4. Establish rules for conditional formatting.** Conditional formatting allows you to format a cell based on the contents of the cell. Decide under which circumstances you would like a cell to stand out from similar cells and determine in what way the cell will stand out. In the case of the Percent Gain/Loss column on the worksheet, placing a different background color in cells that show losses is an appropriate format for the column.
- 5. Specify how the printed worksheet should appear.** When it is possible that a person will want to print a worksheet, care should be taken in the development of the worksheet to ensure that the contents can be printed in a readable manner. Excel prints worksheets in landscape or portrait orientation and margins can be adjusted to fit more or less data on each page. Headers and footers add an additional level of customization to the printed page.

(continued)

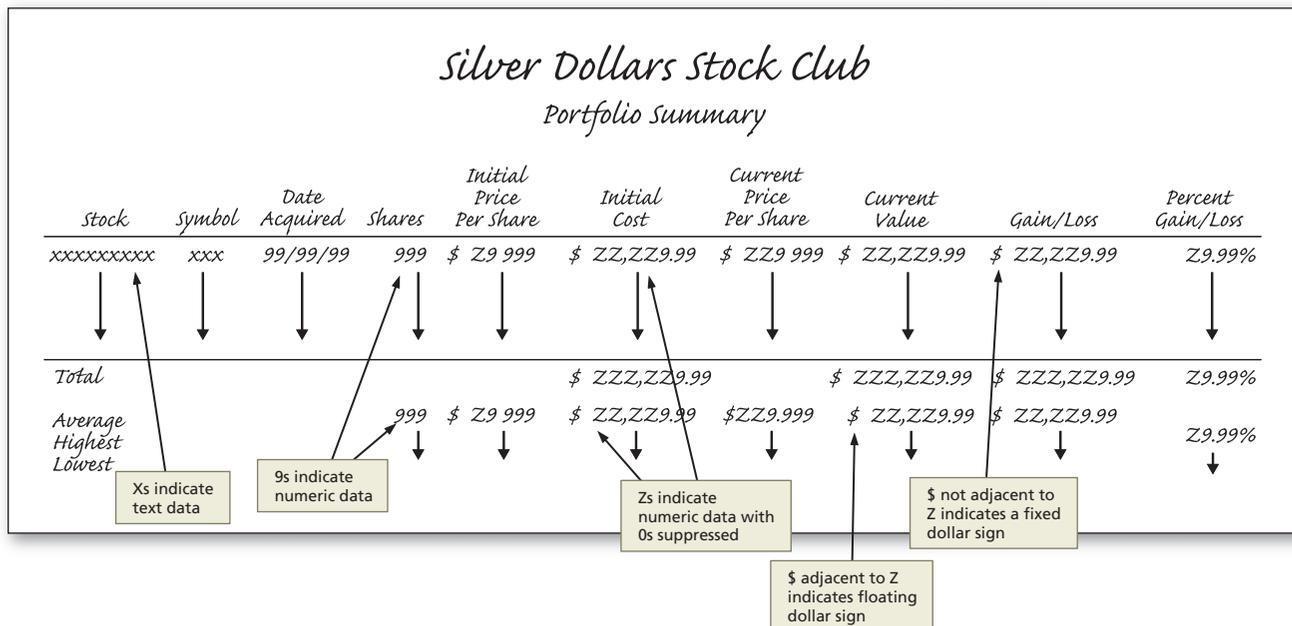


Figure 2-3

Plan Ahead

(continued)

6. **Gather information regarding the needed Web query.** You must also know what information the Web query requires in order for it to generate results that you can use in Excel.
7. **Choose names for the worksheets.** When a workbook includes multiple worksheets, each worksheet should be named. A good worksheet name is succinct, unique to the workbook, and meaningful to any user of the workbook.

In addition, using a sketch of the worksheet can help you visualize its design. The sketch for Silver Dollars Stock Club Portfolio Summary worksheet (Figure 2–3 on the previous page) includes a title, a subtitle, column and row headings, and the location of data values. It also uses specific characters to define the desired formatting for the worksheet as follows:

1. The row of Xs below the leftmost column defines the cell entries as text, such as stock names and stock symbols.
2. The rows of Zs and 9s with slashes, dollar signs, decimal points, commas, and percent signs in the remaining columns define the cell entries as numbers. The Zs indicate that the selected format should instruct Excel to suppress leading 0s. The 9s indicate that the selected format should instruct Excel to display any digits, including 0s.
3. The decimal point means that a decimal point should appear in the cell entry and indicates the number of decimal places to use.
4. The commas indicate that the selected format should instruct Excel to display a comma separator only if the number has enough digits to the left of the decimal point.
5. The slashes in the third column identify the cell entry as a date.
6. The dollar signs that are not adjacent to the Zs in the first row below the column headings and in the total row signify a fixed dollar sign. The dollar signs that are adjacent to the Zs below the total row signify a floating dollar sign, or one that appears next to the first significant digit.
7. The percent sign (%) in the far right column indicates a percent sign should appear after the number.

When necessary, more specific details concerning the above guidelines are presented at appropriate points in the chapter. The chapter also will identify the actions you perform and decisions made regarding these guidelines during the creation of the worksheet shown in Figure 2–3 on page EX 83.

With a good understanding of the requirements document, an understanding of the necessary decisions, and a sketch of the worksheet, the next step is to use Excel to create the worksheet.

To Start Excel

If you are using a computer to step through the project in this chapter and you want your screen to match the figures in this book, you should change your computer's resolution to 1024×768 . For information about how to change a computer's resolution, read Appendix E.

The following steps, which assume Windows is running, start Excel based on a typical installation of Microsoft Office on your computer. You may need to ask your instructor how to start Excel for your computer.

- 1 Click the Start button on the Windows taskbar to display the Start menu.
- 2 Point to All Programs on the Start menu and then point to Microsoft Office 2007 in the All Programs submenu.
- 3 Click Microsoft Office Excel 2007 on the Microsoft Office 2007 submenu.
- 4 If the Excel window is not maximized, click the Maximize button next to the Close button on its title bar to maximize the window.
- 5 If the worksheet window in Excel is not maximized, click the Maximize button next to the Close button on its title bar to maximize the worksheet window within Excel.

BTW **Starting Excel**
You can use a command-line switch to start Excel and control how it starts. First, click the Start button on the Windows taskbar, and then click Run. Next, enter the complete path to Excel's application file including the switch (for example, "C:\Program Files\Microsoft Office\Office12\Excel.exe" /e). The switch /e starts Excel without opening a new workbook; /i starts Excel with a maximized window; /p "folder" sets the active path to folder and ignores the default folder; /r "filename" opens filename in read-only mode; and /s starts Excel in safe mode.

Entering the Titles and Numbers into the Worksheet

The first step in creating the worksheet is to enter the titles and numbers into the worksheet.

To Enter the Worksheet Title and Subtitle

The following steps enter the worksheet title and subtitle into cells A1 and A2.

- 1 Select cell A1. Type `Silver Dollars Stock Club` in the cell and then press the DOWN ARROW key to enter the worksheet title in cell A1.
- 2 Type `Portfolio Summary` in cell A2 and then press the down arrow key to enter the worksheet subtitle in cell A2 (Figure 2-4 on page EX 90).

To Enter the Column Titles

The column titles in row 3 begin in cell A3 and extend through cell J3. The column titles in Figure 2-3 include multiple lines of text. To start a new line in a cell, press ALT+ENTER after each line, except for the last line, which is completed by clicking the Enter box, pressing the ENTER key, or pressing one of the arrow keys. When you see ALT+ENTER in a step, press the ENTER key while holding down the ALT key and then release both keys.

The stock names and the row titles Totals, Average, Highest, and Lowest in the leftmost column begin in cell A4 and continue down to cell A16. This data is entered into rows 4 through 12 of the worksheet. The remainder of this section explains the steps required to enter the column titles, stock data, and row titles as shown in Figure 2-4 on page EX 90 and then save the workbook.

- 1 With cell A3 selected, type `Stock` and then press the right arrow key.
- 2 Type `Symbol` in cell B3 and then press the right arrow key.

BTW

Wrapping Text

If you have a long text entry, such as a paragraph, you can instruct Excel to wrap the text in a cell, rather than pressing ALT+ENTER to end a line. To wrap text, right-click in the cell, click Format Cells on the shortcut menu, click the Alignment tab, and then click Wrap text. Excel will increase the height of the cell automatically so the additional lines will fit. If you want to control where each line ends in the cell, rather than letting Excel wrap based on the cell width, however, then you must end each line with ALT+ENTER.

- 3 In cell C3, type Date and then press **alt+enter**. Type Acquired and then press the **right arrow** key.
- 4 In cell D3, type Shares and then press the **right arrow** key.
- 5 In cell E3, type Initial and then press **alt+enter**. Type Price and then press **alt+enter**. Type Per Share and then press the **right arrow** key.
- 6 Type Initial in cell F3 and then press **alt+enter**. Type Cost and then press the **RIGHT ARROW** key.
- 7 In cell G3, type Current and then press **alt+enter**. Type Price and then press **alt+enter**. Type Per Share and then press the **right arrow** key.
- 8 Type Current in cell H3 and then press **alt+enter**. Type Value and then press the **RIGHT ARROW** key.
- 9 In cell I3, type Gain/Loss and then press the **right arrow** key.
- 10 In cell J3, type Percent and then press **alt+enter**. Type Gain/Loss.

BTW

Two-Digit Years

When you enter a two-digit year value, Excel changes a two-digit year less than 30 to 20xx and a two-digit year of 30 and greater to 19xx. Use four-digit years to ensure that Excel interprets year values the way you intend, if necessary.

To Enter the Portfolio Summary Data

The portfolio summary data in Table 2–1 includes a purchase date for each stock. Excel considers a date to be a number and, therefore, it displays the date right-aligned in the cell. The following steps enter the portfolio summary data shown in Table 2–1.

- 1 Select cell A4, type Apple Computers, and then press the **RIGHT ARROW** key.
- 2 Type AAPL in cell B4 and then press the **right arrow** key.
- 3 Type 12/1/04 in cell C4 and then press the **right arrow** key.
- 4 Type 440 in cell D4 and then press the **right arrow** key.
- 5 Type 64.59 in cell E4 and then click cell G4.
- 6 Type 82.99 in cell G4 and then click cell A5.
- 7 Enter the portfolio summary data in Table 2–1 for the eight remaining stocks in rows 5 through 12 (Figure 2–4).

BTW

Formatting a Worksheet

With early worksheet programs, users often skipped rows to improve the appearance of the worksheet. With Excel it is not necessary to skip rows because you can increase row heights to add white space between information.

To Enter the Row Titles

- 1 Select cell A13. Type Totals and then press the **down arrow** key. Type Average in cell A14 and then press the **down arrow** key.
- 2 Type Highest in cell A15 and then press the **down arrow** key. Type Lowest in cell A16 and then press the **enter** key. Select cell F4.

Table 2-1 Silver Dollars Stock Club Portfolio Summary Data

Stock	Symbol	Date Acquired	Shares	Initial Price Per Share	Current Price Per Share
Apple Computers	AAPL	12/1/04	440	64.59	82.99
AT&T	T	12/16/03	870	28.71	27.99
Citigroup	C	1/17/04	960	49.46	44.675
Comcast	CMCSA	2/11/02	380	33.62	41.39
Google	GOOG	2/20/04	920	390.32	492.55
Home Depot	HD	11/14/05	770	34.54	31.72
IBM	IBM	9/14/04	990	74.08	81.47
Merck	MRK	1/14/05	950	42.125	38.34
Sprint Nextel	S	9/10/03	560	17.79	21.18

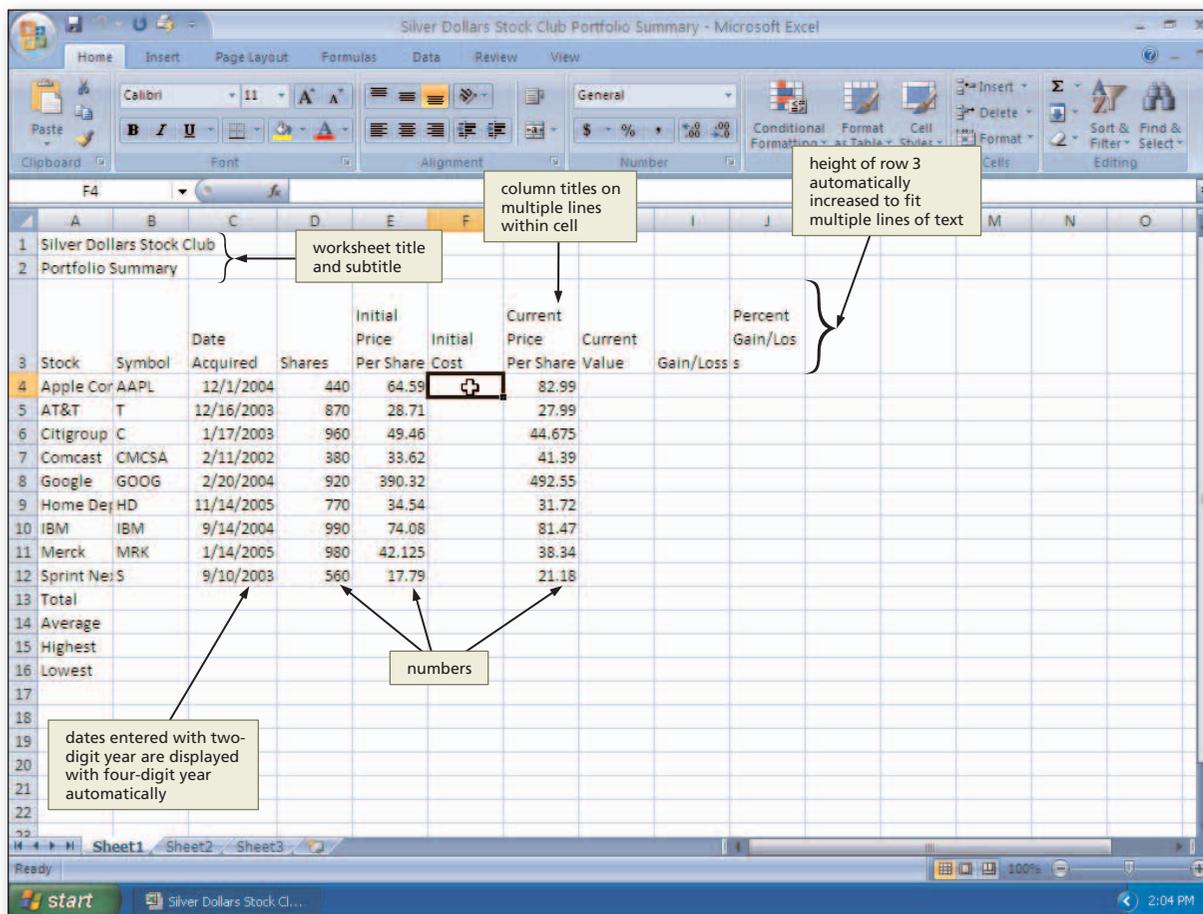


Figure 2-4

BTW

Entering Numbers in a Range

An efficient way to enter data into a range of cells is to select a range and then enter the first number in the upper-left cell of the range. Excel responds by entering the value and moving the active cell selection down one cell. When you enter the last value in the first column, Excel moves the active cell selection to the top of the next column.

To Change Workbook Properties and Save the Workbook

With the data entered into the worksheet, the following steps save the workbook using the file name, Silver Dollars Stock Club Portfolio Summary. As you are building a workbook, it is a good idea to save it often so that you do not lose your work if the computer is turned off or if you lose electrical power. The first time you save a workbook, you should change the workbook properties.

- 1 Click the Office Button, click Prepare on the Office Button menu, and then click Properties.
- 2 Update the document properties with your name and any other information required.
- 3 Click the Close button on the Properties pane.
- 4 With a USB flash drive connected to one of the computer's USB ports, click the Save button on the Quick Access toolbar.
- 5 When Excel displays the Save As dialog box, type Silver Dollars Stock Club Portfolio Summary in the File name text box.
- 6 If necessary, click UDISK 2.0 (E:) in the Save in list (your USB flash drive may have a different name and letter). Click the Save button in the Save As dialog box to save the workbook on the USB flash drive using the file name, Silver Dollars Stock Club Portfolio Summary.

Entering Formulas

One of the reasons Excel is such a valuable tool is that you can assign a **formula** to a cell and Excel will calculate the result. Consider, for example, what would happen if you had to multiply 440×64.59 and then manually enter the product, 28,419.60, in cell F4. Every time the values in cells D4 or E4 changed, you would have to recalculate the product and enter the new value in cell F4. By contrast, if you enter a formula in cell F4 to multiply the values in cells D4 and E4, Excel recalculates the product whenever new values are entered into those cells and displays the result in cell F4.

Plan Ahead

BTW

Automatic Recalculation

Every time you enter a value into a cell in the worksheet, Excel automatically recalculates all formulas. You can change to manual recalculation by clicking the Calculation Options button on the Formulas tab on the Ribbon and then clicking Manual. In manual calculation mode, press the F9 key to instruct Excel to recalculate all formulas.

Determine the necessary formulas and functions needed.

The formulas needed in the worksheet are noted in the requirements document as follows:

1. Initial Cost (column F) = Shares \times Initial Price Per Share
2. Current Value (column H) = Shares \times Current Price Per Share
3. Gain/Loss (column I) = Current Value $-$ Initial Cost
4. Percent Gain/Loss (column J) = Gain/Loss / Initial Cost

The necessary functions to determine the average, highest, and lowest numbers are discussed shortly.

To Enter a Formula Using the Keyboard

The initial cost for each stock, which appears in column F, is equal to the number of shares in column D times the initial price per share in column E. Thus, the initial cost for Apple Computers in cell F4 is obtained by multiplying 440 (cell D4) by 64.59 (cell E4) or =D4*E4. The following steps enter the initial cost formula in cell F4 using the keyboard.

1

- With cell F4 selected, type =d4*e4 in the cell to display the formula in the formula bar and in cell F4 and to display colored borders around the cells referenced in the formula (Figure 2–5).

Q&A

What is happening on the worksheet as I enter the formula?

The **equal sign (=)** preceding d4*e4 is an important part of the formula. It alerts Excel that you are entering a formula or function and not text. Because the most common error when entering a formula is to reference the wrong cell in a formula mistakenly, Excel colors the borders of the cells referenced in the formula. The coloring helps in the reviewing process to ensure the cell references are correct. The **asterisk (*)** following d4 is the arithmetic operator that directs Excel to perform the multiplication operation.

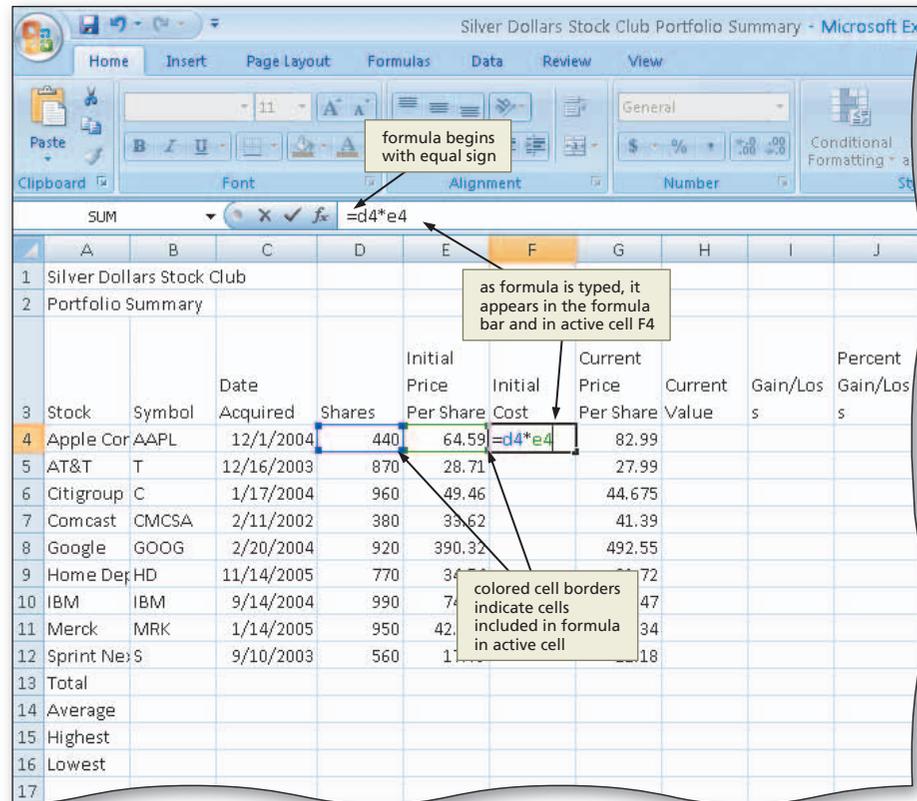


Figure 2-5

2

- Press the RIGHT ARROW key twice to complete the arithmetic operation indicated by the formula, display the result, 28419.6, and to select cell H4 (Figure 2–6).

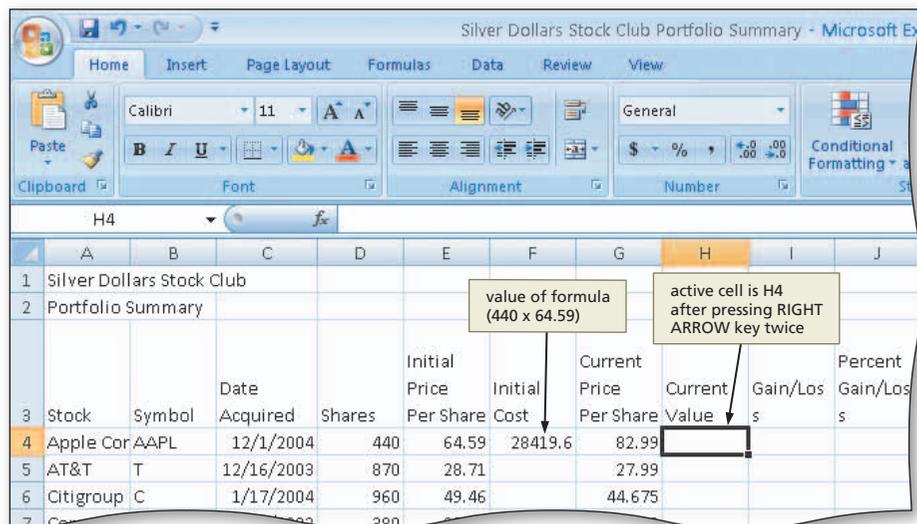


Figure 2-6

Arithmetic Operations

Table 2–2 describes multiplication and other valid Excel arithmetic operators.

Table 2–2 Summary of Arithmetic Operators

Arithmetic Operator	Meaning	Example of Usage	Meaning
–	Negation	–34	Negative 34
%	Percentage	=72%	Multiplies 72 by 0.01
^	Exponentiation	=4 ^ 6	Raises 4 to the sixth power
*	Multiplication	=22.6 * F4	Multiplies the contents of cell F4 by 22.6
/	Division	=C3 / C6	Divides the contents of cell C3 by the contents of cell C6
+	Addition	=7 + 3	Adds 7 and 3
–	Subtraction	=F12 – 22	Subtracts 22 from the contents of cell F12

BTW

Troubling Formulas

If Excel does not accept a formula, remove the equal sign from the left side and complete the entry as text. Later, after you have entered additional data or determined the error, reinsert the equal sign to change the text back to a formula and edit the formula as needed.

You can enter the cell references in formulas in uppercase or lowercase, and you can add spaces before and after arithmetic operators to make the formulas easier to read. The formula, =d4*e4, is the same as the formulas, =d4 * e4, =D4 * e4, or =D4 * E4.

Order of Operations

When more than one arithmetic operator is involved in a formula, Excel follows the same basic order of operations that you use in algebra. Moving from left to right in a formula, the **order of operations** is as follows: first negation (–), then all percentages (%), then all exponentiations (^), then all multiplications (*) and divisions (/), and finally, all additions (+) and subtractions (–).

You can use parentheses to override the order of operations. For example, if Excel follows the order of operations, $5 * 9 + 8$ equals 53. If you use parentheses, however, to change the formula to $5 * (9 + 8)$, the result is 85, because the parentheses instruct Excel to add 9 and 8 before multiplying by 5. Table 2–3 illustrates several examples of valid Excel formulas and explains the order of operations.

Table 2–3 Examples of Excel Formulas

Formula	Meaning
=K12	Assigns the value in cell K12 to the active cell.
=10 + 4^2	Assigns the sum of 10 + 16 (or 26) to the active cell.
=3 * C20 or =C20 * 3 or =(3 * C20)	Assigns three times the contents of cell C20 to the active cell.
=50% * 12	Assigns the product of 0.50 times 12 (or 6) to the active cell.
–(H3 * Q30)	Assigns the negative value of the product of the values contained in cells H3 and Q30 to the active cell.
=12 * (N8 – O8)	Assigns the product of 12 times the difference between the values contained in cells N8 and O8 to the active cell.
=M9 / Z8 – C3 * Q19 + A3 ^ B3	Completes the following operations, from left to right: exponentiation ($A3 ^ B3$), then division ($M9 / Z8$), then multiplication ($C3 * Q19$), then subtraction ($M9 / Z8 - (C3 * Q19)$), and finally addition ($M9 / Z8 - C3 * Q19 + (A3 ^ B3)$). If cells A3 = 2, B3 = 4, C3 = 6, M9 = 3, Q19 = 4, and Z8 = 3, then Excel assigns the active cell the value 18; that is, $3 / 3 - 6 * 4 + 2 ^ 4 = -7$.

To Enter Formulas Using Point Mode

The sketch of the worksheet in Figure 2–3 on page EX 85 calls for the current value, gain/loss, and percent gain/loss of each stock to appear in columns H, I, and J respectively. All three of these values are calculated using formulas in row 4:

Current Value (cell H4) = Shares × Current Price Per Share or =D4*G4

Gain/Loss (cell I4) = Current Value – Initial Cost or H4-F4

Percent Gain/Loss (cell J4) = Gain/Loss / Initial Cost or I4/F4

An alternative to entering the formulas in cells H4, I4, and J4 using the keyboard is to enter the formulas using the mouse and Point mode. **Point mode** allows you to select cells for use in a formula by using the mouse. The following steps enter formulas using Point mode.

1

- With cell H4 selected, type = (equal sign) to begin the formula and then click cell D4 to add a reference to cell D4 to the formula (Figure 2–7).

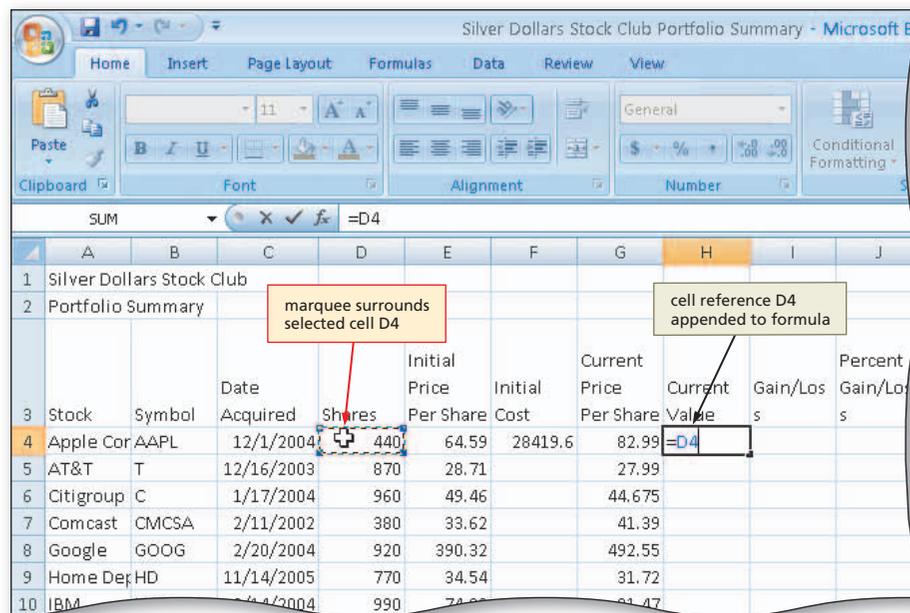


Figure 2-7

2

- Type * (asterisk) and then click cell G4 to add a multiplication operator and reference to cell G4 to the formula (Figure 2–8).

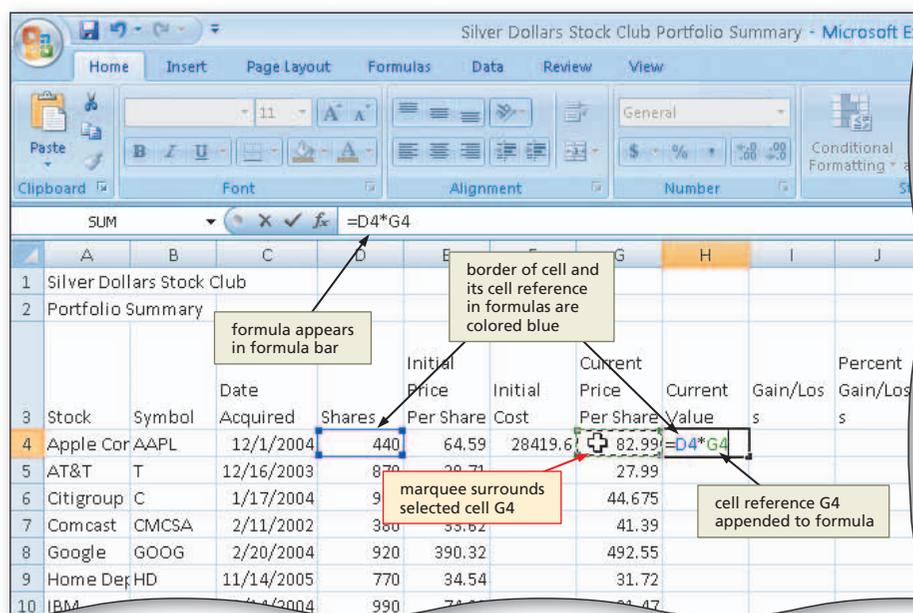


Figure 2-8

3

- Click the Enter box and then click cell I4 to select cell I4.
- Type = (equal sign) and then click cell H4 to add a reference to cell H4 to the formula.
- Type – (minus sign) and then click cell F4 to add a subtraction operator and reference to cell F4 to the formula (Figure 2–9).

Q&A

When should I use Point mode to enter formulas?

Using Point mode to enter formulas often is faster and more accurate than using the keyboard to type the entire formula when the cell you want to select does not require you to scroll. In many instances, as in these steps, you may want to use both the keyboard and mouse when entering a formula in a cell. You can use the keyboard to begin the formula, for example, and then use the mouse to select a range of cells.

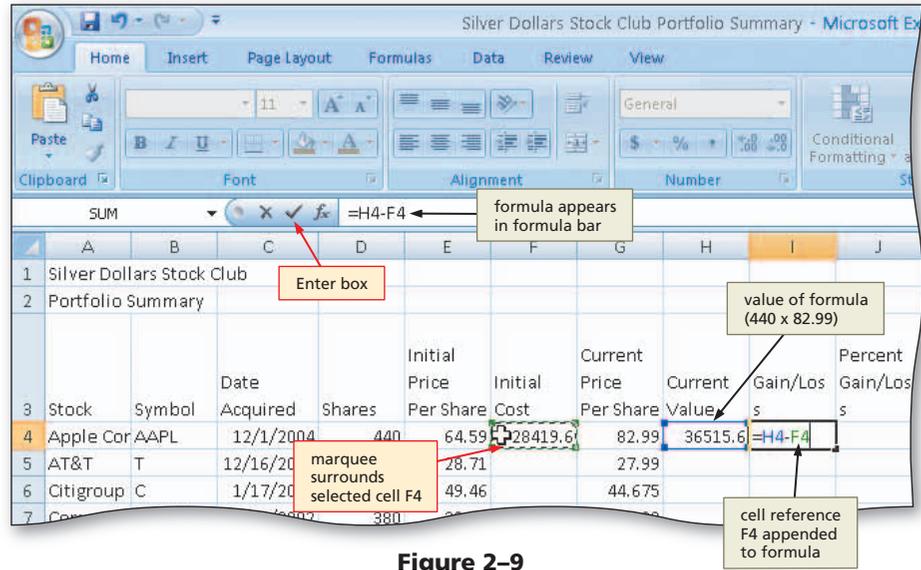


Figure 2-9

4

- Click the Enter box to enter the formula in cell I4.
- Select cell J4. Type = (equal sign) and then click cell I4 to add a reference to cell I4 to the formula.
- Type / (forward slash) and then click cell F4 to add a reference to cell F4 to the formula.
- Click the Enter box to enter the formula in cell J4 (Figure 2–10).

Q&A

Why do only six decimal places show in cell J4?

The actual value assigned by Excel to cell J4 from the division operation in Step 4 is 0.284873819. While not all the decimal places appear in Figure 2–10, Excel maintains all of them for computational purposes. Thus, if referencing cell J4 in a formula, the value used for computational purposes is 0.284873819, not 0.284874. Excel displays the value in cell J4 as 0.284874 because the cell formatting is set to display only six digits after the decimal point. If you change the cell formatting of column J to display 15 digits after the decimal point, then Excel displays the true value 0.284873819.

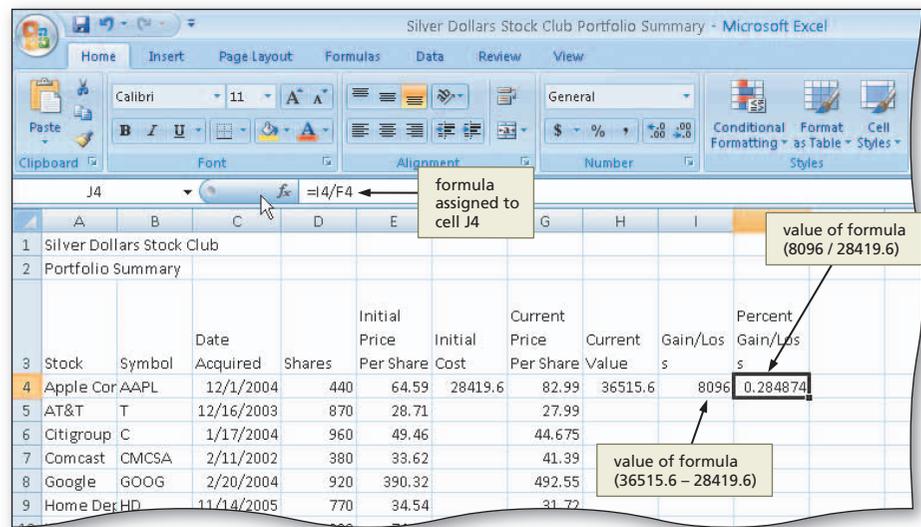


Figure 2-10

To Copy Formulas Using the Fill Handle

The four formulas for Apple Computers in cells F4, H4, I4, and J4 now are complete. You could enter the same four formulas one at a time for the eight remaining stocks. A much easier method of entering the formulas, however, is to select the formulas in row 4 and then use the fill handle to copy them through row 12. Recall from Chapter 1 that the fill handle is a small rectangle in the lower-right corner of the active cell or active range. The following steps copy the formulas using the fill handle.

1

- Select cell F4 and then point to the fill handle.
- Drag the fill handle down through cell F12 and continue to hold the mouse button to select the destination range (Figure 2-11).

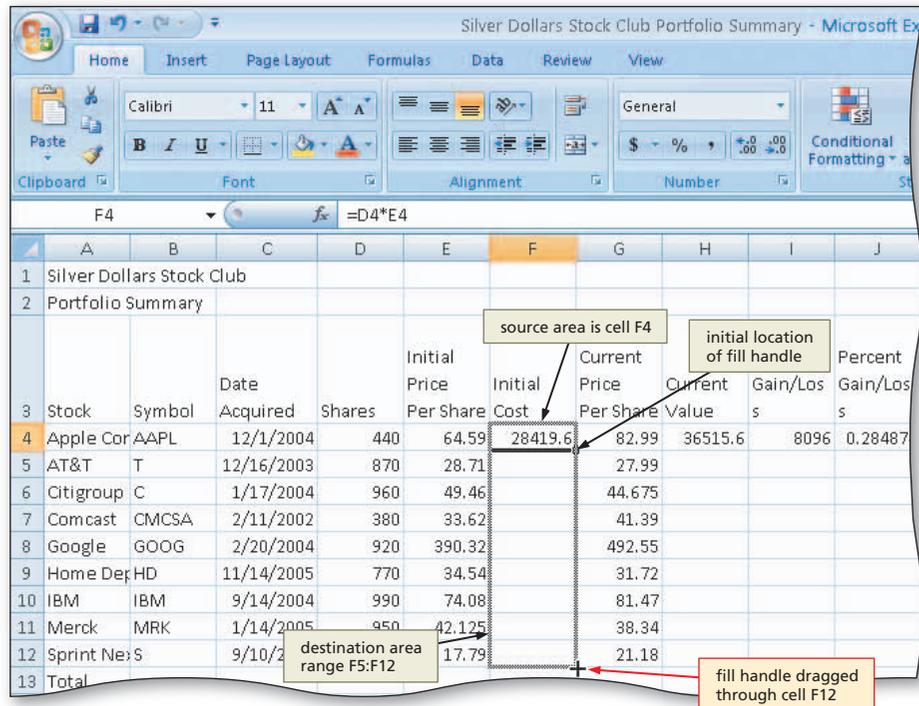


Figure 2-11

2

- Release the mouse button to copy the formula in cell F4 to the cells in the range F5:F12.
- Select the range H4:J4 and then point to the fill handle (Figure 2-12).

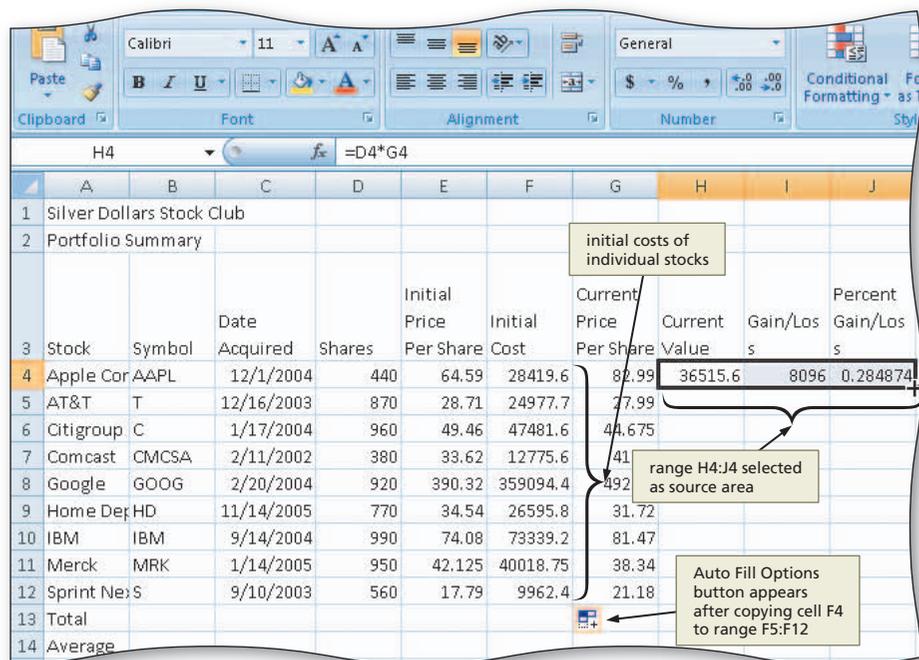


Figure 2-12

3

- Drag the fill handle down through the range H5:J12 to copy the three formulas =D4*G4 in cell H4, =H4-F4 in cell I4, and =I4/F4 in cell J4 to the range H5:J12 (Figure 2–13).

Q&A

How does Excel adjust the cell references in the formulas in the destination area?

Recall that when you copy a formula, Excel adjusts the cell references so the new formulas contain references corresponding to the new location and performs calculations using the appropriate values. Thus, if you copy downward, Excel adjusts the row portion of cell references. If you copy across, then Excel adjusts the column portion of cell references. These cell references are called **relative cell references**.

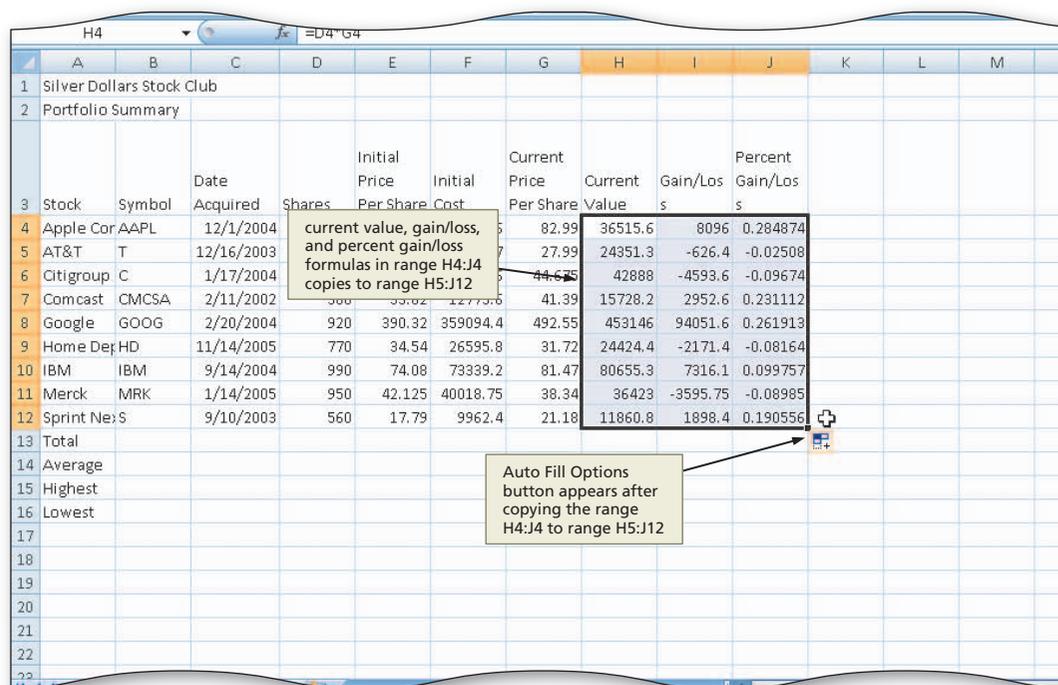


Figure 2–13

Other Ways

1. Select source area, click Copy button on Ribbon, select destination area, click Paste button on Ribbon
2. Select source area, right-click copy area, click Copy on shortcut menu, select destination area, right-click paste area, click Paste on shortcut menu

Smart Tags and Option Buttons

Excel can identify certain actions to take on specific data in workbooks using **smart tags**. Data labeled with smart tags includes dates, financial symbols, people’s names, and more. To use smart tags, you must turn on smart tags using the AutoCorrect Options in the Excel Options dialog box. To change AutoCorrect options, click the Office Button, click the Excel Options button on the Office Button menu, point to Proofing, and then click AutoCorrect Options. Once smart tags are turned on, Excel places a small purple triangle, called a **smart tag indicator**, in a cell to indicate that a smart tag is available. When you move the insertion point over the smart tag indicator, the Smart Tag Actions button appears. Clicking the Smart Tag Actions button arrow produces a list of actions you can perform on the data in that specific cell.

In addition to smart tags, Excel also displays Options buttons in a workbook while you are working on it to indicate that you can complete an operation using automatic features such as AutoCorrect, Auto Fill, error checking, and others. For example, the Auto Fill Options button shown in Figure 2–13 appears after a fill operation, such as dragging the fill handle. When an error occurs in a formula in a cell, Excel displays the Trace Error button next to the cell and identifies the cell with the error by placing a green triangle in the upper left of the cell.

Table 2–4 summarizes the smart tag and Options buttons available in Excel. When one of these buttons appears on your worksheet, click the button arrow to produce the list of options for modifying the operation or to obtain additional information.

Table 2-4 Smart Tag and Options Buttons in Excel

Button	Name	Menu Function
	Auto Fill Options	Gives options for how to fill cells following a fill operation, such as dragging the fill handle
	AutoCorrect Options	Undoes an automatic correction, stops future automatic corrections of this type, or causes Excel to display the AutoCorrect Options dialog box
	Insert Options	Lists formatting options following an insertion of cells, rows, or columns
	Paste Options	Specifies how moved or pasted items should appear (for example, with original formatting, without formatting, or with different formatting)
	Smart Tag Actions	Lists information options for a cell containing data recognized by Excel, such as a stock symbol
	Trace Error	Lists error checking options following the assignment of an invalid formula to a cell

To Determine Totals Using the Sum Button

The next step is to determine the totals in row 13 for the initial cost in column F, current value in column H, and gain/loss in column I. To determine the total initial cost in column F, the values in the range F4 through F12 must be summed. To do so, enter the function =sum(f4:f12) in cell F13 or select cell F13 and then click the Sum button on the Ribbon and then press the ENTER key. Recall that a function is a prewritten formula that is built into Excel. Similar SUM functions or the Sum button can be used in cells H13 and I13 to determine total current value and total gain/loss, respectively.

BTW **Selecting a Range**
 You can select a range using the keyboard. Press the F8 key and then use the arrow keys to select the desired range. After you are finished, make sure to press the F8 key to turn off the selection or you will continue to select ranges.

- 1 Select cell F13. Click the Sum button on the Ribbon and then click the Enter button.
- 2 Select the range H13:I13. Click the Sum button on the Ribbon to display the totals in row 13 as shown in Figure 2-14.

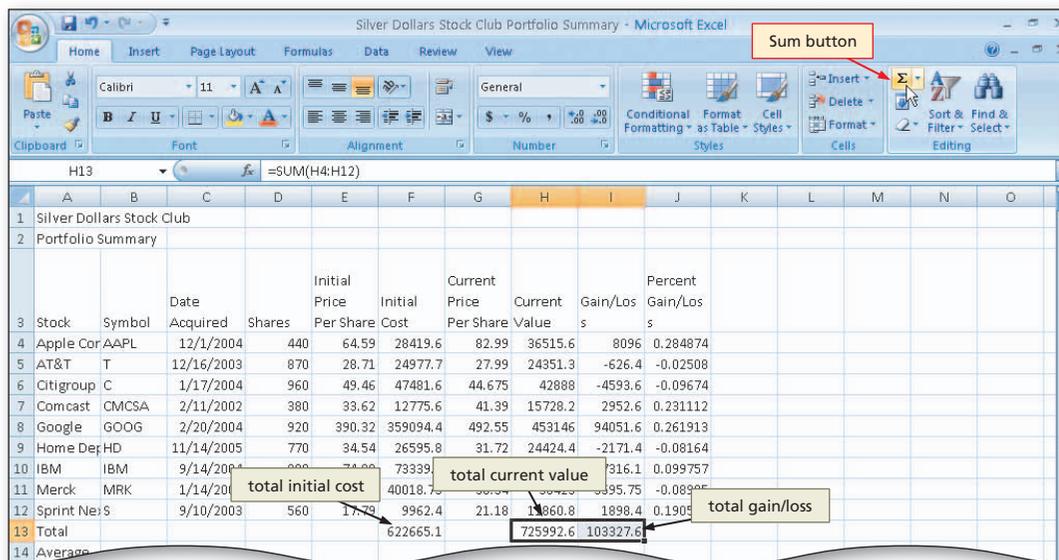


Figure 2-14

To Determine the Total Percent Gain/Loss

With the totals in row 13 determined, the next step is to copy the percent gain/loss formula in cell J12 to cell J13 as performed in the following steps.

- 1 Select cell J12 and then point to the fill handle.
- 2 Drag the fill handle down through cell J13 to copy the formula in cell J12 to cell J13 (Figure 2–15).

Q&A

Why was the formula I13/F13 not copied to cell J13 earlier?

The formula, I13/F13, was not copied to cell J13 when cell J4 was copied to the range J5:J12 because both cells involved in the computation (I13 and F13) were blank, or zero, at the time. A **blank cell** in Excel has a numerical value of zero, which would have resulted in an error message in cell J13. Once the totals were determined, both cells I13 and F13 (especially F13, because it is the divisor) had nonzero numerical values.

	Stock	Symbol	Date Acquired	Shares	Initial Price Per Share	Initial Cost	Current Price Per Share	Current Value	Gain/Loss	Percent Gain/Loss
4	Apple Cor	AAPL	12/1/2004	440	64.59	28419.6	82.99	36515.6	8096	0.284874
5	AT&T	T	12/16/2003	870	28.71	24977.7	27.99	24351.3	-626.4	-0.02508
6	Citigroup	C	1/17/2004	960	49.46	47481.6	44.675	42888	-4593.6	-0.09674
7	Comcast	CMCSA	2/11/2002	380	33.62	12775.6	41.39	15728.2	2952.6	0.231112
8	Google	GOOG	2/20/2004	920	390.32	359094.4	492.55	453146	94051.6	0.261913
9	Home Dep	HD	11/14/2005	770	34.54	26595.8	31.72	24424.4	-2171.4	-0.08164
10	IBM	IBM	9/14/2004	990	74.08	73339.2	81.47	80655.3	7316.1	0.099757
11	Merck	MRK	1/14/2005	950	42.125	40018.75	38.34	36423	-3595.75	-0.08985
12	Sprint Nex	S	9/10/2003	560	17.79	9962.4	21.18	11860.8	1898.4	0.190556
13	Total					622665.1		725992.6	103327.6	0.165944
14	Average									
15	Highest									
16	Lowest									

Figure 2–15

BTW

Entering Functions

You can drag the Function Arguments dialog box (Figure 2–20 on page EX 101) out of the way in order to select a range. You also can click the Collapse Dialog button to the right of the Number 1 box to hide the Function Arguments dialog box. After selecting the range, click the Collapse Dialog button a second time.

BTW

Statistical Functions

Excel usually considers a blank cell to be equal to 0. The statistical functions, however, ignore blank cells. Excel thus calculates the average of 3 cells with values of 7, blank, and 5 to be 6 or $(7 + 5) / 2$ and not 4 or $(7 + 0 + 5) / 3$.

Using the AVERAGE, MAX, and MIN Functions

The next step in creating the Silver Dollars Stock Club Portfolio Summary worksheet is to compute the average, highest value, and lowest value for the number of shares listed in the range D4:D12 using the AVERAGE, MAX, and MIN functions in the range D14:D16. Once the values are determined for column D, the entries can be copied across to the other columns.

Excel includes prewritten formulas called functions to help you compute these statistics. A **function** takes a value or values, performs an operation, and returns a result to the cell. The values that you use with a function are called **arguments**. All functions begin with an equal sign and include the arguments in parentheses after the function name. For example, in the function `=AVERAGE(D4:D12)`, the function name is AVERAGE, and the argument is the range D4:D12.

With Excel, you can enter functions using one of five methods: (1) the keyboard or mouse; (2) the Insert Function box in the formula bar; (3) the Sum menu; (4) the AutoSum command on the Formulas tab on the Ribbon; and (5) the Name box area in the formula

bar (Figure 2–16). The method you choose will depend on your typing skills and whether you can recall the function name and required arguments.

In the following pages, each of the first three methods will be used. The keyboard and mouse method will be used to determine the average number of shares (cell D14). The Insert Function button in the formula bar method will be used to determine the highest number of shares (cell D15). The Sum menu method will be used to determine the lowest number of shares (cell D16).

To Determine the Average of a Range of Numbers Using the Keyboard and Mouse

The **AVERAGE** function sums the numbers in the specified range and then divides the sum by the number of nonzero cells in the range. The following steps use the **AVERAGE** function to determine the average of the numbers in the range D4:D12.

- 1
 - Select cell D14.
 - Type =av in the cell to display the Formula AutoComplete list.
 - Point to the **AVERAGE** function name (Figure 2–16).

Q&A

What is happening as I type?

As you type the equal sign followed by the characters in the name of a function, Excel displays the Formula AutoComplete list. This list contains those functions that alphabetically match the letters you have typed. Because you typed =av, Excel displays all the functions that begin with the letters av.

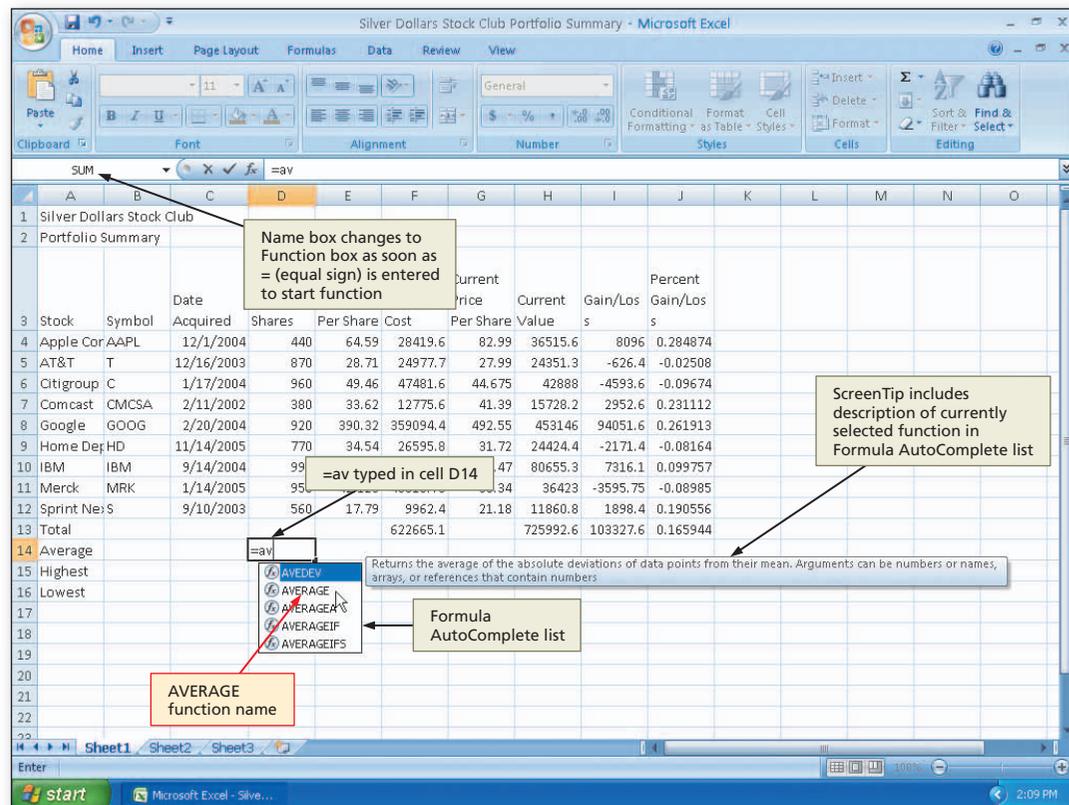


Figure 2–16

2

- Double-click AVERAGE in the Formula AutoComplete list to select the AVERAGE function.
- Select the range D4:D12 to insert the range as the argument to the AVERAGE function (Figure 2–17).

Q&A

As I drag, why does the function in cell D14 change?

When you click cell D4, Excel appends cell D4 to the left parenthesis in the formula bar and surrounds cell D4 with a marquee. When you begin dragging, Excel appends to the argument a colon (:) and the cell reference of the cell where the mouse pointer is located.

3

- Click the Enter box to compute the average of the nine numbers in the range D4:D12 and display the result in cell D14 (Figure 2–18).

Q&A

Can I use the arrow keys to complete the entry instead?

No. When you use Point mode you cannot use the arrow keys to complete the entry. While in Point mode, the arrow keys change the selected cell reference in the range you are selecting.

Q&A

What is the purpose of the parentheses in the function?

The AVERAGE function requires that the argument (in this case, the range D4:D12) be included within parentheses following the function name. Excel automatically appends the right parenthesis to complete the AVERAGE function when you click the Enter box or press the ENTER key.

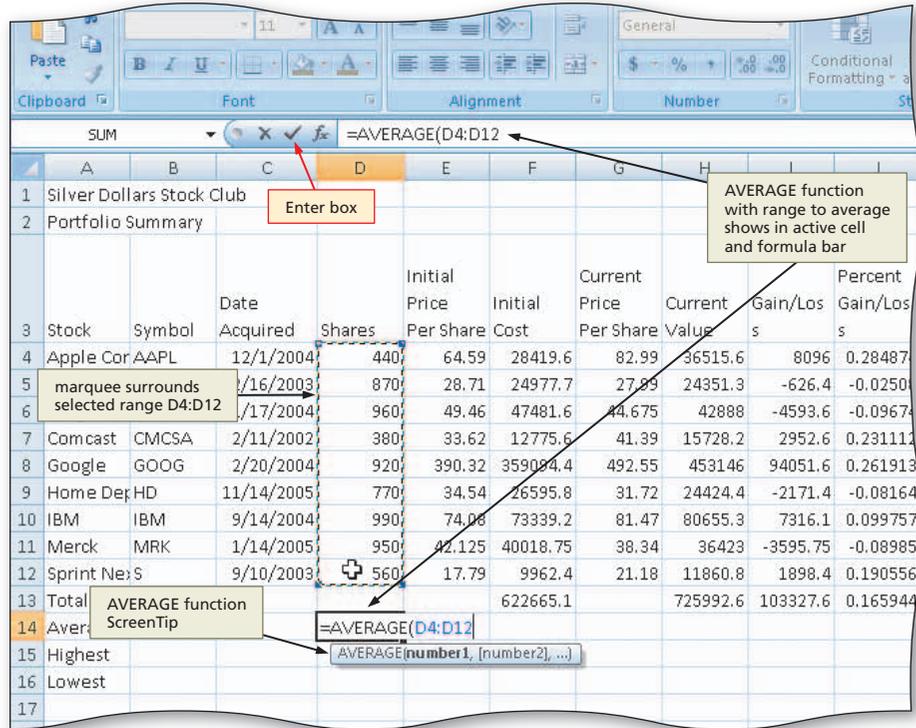


Figure 2-17

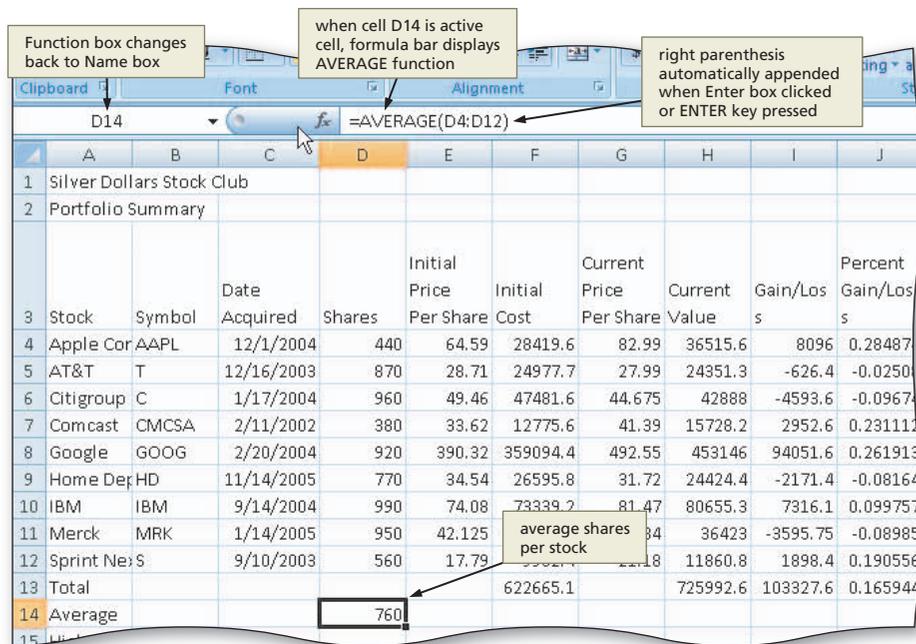


Figure 2-18

Other Ways

1. Click Insert Function box in formula bar, click AVERAGE function
2. Click Sum button arrow on Ribbon, click Average function
3. Click Formulas tab on Ribbon, click AutoSum button, click Average function

To Determine the Highest Number in a Range of Numbers Using the Insert Function Box

The next step is to select cell D15 and determine the highest (maximum) number in the range D4:D12. Excel has a function called the **MAX function** that displays the highest value in a range. Although you could enter the MAX function using the keyboard and Point mode as described in the previous steps, an alternative method to entering the function is to use the Insert Function box in the formula bar, as performed in the following steps.

- Select cell D15.
 - Click the Insert Function box in the formula bar to display the Insert Function dialog box.
 - When Excel displays the Insert Function dialog box, click MAX in the 'Select a function list' (Figure 2-19).

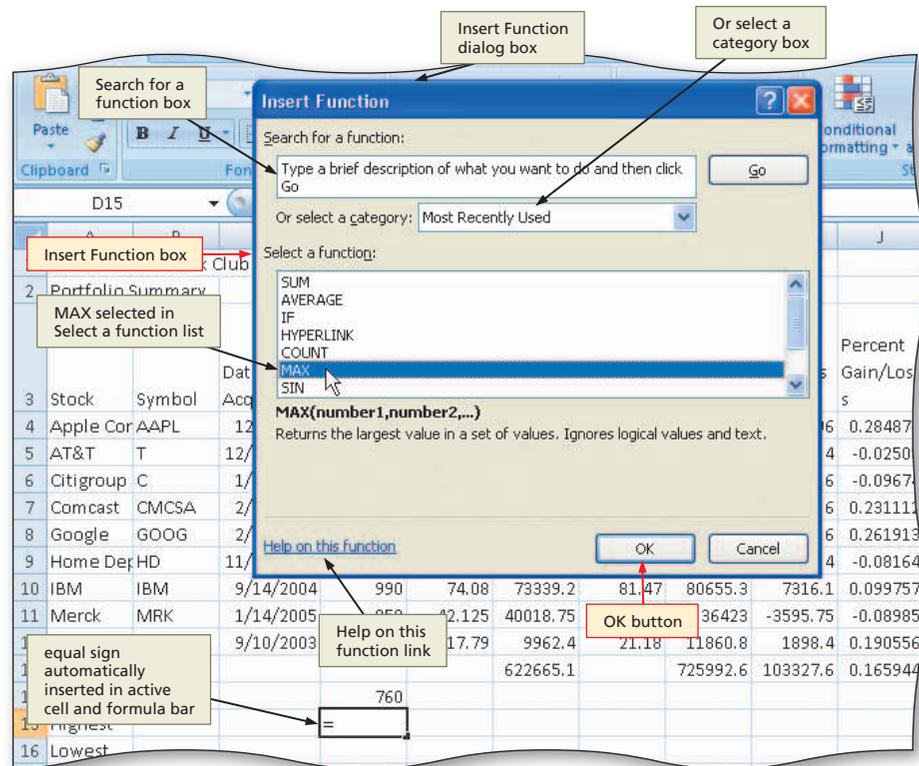


Figure 2-19

- Click the OK button.
 - When Excel displays the Function Arguments dialog box, type d4:d12 in the Number 1 box (Figure 2-20).

Q&A

Why did numbers appear in the Function Arguments dialog box?

As shown in Figure 2-20, Excel displays the value the MAX function will return to cell D15 in the Function Arguments dialog box. It also lists the first few numbers in the selected range, next to the Number 1 box.

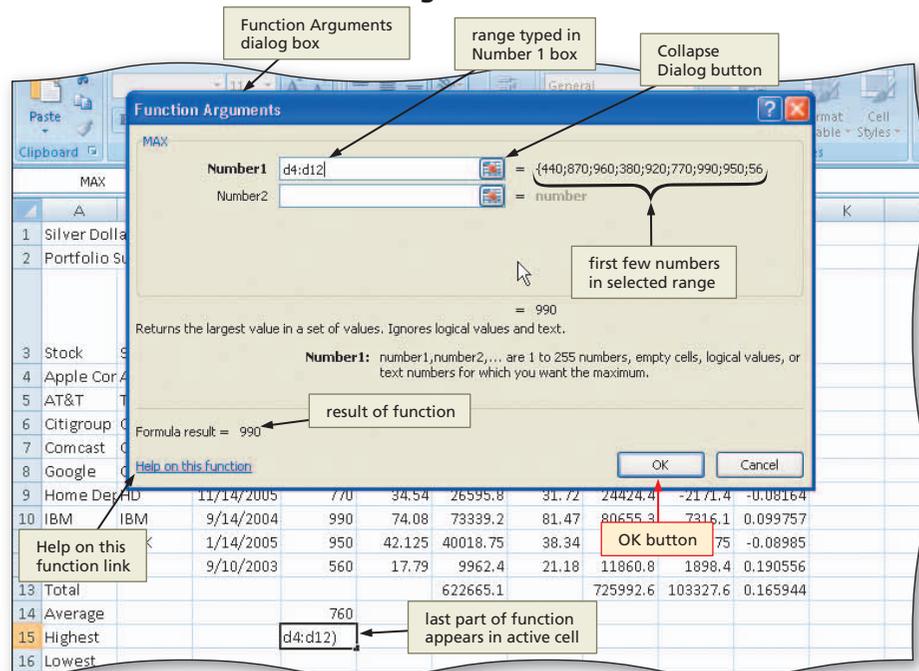


Figure 2-20

3

- Click the OK button to display the highest value in the range D4:D12 in cell D15 (Figure 2–21).

Q&A

Why should I not just enter the highest value that I see in the range D4:D12 in cell D15?

In this example, rather than entering the MAX function, you easily could scan the range D4:D12, determine that the highest number of shares is 990, and manually enter the number 990 as a constant in cell D15. Excel would display the number the same as in Figure 2–21. Because it contains a constant, however, Excel will continue to display 990 in cell D15, even if the values in the range D4:D12 change. If you use the MAX function, Excel will recalculate the highest value in the range D4:D9 each time a new value is entered into the worksheet.

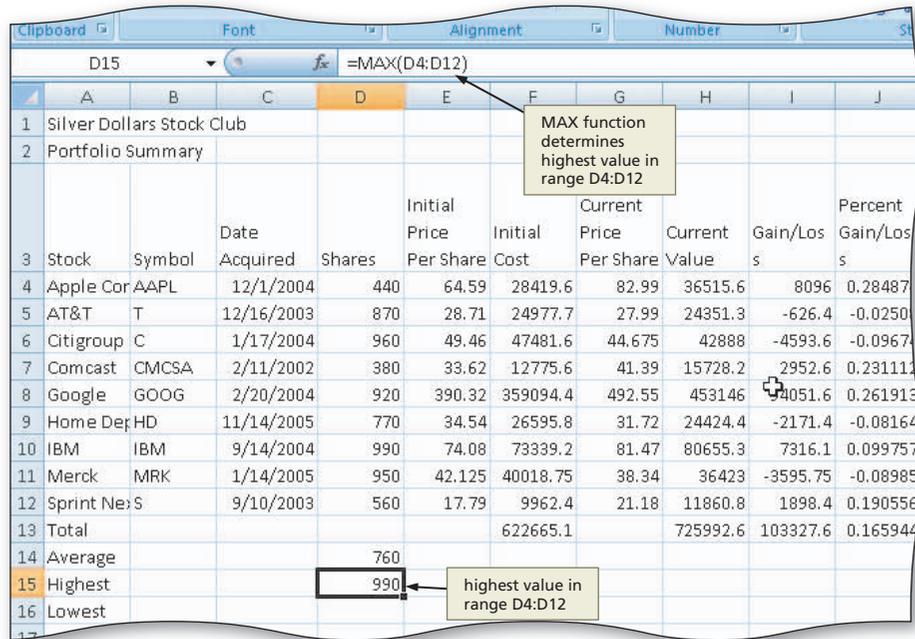


Figure 2–21

Other Ways

- Click Sum button arrow on Ribbon, click Max function
- Click Formulas tab on Ribbon, click AutoSum button, click Max function
- Type =MAX in cell

To Determine the Lowest Number in a Range of Numbers Using the Sum Menu

The next step is to enter the **MIN function** in cell D16 to determine the lowest (minimum) number in the range D4:D12. Although you can enter the MIN function using either of the methods used to enter the AVERAGE and MAX functions, the following steps perform an alternative using the Sum menu on the Ribbon.

1

- Select cell D16.
- Click the Sum button arrow on the Ribbon to display the Sum button menu (Figure 2–22).

Q&A

Why should I use the Sum button menu?

Using the Sum button menu allows you to enter one of five often-used functions easily into a cell, without having to memorize its name or the required arguments.

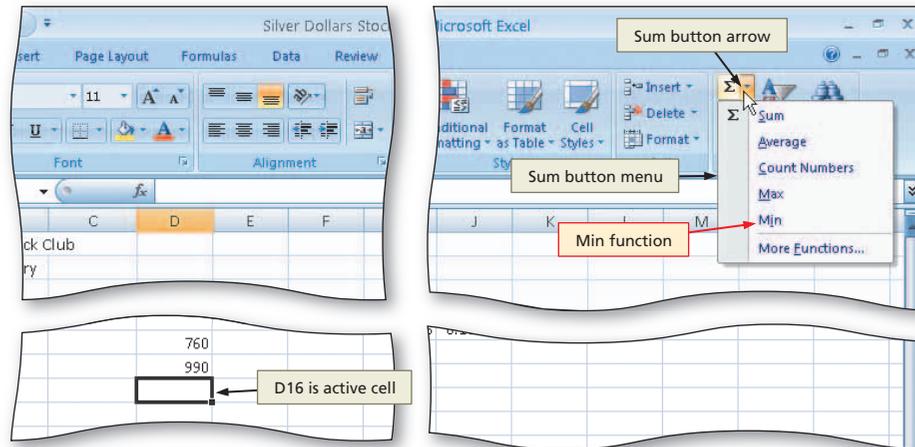


Figure 2–22

2

- Click Min to display the function =MIN(D14:D15) in the formula bar and in cell D16 (Figure 2–23).

Q&A

Why does Excel select the range D14:D15?

The range D14:D15 automatically selected by Excel is not correct. Excel attempts to guess which cells you want to include in the function by looking for adjacent ranges to the selected cell that contain numeric data.

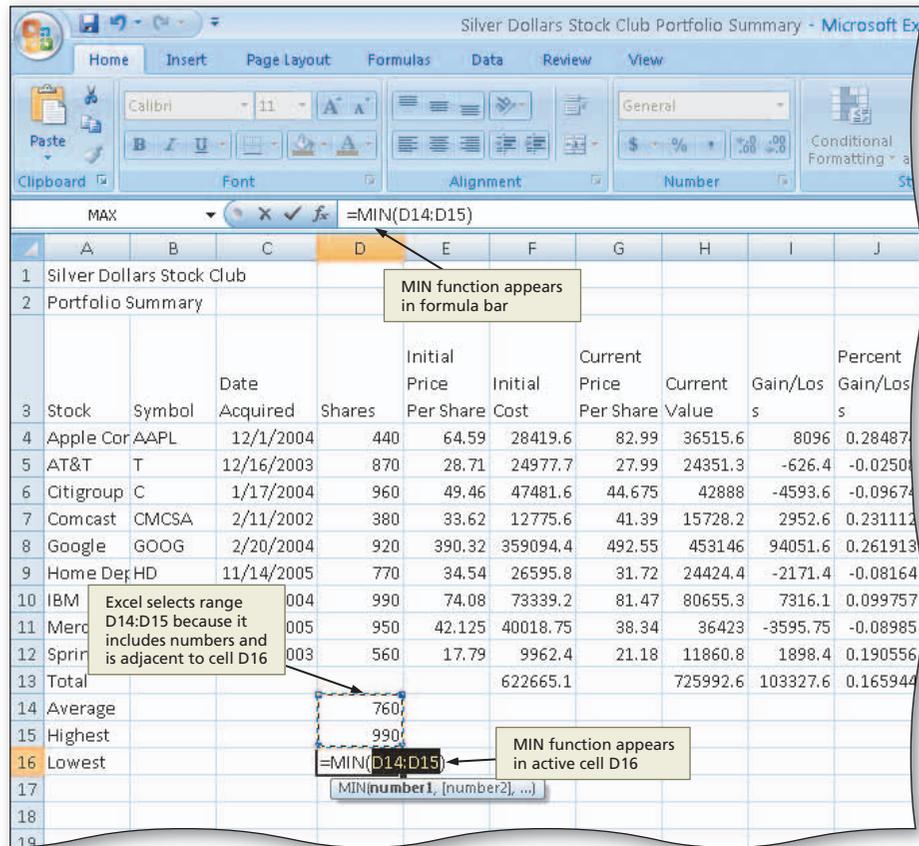


Figure 2-23

3

- Click cell D4 and then drag through cell D12 to display the function in the formula bar and in cell D14 with the new range (Figure 2–24).

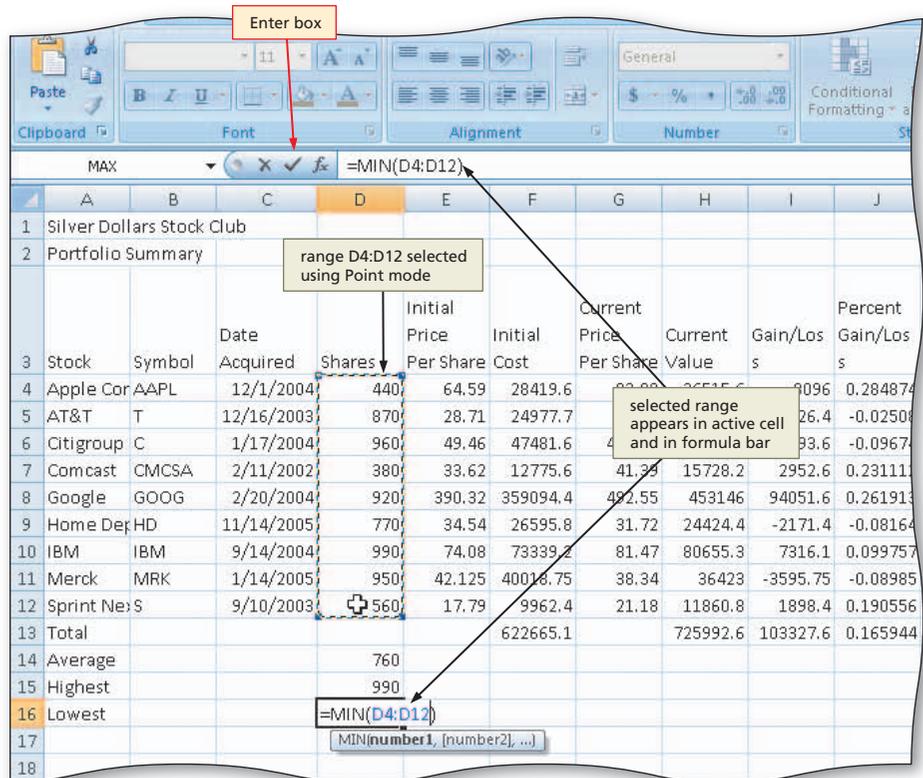


Figure 2-24

4

- Click the Enter box to determine the lowest value in D4:D12 and display the result in the formula bar and in cell D14 (Figure 2-25).

Q&A

How can I use other functions?

Excel has more than 400 additional functions that perform just about every type of calculation you can imagine. These functions are categorized in the Insert Function dialog box shown in Figure 2-19 on page EX 101. To view the categories, click the 'Or select a category' box arrow. To obtain a description of a selected function, select its name in the Insert Function dialog box. Excel displays the description of the function below the Select a function list in the dialog box.

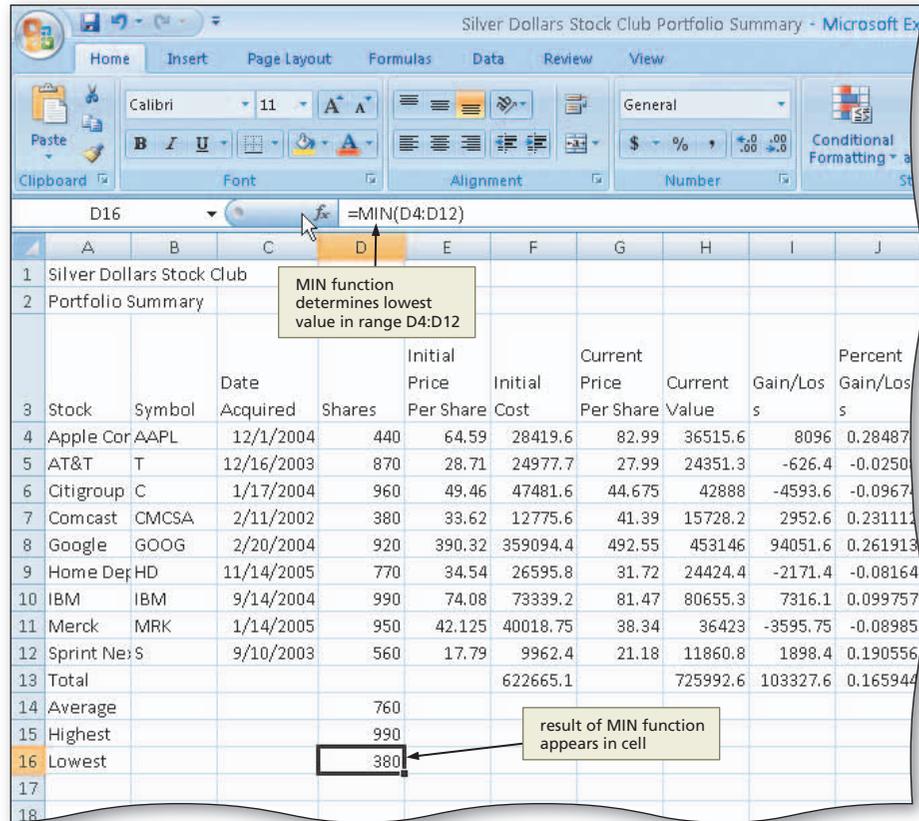


Figure 2-25

Other Ways

- Click Insert Function box in formula bar, click MIN function
- Click Formulas tab on Ribbon, click AutoSum button, click Min function
- Type =MIN in cell

To Copy a Range of Cells across Columns to an Adjacent Range Using the Fill Handle

The next step is to copy the AVERAGE, MAX, and MIN functions in the range D14:D16 to the adjacent range E14:J16. The following steps use the fill handle to copy the functions.

1

- Select the range D14:D16.
- Drag the fill handle in the lower-right corner of the selected range through cell J16 and continue to hold down the mouse button (Figure 2-26).

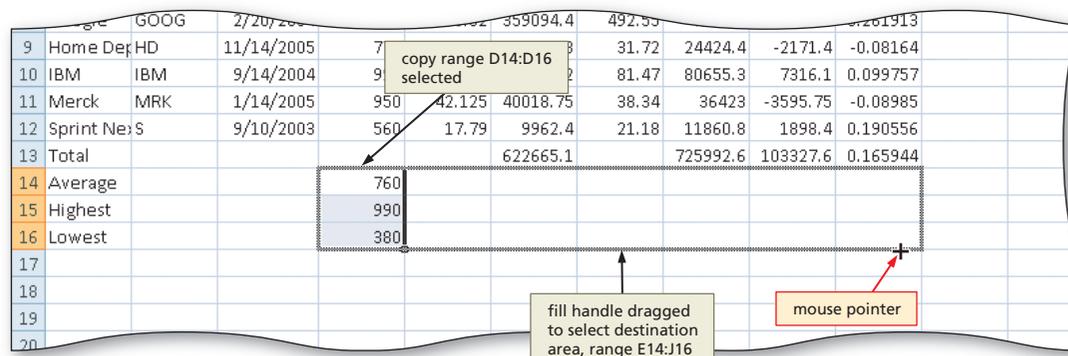


Figure 2-26

2

- Release the mouse button to copy the three functions to the range E14:J16 (Figure 2–27).

Q&A

How can I be sure that the function arguments are proper for the cells in range E14:J16?

Remember that Excel adjusts the cell references in the copied functions so each function refers to the range of numbers above it in the same column. Review the numbers in rows 14 through 16 in Figure 2–27. You should see that the functions in each column return the appropriate values, based on the numbers in rows 4 through 12 of that column.

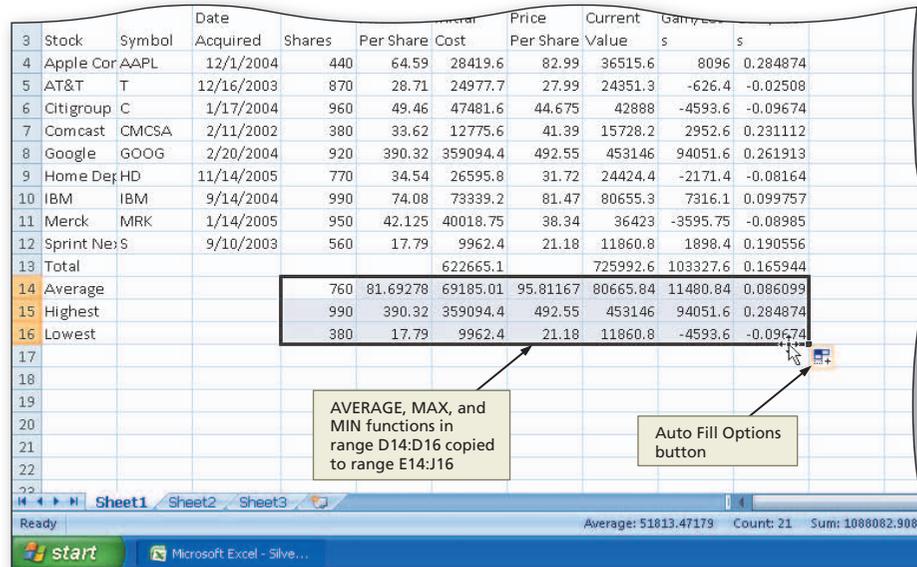


Figure 2–27

3

- Select cell J14 and press the DELETE key to delete the average of the percent gain/loss (Figure 2–28).

Q&A

Why is the formula in cell J14 deleted?

The average of the percent gain/loss in cell J14 is deleted because an average of percentages of this type is mathematically invalid.

Other Ways

1. Select source area and point to border of range, while holding down CTRL key, drag source area to destination area
2. Select source area, on Ribbon click Copy button, select destination area, on Ribbon click Paste button
3. Right-click source area, click Copy on shortcut menu, right-click destination area, click Paste on shortcut menu
4. Select source area, press CTRL+C, select destination area, press CTRL+V

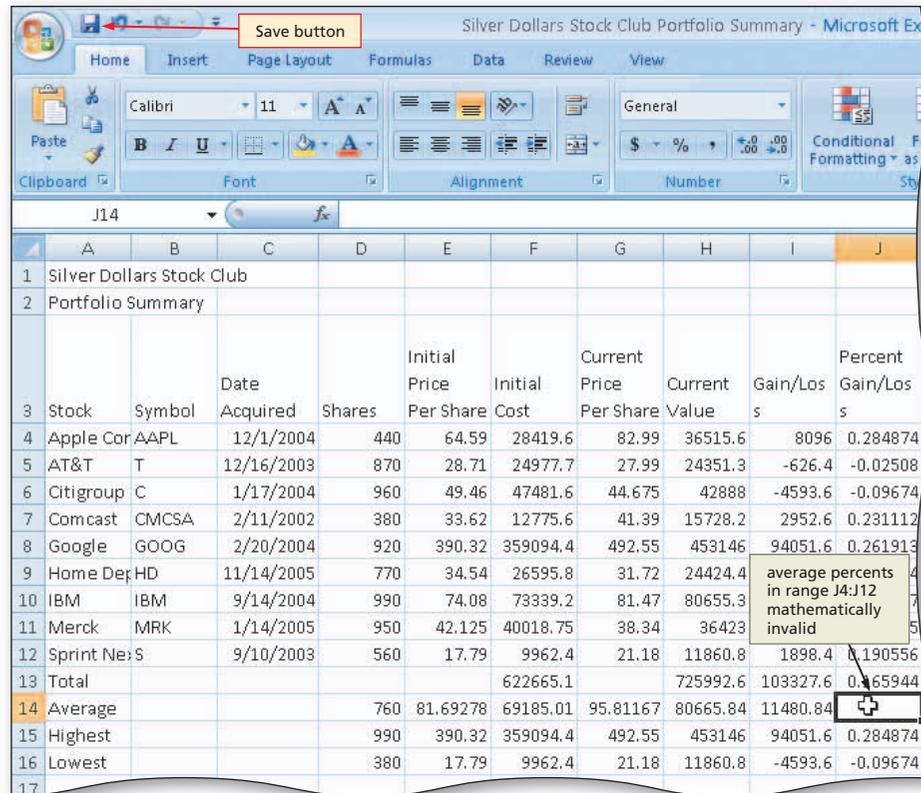


Figure 2–28

To Save a Workbook Using the Same File Name

Earlier in this project, an intermediate version of the workbook was saved using the file name, Silver Dollars Stock Club Portfolio Summary. The following step saves the workbook a second time using the same file name.

- 1 Click the Save button on the Quick Access toolbar to save the workbook on the USB flash drive using the file name, Silver Dollars Stock Club Portfolio Summary.

Q&A

Why did Excel not display the Save As dialog box?

When you save a workbook a second time using the same file name, Excel will not display the Save As dialog box as it does the first time you save the workbook. Excel automatically stores the latest version of the workbook using the same file name, Silver Dollars Stock Club Portfolio Summary. You also can click Save on the Office Button menu or press SHIFT+F12 or CTRL+S to save a workbook again.

Verifying Formulas Using Range Finder

One of the more common mistakes made with Excel is to include a wrong cell reference in a formula. An easy way to verify that a formula references the cells you want it to reference is to use Excel's Range Finder. Use the **Range Finder** to check which cells are referenced in the formula assigned to the active cell. Range Finder allows you to make immediate changes to the cells referenced in a formula.

To use Range Finder to verify that a formula contains the intended cell references, double-click the cell with the formula you want to check. Excel responds by highlighting the cells referenced in the formula so you can check that the cell references are correct.

To Verify a Formula Using Range Finder

The following steps use Range Finder to check the formula in cell J4.

- 1
 - Double-click cell J4 to activate Range Finder (Figure 2–29).
- 2
 - Press the ESC key to quit Range Finder and then select cell A18.

Stock	Symbol	Date	Shares	Initial Price Per Share	Initial Cost	Current Price Per Share	Current Value	Gain/Loss	Percent Gain/Loss
Apple Cor	AAPL	12/1/2004	440	64.59	28419.6	82.99	36515.6	8096	=A4/F4
AT&T	T	12/16/2003	870	28.71	24977.7	27.99	24351.3	-626.4	-0.02508
Citigroup	C	1/17/2004	960	49.46	47481.6	44.675	42888	-4593.6	-0.09674
Comcast	CMCSA	2/11/2002	380	33.62	12775.6	41.39	15728	2952.4	0.23111
Google	GOOG	2/20/2004	920	390.32	359094.4	492.55	453146	94051.6	0.284874
Home Dep	HD	11/14/2005	770	34.54	26595.8	31.72	24424	-2171.8	-0.08178
IBM	IBM	9/14/2004	990	74.08	73339.2	81.47	80655	7315.8	0.09974
Merck	MRK	1/14/2005	950	42.125	40018.75	38.34	36423	-3595.75	-0.08985
Sprint Ne	S	9/10/2003	560	17.79	9962.4	21.18	11860.8	1898.4	0.190556
Total					622665.1		725992.6	103327.6	0.165944
Average			760	81.69278	69185.01	95.81167	80665.84	11480.84	
Highest			990	390.32	359094.4	492.55	453146	94051.6	0.284874
Lowest			380	17.79	9962.4	21.18	11860.8	-4593.6	-0.09674

Figure 2–29

Formatting the Worksheet

Although the worksheet contains the appropriate data, formulas, and functions, the text and numbers need to be formatted to improve their appearance and readability.

In Chapter 1, cell styles were used to format much of the worksheet. This section describes how to change the unformatted worksheet in Figure 2–30a to the formatted worksheet in Figure 2–30b using a theme and other commands on the Ribbon. A **theme** is a predefined set of colors, fonts, chart styles, cell styles, and fill effects that can be applied to an entire workbook. Every new workbook that you create is assigned a default theme named Office. The colors and fonts that are used in the worksheet shown in Figure 2–30b are those that are associated with the Concourse theme.

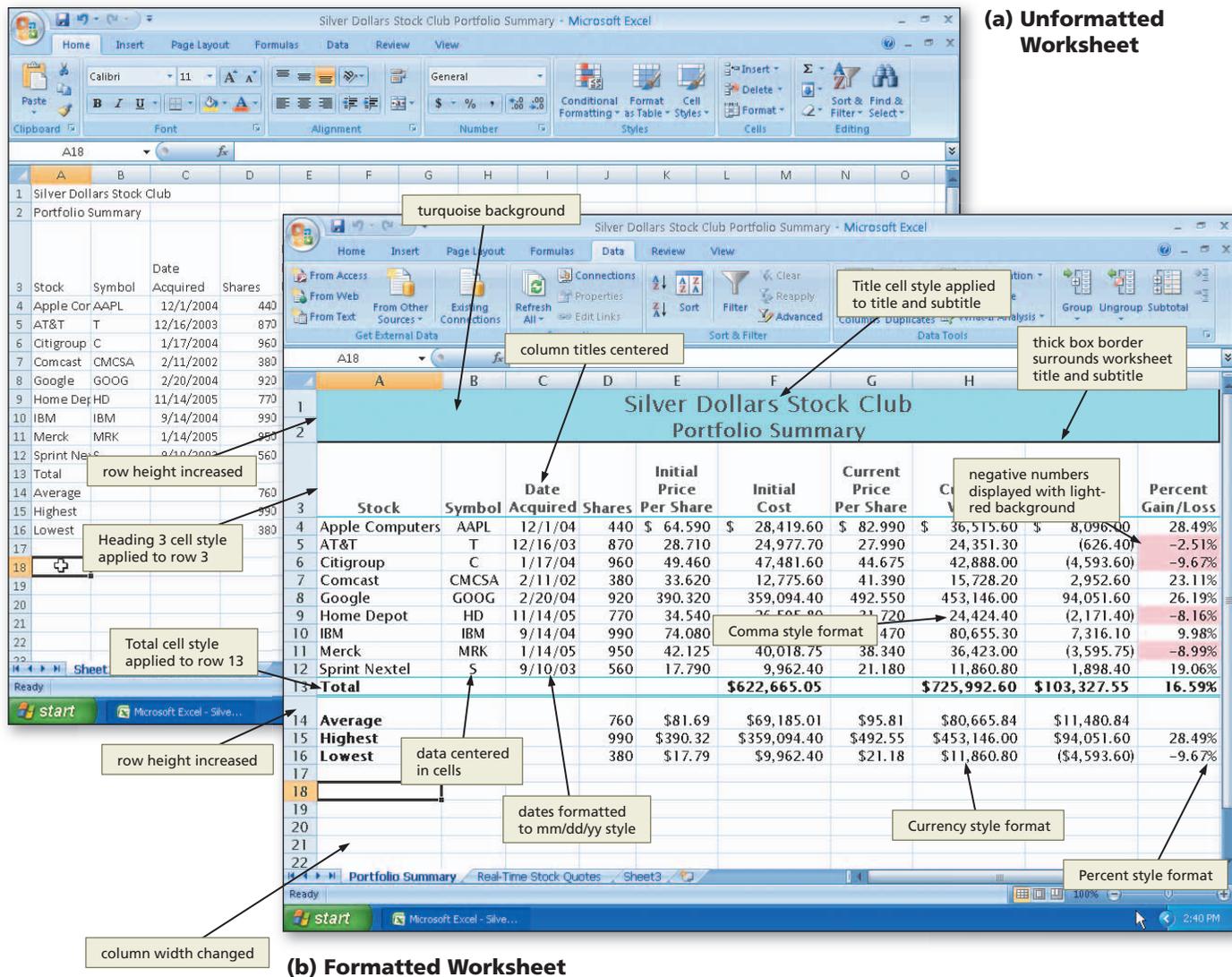


Figure 2–30

Plan Ahead

BTW

Colors

Knowing how people perceive colors helps you emphasize parts of your worksheet. Warmer colors (red and orange) tend to reach toward the reader. Cooler colors (blue, green, and violet) tend to pull away from the reader. Bright colors jump out of a dark background and are easiest to see. White or yellow text on a dark blue, green, purple, or black background is ideal.

Identify how to format various elements of the worksheet.

The following outlines the formatting suggested in the sketch of the worksheet in Figure 2–3 on page EX 85:

1. Workbook theme - Concourse
2. Worksheet title and subtitle
 - a. Alignment — center across columns A through J
 - b. Cell style — Title
 - c. Font size — title 18; subtitle 16
 - d. Background color (range A1:J2) — Turquoise Accent 1, Lighter 60%
 - e. Border — thick box border around range A1:J2
3. Column titles
 - a. Cell style — Heading 3
 - b. Alignment — center
4. Data
 - a. Alignment — center data in column B
 - b. Dates in column C — mm/dd/yy format
 - c. Numbers in top row (range E4:I4) — Accounting style
 - d. Numbers below top row (range E5:I12) — Comma style and decimal places
5. Total line
 - a. Cell style — Total
 - b. Numbers — Accounting style
6. Average, Highest, and Lowest rows
 - a. Font style of row titles in range A14:A16 — bold
 - b. Numbers — Currency style with floating dollar sign in the range E14:I16
7. Percentages in column J
 - a. Numbers — Percentage style with two decimal places; if a cell in range J4:J12 is less than zero, then cell appears with background color of light red
8. Column widths
 - a. Column A — 14.11 characters
 - b. Columns B and C — best fit
 - c. Column D — 6.00 characters
 - d. Column E, G, and J — 9.00 characters
 - e. Columns F, H, and I — 12.67 characters
9. Row heights
 - a. Row 3 — 60.00 points
 - b. Row 14 — 26.25 points
 - c. Remaining rows — default

To Change the Workbook Theme

The Concourse theme includes fonts and colors that provide the worksheet a professional and subtly colored appearance. The following steps change the workbook theme to the Concourse theme.

1

- Click the Page Layout tab on the Ribbon.
- Click the Themes button on the Ribbon to display the Theme gallery (Figure 2–31).

Experiment

- Point to several themes in the Theme gallery to see a live preview of the themes.

Q&A Why should I change the theme of a workbook?

A company or department may standardize on a specific theme so that all of their documents have a similar appearance. Similarly, an individual may want to have a theme that sets their work apart from others. Other Office applications, such as Word and PowerPoint, include the same themes included with Excel, meaning that all of your Microsoft Office documents can share a common theme.

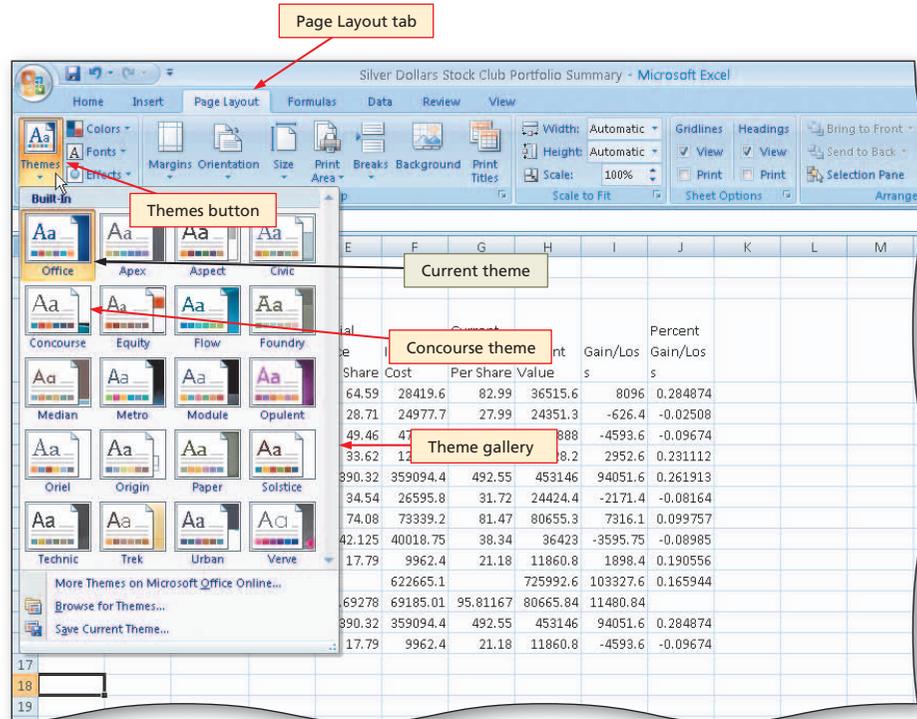


Figure 2–31

2

- Click Concourse in the Theme gallery to change the workbook theme to Concourse (Figure 2–32).

Q&A Why did the cells in the worksheet change?

The cells in the worksheet originally were formatted with the default font for the default Office theme. The default font for the Concourse theme is different than that of the default font for the Office theme and therefore changed on the worksheet when you changed the theme. If you had modified the font for any of the cells, those cells would not receive the default font for the Concourse theme.

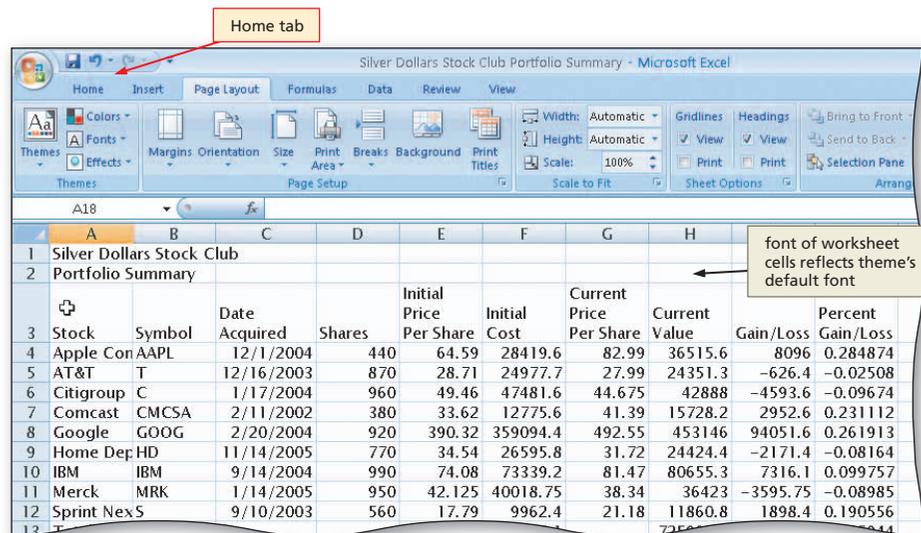


Figure 2–32

BTW **Background Colors**
 The most popular background color is blue. Research shows that the color blue is used most often because this color connotes serenity, reflection, and proficiency.

To Format the Worksheet Titles

The following steps merge and center the worksheet titles, apply the Title cells style to the worksheet titles, and decrease the font of the worksheet subtitle.

- 1 Click the Home tab on the Ribbon.
- 2 Select the range A1:J1 and then click the Merge and Center button on the Ribbon.
- 3 Select the range A2:J2 and then click the Merge and Center button on the Ribbon.
- 4 Select the range A1:A2, click the Cell Styles button on the Ribbon, and then click the Title cell style in the Cell Styles gallery.
- 5 Select cell A2 and then click the Decrease Font Size button on the Ribbon (Figure 2–33).

Q&A

What is the effect of clicking the Decrease Font Size button?

When you click the Decrease Font Size button Excel assigns the next lowest font size in the Font Size gallery to the selected range. The Increase Font Size button works in a similar manner, but causes Excel to assign the next highest font size in the Font Size gallery to the selected range.

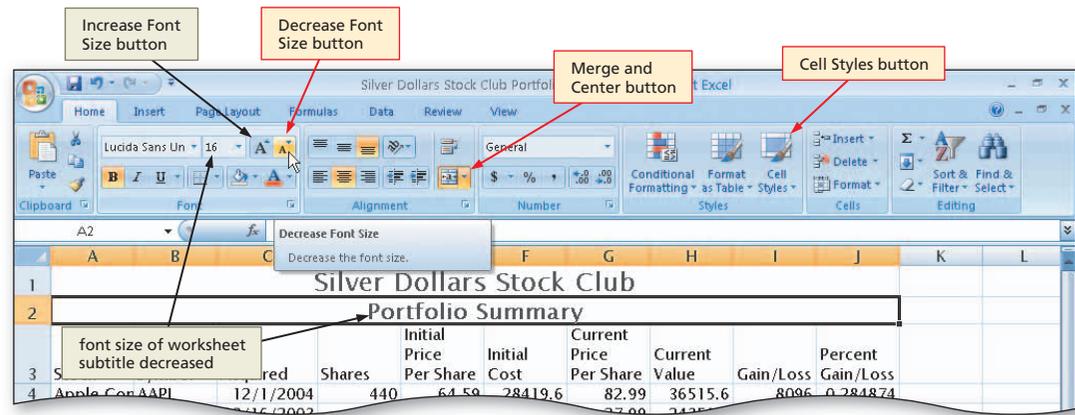


Figure 2–33

To Change the Background Color and Apply a Box Border to the Worksheet Title and Subtitle

The final formats assigned to the worksheet title and subtitle are the turquoise background color and thick box border (Figure 2–30b on page EX 107). The following steps complete the formatting of the worksheet titles.

- 1 Select the range A1:A2 and then click the Fill Color button arrow on the Ribbon to display the Fill Color palette (Figure 2–34).

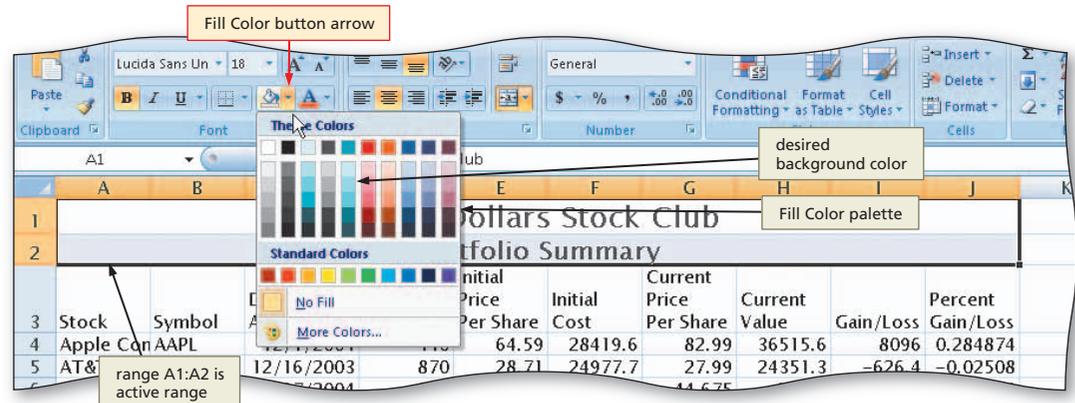


Figure 2–34

- 2
 - Click Turquoise Accent 1, lighter 60% (column 5, row 3) on the Fill Color palette to change the background color of cells A1 and A2 from white to turquoise (Figure 2–35).

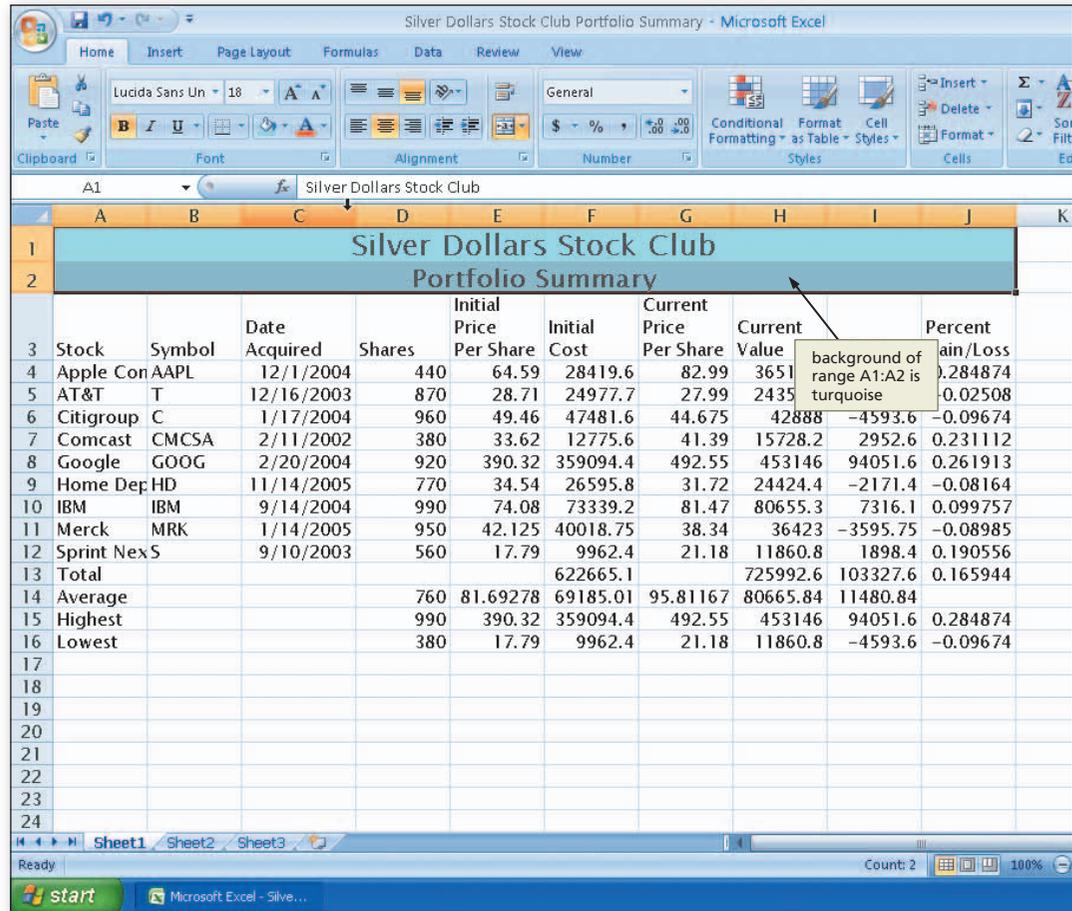


Figure 2–35

- 3
 - Click the Borders button arrow on the Ribbon to display the Borders gallery (Figure 2–36).

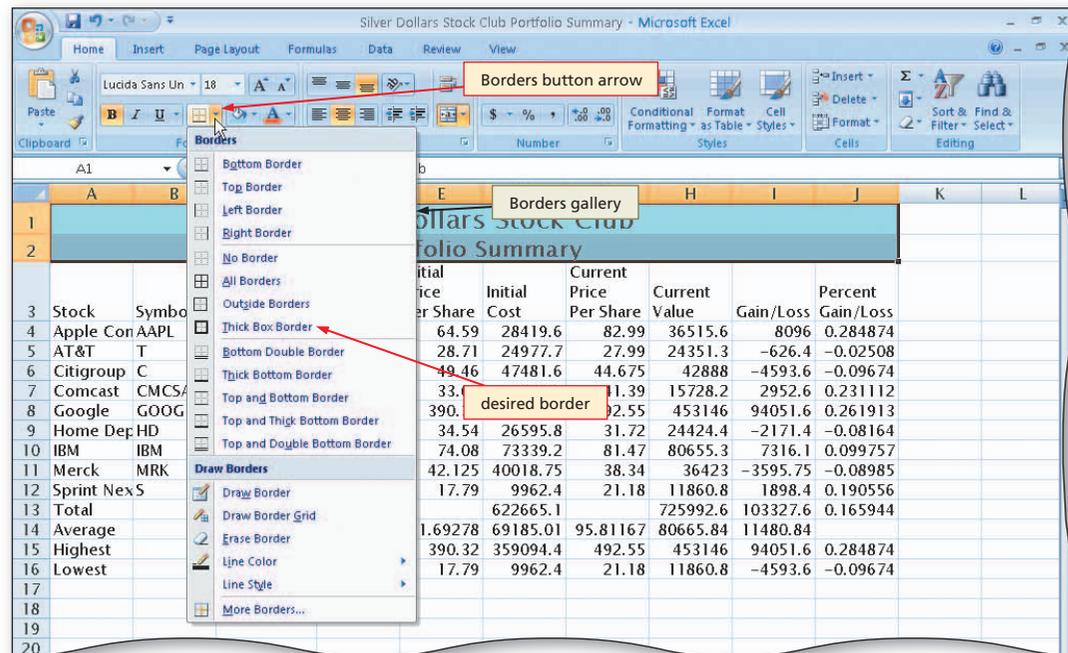


Figure 2–36

4

- Click the Thick Box Border command on the Borders gallery to display a thick box border around the range A1:A2.
- Click cell A18 to deselect the range A1:A2 (Figure 2–37).

Other Ways

1. On Ribbon click Format Cells Dialog Box Launcher, click appropriate tab, click desired format, click OK button
2. Right-click range, click Format Cells on shortcut menu, click appropriate tab, click desired format, click OK button
3. Press CTRL+1, click appropriate tab, click desired format, click OK button

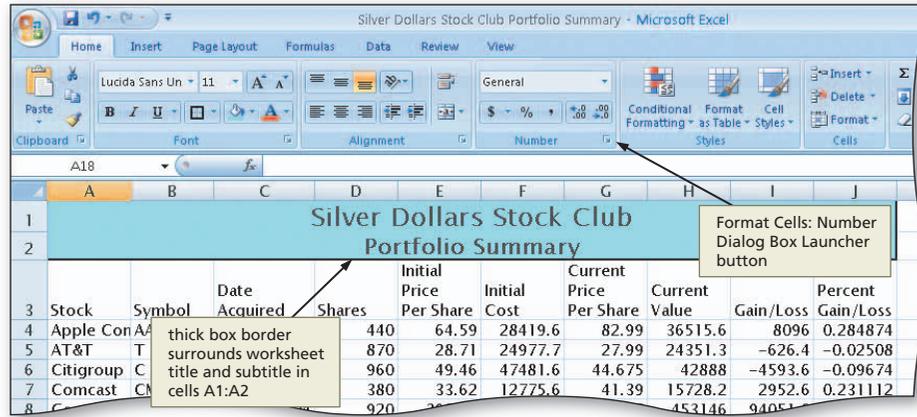


Figure 2–37

To Apply a Cell Style to the Column Headings and Format the Total Rows

As shown in Figure 2–30b on page EX 107, the column titles (row 3) have the Heading 3 cell style and the total row (row 13) has the Total cell style. The summary information headings in the range A14:A16 should be bold. The following steps assign these styles to row 3 and row 13 and the range A14:A16.

- 1 Select the range A3:J3.
- 2 Apply the Heading 3 cell style to the range A3:J3.
- 3 Apply the Total cell style to the range A13:J13.
- 4 Select the range A14:A16 and then click the Bold button on the Ribbon (Figure 3–38).

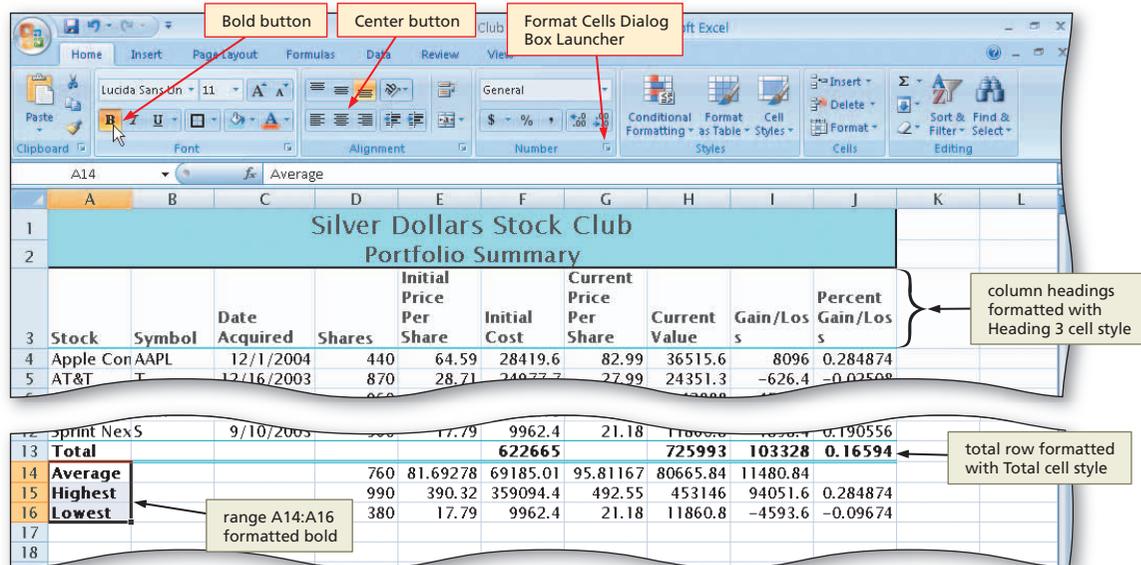


Figure 2–38

To Center Data in Cells and Format Dates

With the column titles and total rows formatted, the next step is to center the stock symbols in column B and format the dates in column C. If a cell entry is short, such as the stock symbols in column B, centering the entries within their respective columns improves the appearance of the worksheet. The following steps center the data in the range B4:B12 and format the dates in the range C4:C12.

- 1
 - Select the range B4:B12 and then click the Center button on the Ribbon to center the data in the range B4:B12.
- 2
 - Select the range C4:C12.
 - Click the Format Cells: Number Dialog Box Launcher on the Ribbon to display the Format Cells dialog box.
 - When Excel displays the Format Cells dialog box, if necessary click the Number tab, click Date in the Category list, and then click 3/14/01 in the Type list to choose the format for the range C4:C12 (Figure 2–39).

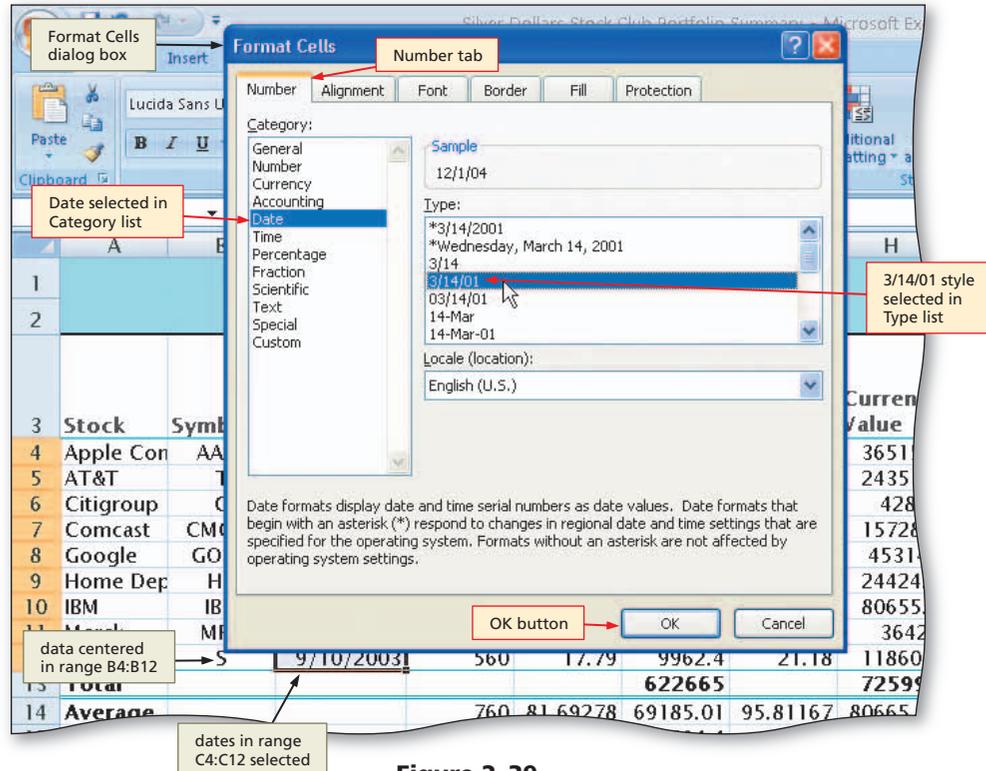


Figure 2–39

3

- Click the OK button to format the dates in column C using the date format style, mm/dd/yy.
- Select cell E4 to deselect the range C4:C13 (Figure 2–40).

Q&A

Can I format an entire column at once?

Yes. Rather than selecting the range B4:B12 in Step 1, you could have clicked the column B heading immediately above cell B1, and then clicked the Center button on the Ribbon. In this case, all cells in column B down to the last cell in the worksheet would have been formatted to use center alignment. This same procedure could have been used to format the dates in column C.

Silver Dollars Stock Club Portfolio Summary								
	Stock	Symbol	Date Acquired	Shares	Initial Price Per Share	Initial Cost	Current Price Per Share	Current Value
4	Apple Cor	AAPL	12/1/04	440	64.59	28419.6	82.99	3651
5	AT&T	T	12/16/03	870	28.71	24977.7	27.99	2435
6	Citigroup	C	1/17/04	960	49.46	47481.6	44.675	428
7	Comcast	CMCSA	2/11/02	380	33.62	12775.6	41.39	15728
8	Google	GOOG	2/20/04	920	390.32	359094.4	492.55	4531
9	Home Dep	HD	11/14/05	770	34.54	26595.8	31.72	24424
10	IBM	IBM	9/14/04	990	74.08	73339.2	81.47	80655
11	Merck	MRK	1/14/05			2018.75	38.34	364
12	Sprint Nex	S	9/10/03			9962.4	21.18	11860
13	Total					22665		7259
14	Average					185.01	95.81167	80665
15	Highest			990	390.32	359094.4	492.55	4531
16	Lowest			380	17.79	9962.4	21.18	1186

Figure 2–40

Other Ways

1. Right-click range, click Format Cells on shortcut menu, click appropriate tab, click desired format, click OK button
2. Press CTRL+1, click appropriate tab, click desired format, click OK button

Formatting Numbers Using the Ribbon

As shown in Figure 2–30b on page EX 107, the worksheet is formatted to resemble an accounting report. For example, in columns E through I, the numbers in the first row (row 4), the totals row (row 13), and the rows below the totals (rows 14 through 16) have dollar signs, while the remaining numbers (rows 5 through 12) in columns E through I do not.

To append a dollar sign to a number, you should use the Accounting number format. Excel displays numbers using the **Accounting Number Format** with a dollar sign to the left of the number, inserts a comma every three positions to the left of the decimal point, and displays numbers to the nearest cent (hundredths place). Clicking the Accounting Number Format button on the Ribbon assigns the desired accounting number format. When you use the Accounting Number Format button to assign the accounting number format, Excel displays a **fixed dollar sign** to the far left in the cell, often with spaces between it and the first digit. To assign a **floating dollar sign** that appears immediately to the left of the first digit with no spaces, use the Currency Style in the Format Cells dialog box.

The Comma Style format is used to instruct Excel to display numbers with commas and no dollar signs. The **Comma Style format**, which can be assigned to a range of cells by clicking the Comma Style button on the Ribbon, inserts a comma every three positions to the left of the decimal point and causes numbers to be displayed to the nearest hundredths.

BTW

Rotating and Shrinking Entries in Cells

In addition to aligning entries horizontally and vertically, you also can rotate and shrink entries to fit in a cell. To rotate or shrink entries to fit in a cell, click Format Cells on the shortcut menu, click the Alignment tab in the Format Cells dialog box, and then select the type of control you want.

To Apply an Accounting Style Format and Comma Style Format Using the Ribbon

The following steps show how to assign formats using the Accounting Number Format button and the Comma Style button on the Ribbon.

1

- Select the range E4:I4.
- While holding down the CTRL key, select the ranges F13:I13.
- Click the Accounting Number Format button on the Ribbon (Figure 2–41) to apply the Accounting style format with fixed dollar signs to the nonadjacent ranges E4:I4 and F13:I13 (Figure 2–41).

Q&A

What is the effect of applying the Accounting style format?

The Accounting Number Format button assigns a fixed dollar sign to the numbers in the ranges E4:I4 and F13:I13. In each cell in these ranges, Excel displays the dollar sign to the far left with spaces between it and the first digit in the cell.

Excel displays nonadjacent ranges E4:I4 and F13:I13 using the Accounting style format with fixed dollar signs

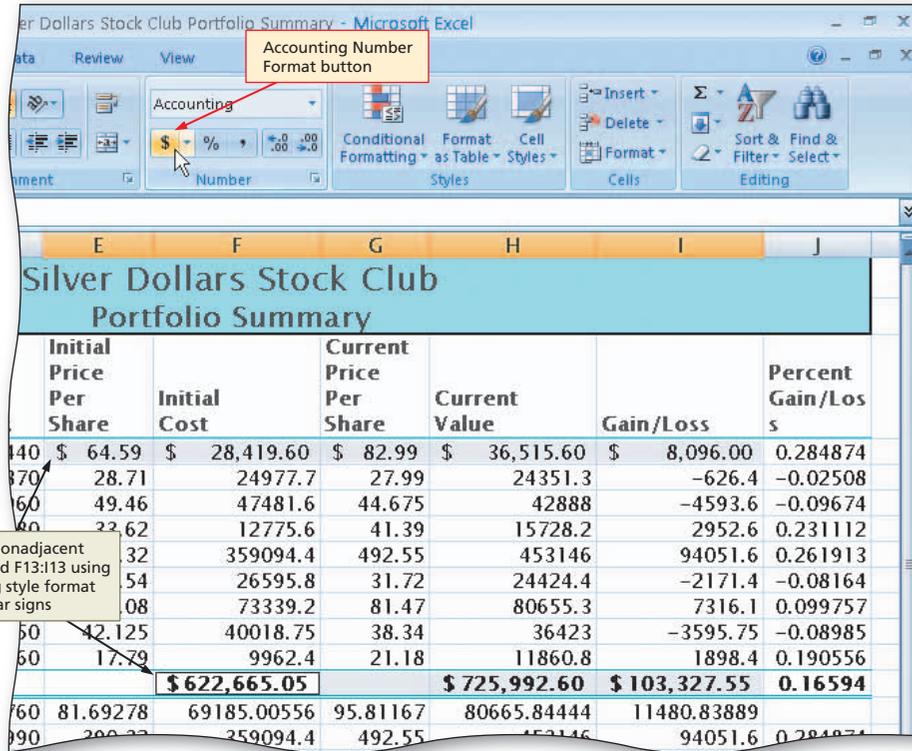


Figure 2–41

2

- Select the range E5:I12.
- Click the Comma Style button on the Ribbon to assign the Comma style format to the range E5:I12 (Figure 2–42).

width of columns automatically increased due to formatting

range E5:I12 selected

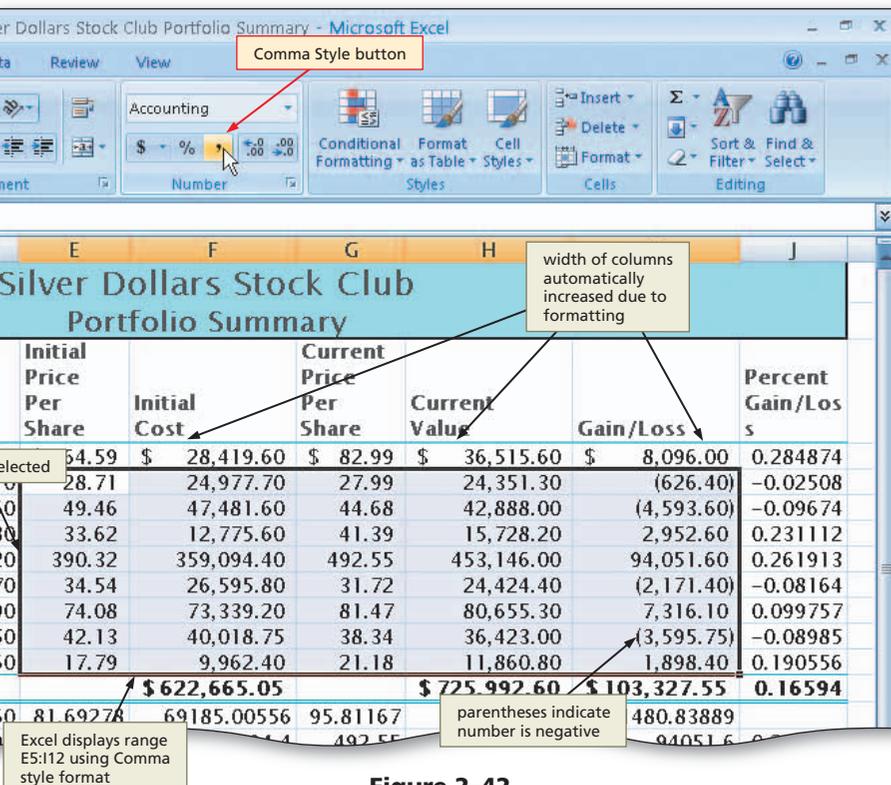


Figure 2–42

3

- Click cell E4.
- While holding down the CTRL key, select cell G4.
- Click the Increase Decimal button on the Ribbon to increase the number of decimal places displayed in cell E4 and G4.
- Select the range E5:E12. While holding down the CTRL key, select the range G5:G12.
- Click the Increase Decimal button on the Ribbon to increase the number of decimal places displayed in selected ranges (Figure 2–43).

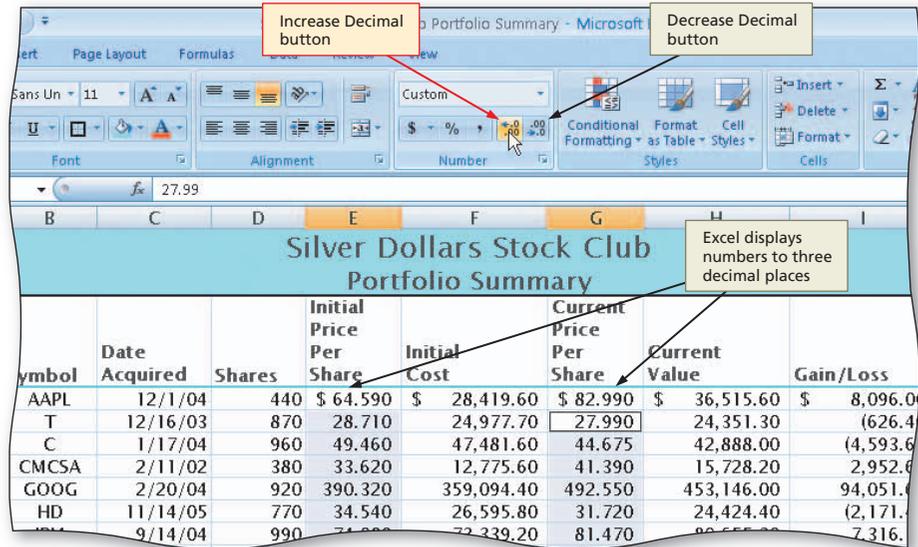


Figure 2–43

Q&A

What is the effect of clicking the Increase Decimal button?

The Increase Decimal button instructs Excel to display additional decimal places in a cell. Each time you click the Increase Decimal button, Excel adds a decimal place to the selected cell.

To Apply a Currency Style Format with a Floating Dollar Sign Using the Format Cells Dialog Box

The following steps use the Format Cells dialog box to apply the Currency style format with a floating dollar sign to the numbers in the ranges E14:I16.

1

- Select the range E14:I16 and then point to the Format Cells: Number Dialog Box Launcher on the Ribbon (Figure 2–44).

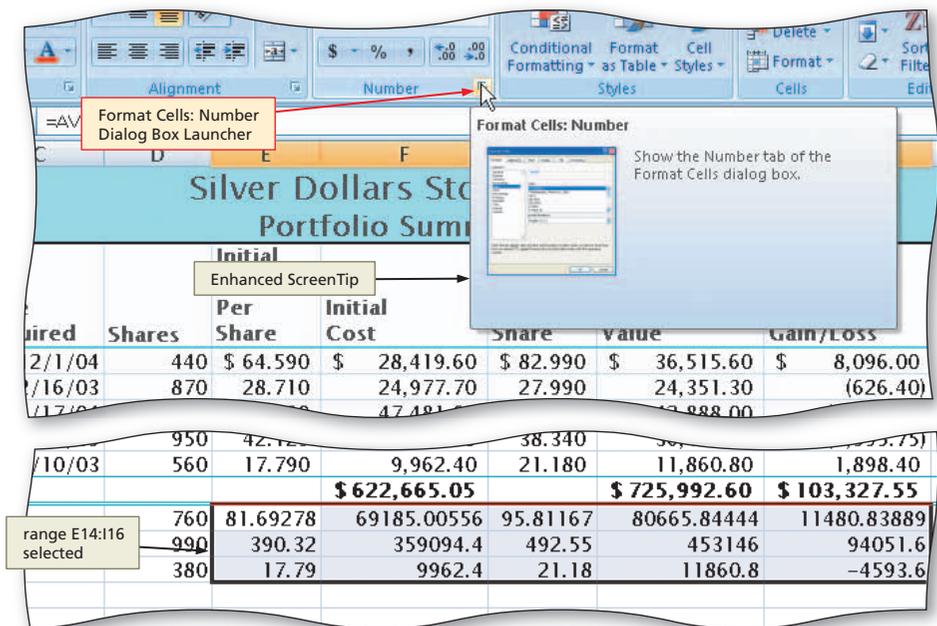


Figure 2–44

2

- Click the Format Cells: Number Dialog Box Launcher.
- If necessary, click the Number tab in the Format Cells dialog box.
- Click Currency in the Category list and then click the third style (\$1,234.10) in the Negative numbers list (Figure 2-45).

Q&A How do I select the proper format? You can choose from 12 categories of formats. Once you select a category, you can select the number of decimal places, whether or not a dollar sign should be displayed, and how negative numbers should appear. Selecting the appropriate negative numbers format is important, because doing so adds a space to the right of the number in order to align the numbers in the worksheet on the decimal points. Some of the available negative number formats do not align the numbers in the worksheet on the decimal points.

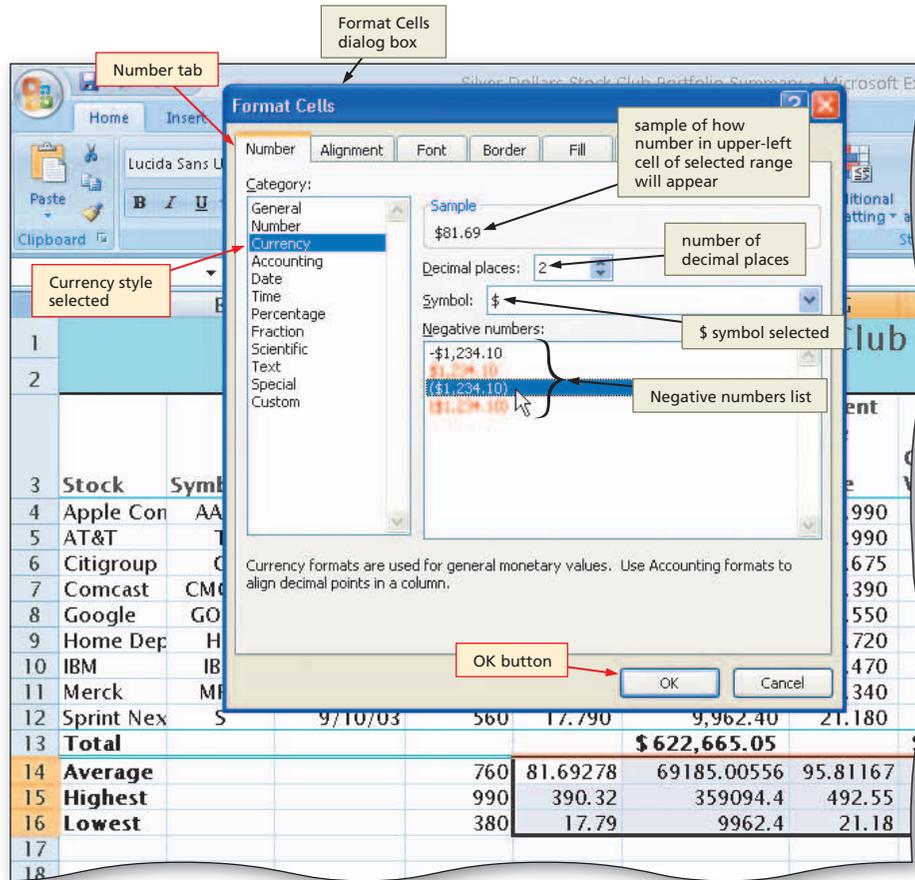


Figure 2-45

3

- Click the OK button to assign the Currency style format with a floating dollar sign to the range E14:I16 (Figure 2-46).

Q&A Should I click the Accounting Number Style button on the Ribbon or use the Format Cells dialog box? Recall that a floating dollar sign always appears immediately to the left of the first digit, and the fixed dollar sign always appears on the left side of the cell. Cell E4, for example, has a fixed dollar sign, while cell E14 has a floating dollar sign. The Currency style was assigned to cell E14 using the Format Cells dialog box and the result is a floating dollar sign.

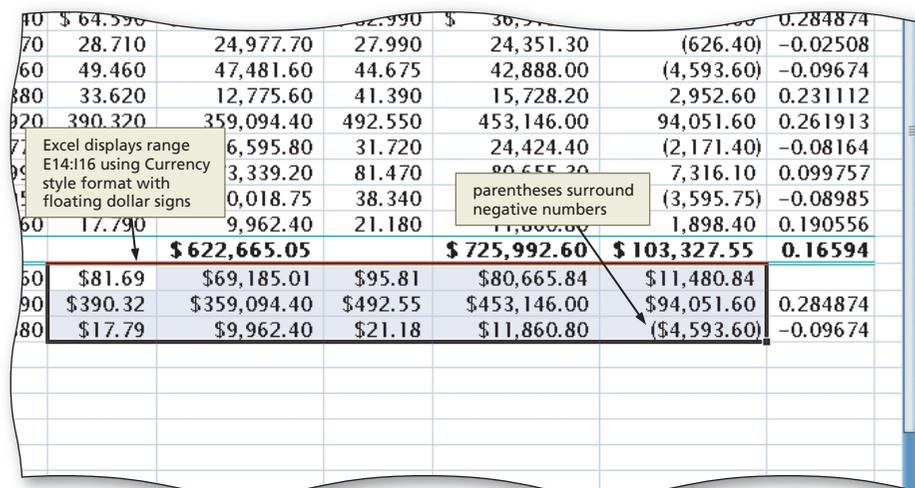


Figure 2-46

Other Ways

1. Press CTRL+1, click Number tab, click Currency in Category list, select format, click OK button
2. Press CTRL+SHIFT+DOLLAR SIGN (\$)

To Apply a Percent Style Format and Use the Increase Decimal Button

The next step is to format the percent gain/loss in column J. Currently, Excel displays the numbers in column J as a decimal fraction (for example, 0.284874 in cell J4). The following steps format the range J4:J16 to the Percent style format with two decimal places.

1

- Select the range J4:J16.
- Click the Percent Style button on the Ribbon to display the numbers in column J as a rounded whole percent.

Q&A

What is the result of clicking the Percent Style button?

The Percent Style button instructs Excel to display a value as a percentage, determined by multiplying the cell entry by 100, rounding the result to the nearest percent, and adding a percent sign. For example, when cell J4 is formatted using the Percent Style and Increase Decimal buttons, Excel displays the actual value 0.284874 as 28.49%.

2

- Click the Increase Decimal button on the Ribbon two times to display the numbers in column J with the Percent style format and two decimal places (Figure 2–47).

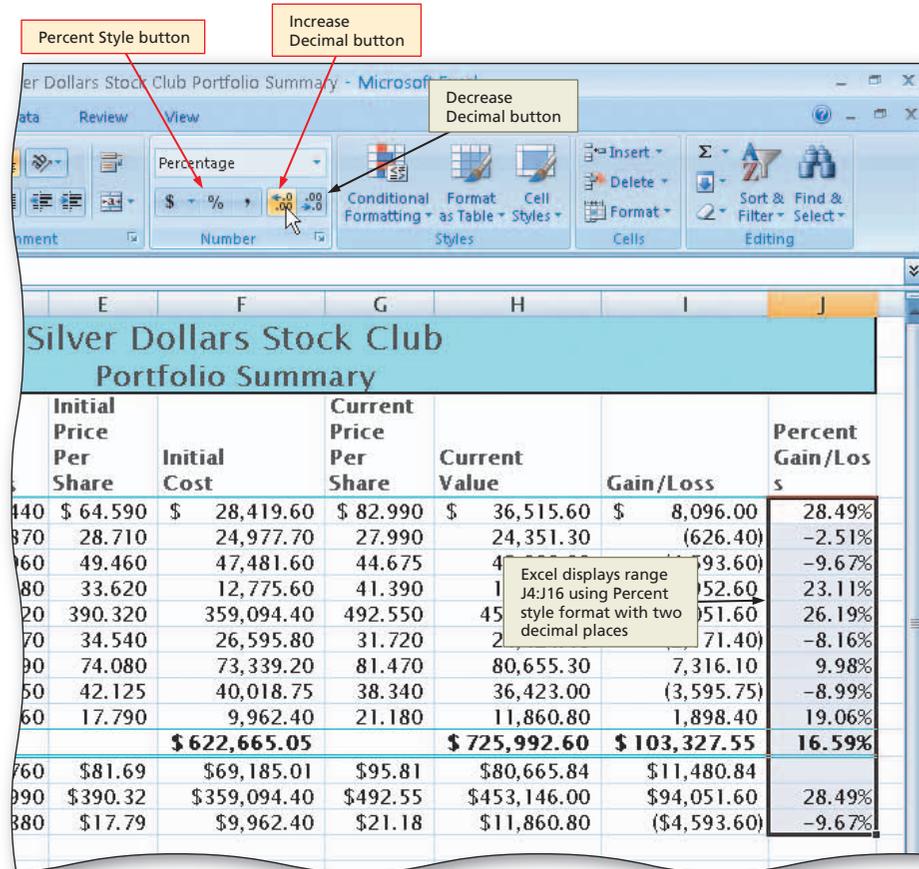


Figure 2–47

Other Ways

1. Right-click range, click Format Cells on shortcut menu, click Number tab, click Percentage in Category list, select format, click OK button
2. Press CTRL+1, click Number tab, click Percentage in Category list, select format, click OK button
3. Press CTRL+SHIFT+PERCENT SIGN (%)

Conditional Formatting

The next step is to emphasize the negative percentages in column J by formatting them to appear with a tinted background. The Conditional Formatting button on the Ribbon will be used to complete this task.

Excel lets you apply formatting that appears only when the value in a cell meets conditions that you specify. This type of formatting is called **conditional formatting**. You can apply conditional formatting to a cell, a range of cells, the entire worksheet, or the entire workbook. Usually, you apply conditional formatting to a range of cells that contains values you want to highlight, if conditions warrant. For example, you can instruct Excel to change the color of the background of a cell if the value in the cell meets a condition, such as being less than 0 as shown in Figure 2–48.

A **condition**, which is made up of two values and a relational operator, is true or false for each cell in the range. If the condition is true, then Excel applies the formatting. If the condition is false, then Excel suppresses the formatting. What makes conditional formatting so powerful is that the cell's appearance can change as you enter new values in the worksheet.

To Apply Conditional Formatting

The following steps assign conditional formatting to the range J4:J12, so that any cell value less than zero will cause Excel to display the number in the cell with a light red background.

1

- Select the range J4:J12.
- Click the Conditional Formatting button on the Ribbon to display the Conditional Formatting gallery (Figure 2–48).

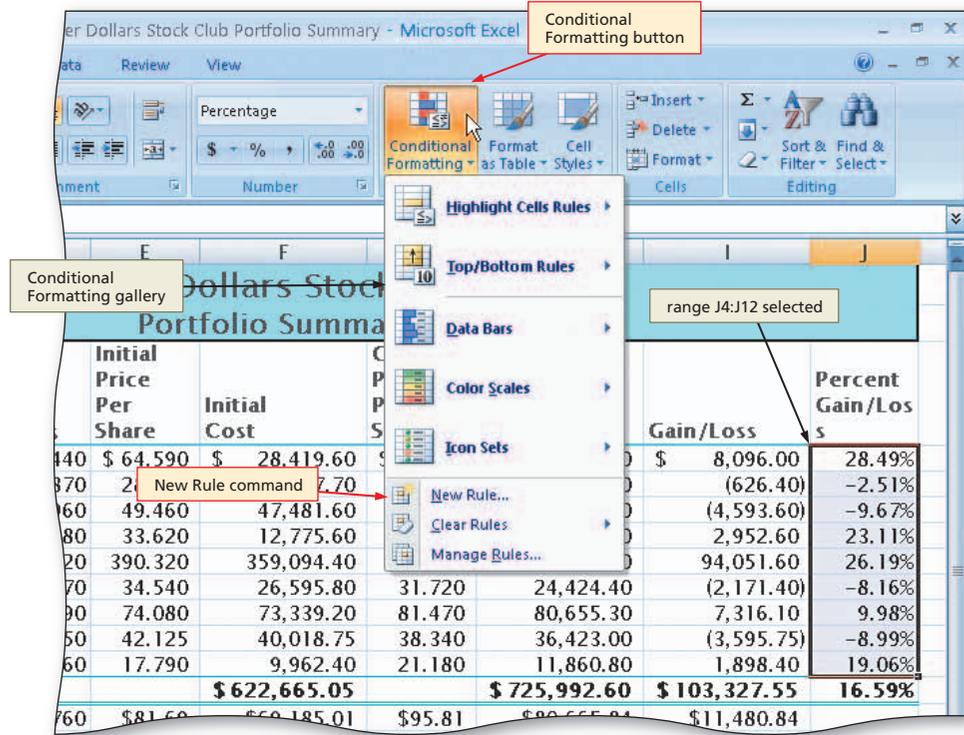


Figure 2–48

2

- Click New Rule in the Conditional Formatting gallery to display the New Formatting Rule dialog box.
- Click 'Format only cells that contain' in the Select a Rule Type area.
- In the Edit the Rule Description area, click the box arrow in the relational operator box (second text box) and then select less than.
- Type 0 (zero) in the rightmost text box in the Edit the Rule Description area (Figure 2–49).

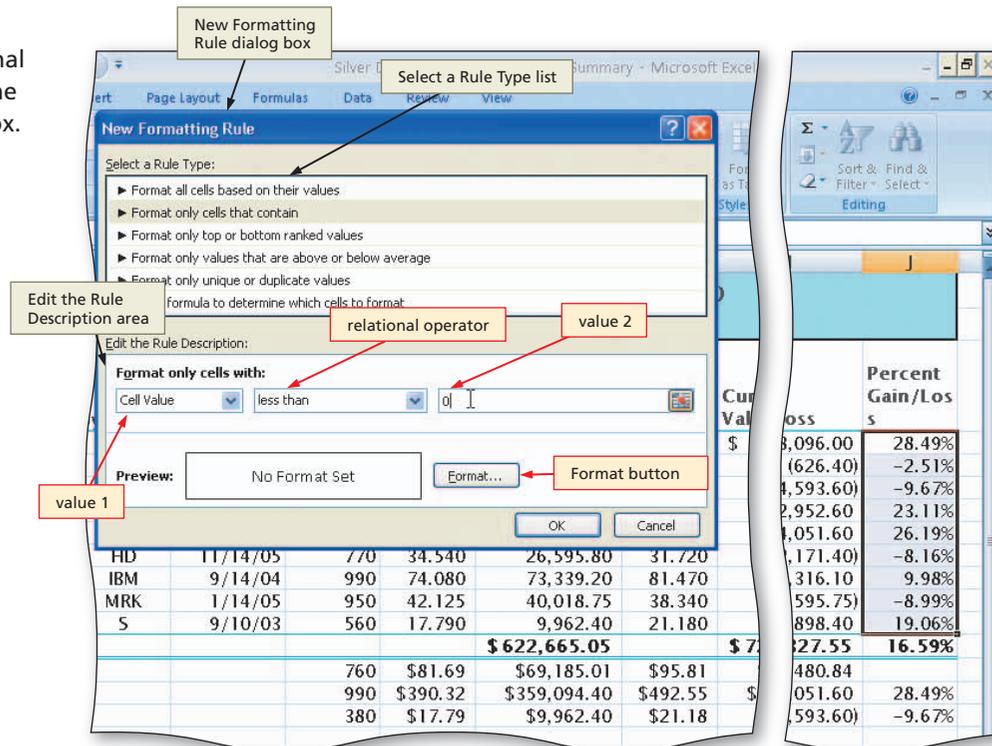


Figure 2–49

3

- Click the Format button.
- When Excel displays the Format Cells dialog box, click the Fill tab and then click the light red color in column 6, row 2 (Figure 2-50).

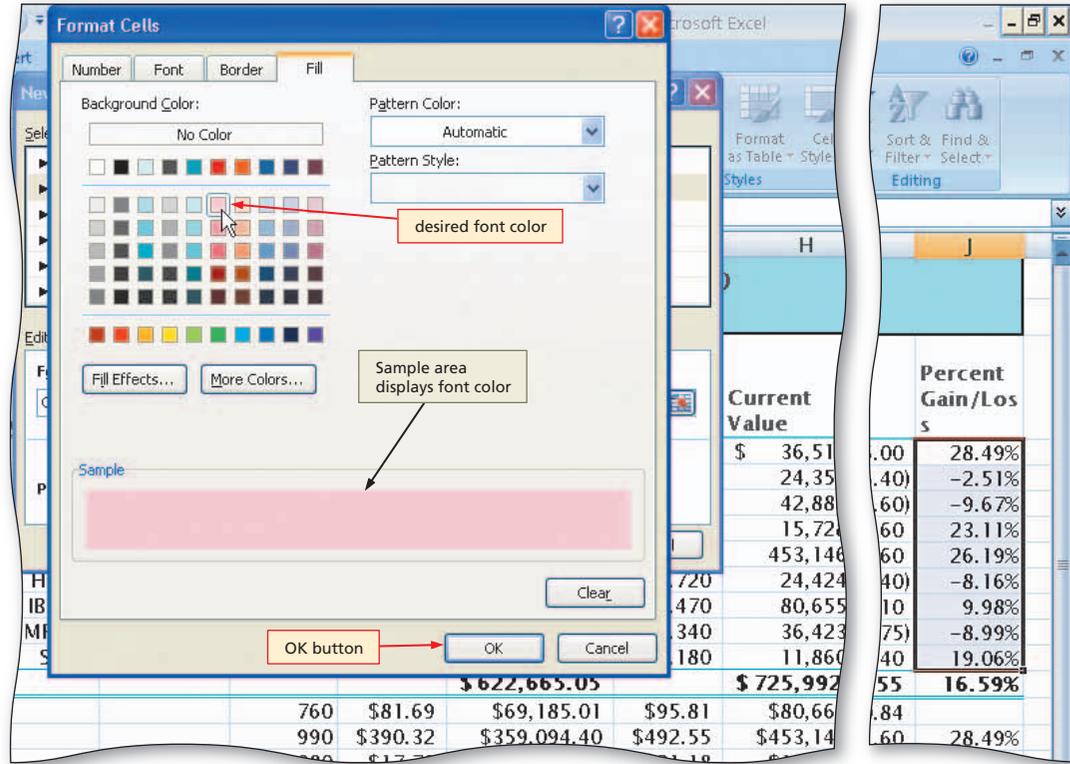


Figure 2-50

4

- Click the OK button to close the Format Cells dialog box and display the New Formatting Rule dialog box with the desired color displayed in the Preview box (Figure 2-51).

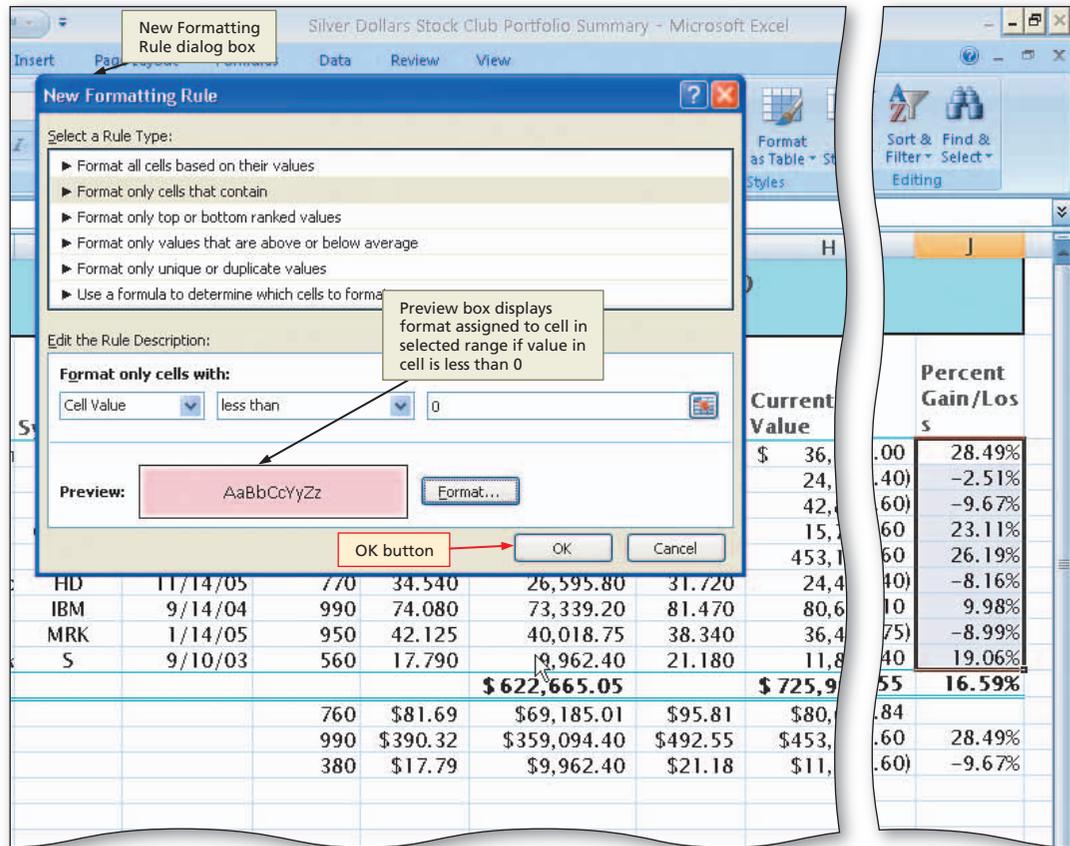


Figure 2-51

- 5
 - Click the OK button to assign the conditional format to the range J4:J12.
 - Click cell A18 to deselect the range J4:J12 (Figure 2–52).

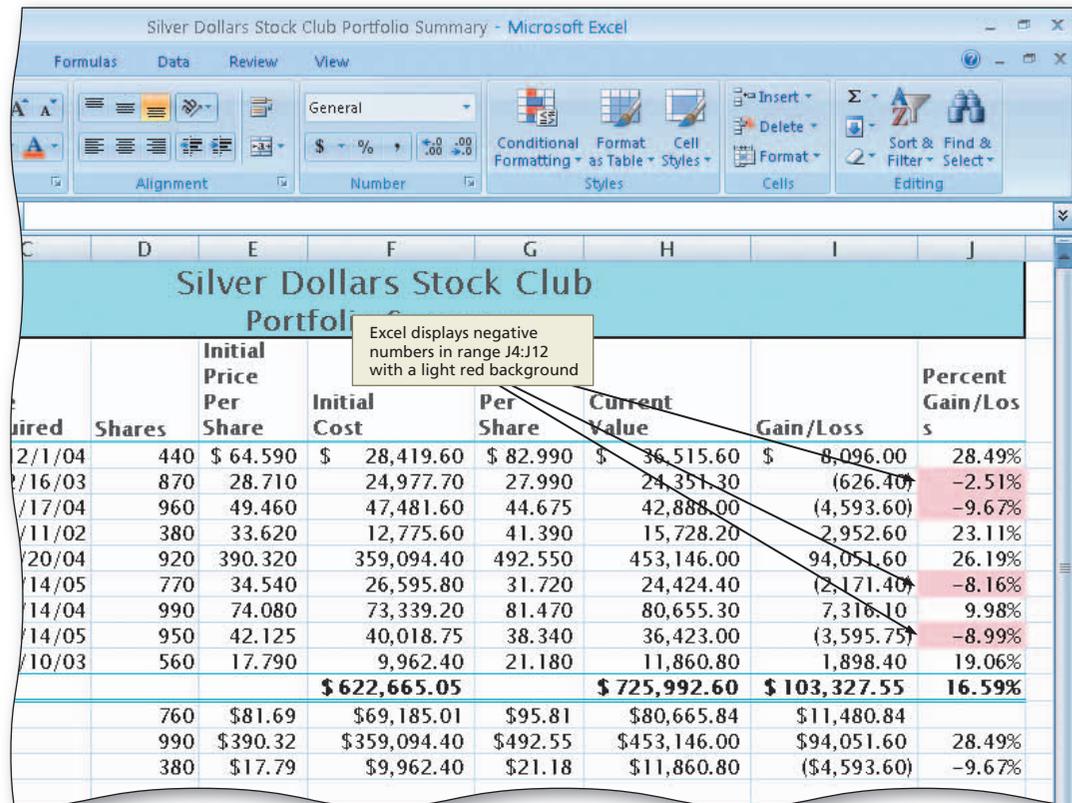


Figure 2–52

Conditional Formatting Operators

As shown in Figure 2–49 on page EX 119, the second text box in the New Formatting Rule dialog box allows you to select a relational operator, such as less than, to use in the condition. The eight different relational operators from which you can choose for conditional formatting in the New Formatting Rule dialog box are summarized in Table 2–5.

Table 2–5 Summary of Conditional Formatting Relational Operators

Relational Operator	Description
Between	Cell value is between two numbers
Not between	Cell value is not between two numbers
Equal to	Cell value is equal to a number
Not equal to	Cell value is not equal to a number
Greater than	Cell value is greater than a number
Less than	Cell value is less than a number
Greater than or equal to	Cell value is greater than or equal to a number
Less than or equal to	Cell value is less than or equal to a number

BTW **Conditional Formatting**
 You can assign any format to a cell, a range of cells, a worksheet, or an entire workbook conditionally. If the value of the cell changes and no longer meets the specified condition, Excel suppresses the conditional formatting.

BTW

Hidden Columns

Trying to unhide a range of columns using the mouse can be frustrating. An alternative is to use the keyboard: select the columns to the right and left of the hidden columns and then press CTRL+SHIFT+(RIGHT PARENTHESIS). To use the keyboard to hide a range of columns, press CTRL+0 (ZERO).

Changing the Widths of Columns and Heights of Rows

When Excel starts and displays a blank worksheet on the screen, all of the columns have a default width of 8.43 characters, or 64 pixels. A character is defined as a letter, number, symbol, or punctuation mark in 11-point Calibri font, the default font used by Excel. An average of 8.43 characters in 11-point Calibri font will fit in a cell.

Another measure of the height and width of cells is pixels, which is short for picture element. A **pixel** is a dot on the screen that contains a color. The size of the dot is based on your screen's resolution. At a common resolution of 1024 × 768, 1024 pixels appear across the screen and 768 pixels appear down the screen for a total of 786,432 pixels. It is these 786,432 pixels that form the font and other items you see on the screen.

The default row height in a blank worksheet is 15 points (or 20 pixels). Recall from Chapter 1 that a point is equal to 1/72 of an inch. Thus, 15 points is equal to about 1/5 of an inch. You can change the width of the columns or height of the rows at any time to make the worksheet easier to read or to ensure that Excel displays an entry properly in a cell.

To Change the Widths of Columns

When changing the column width, you can set the width manually or you can instruct Excel to size the column to best fit. **Best fit** means that the width of the column will be increased or decreased so the widest entry will fit in the column. Sometimes, you may prefer more or less white space in a column than best fit provides. Excel thus allows you to change column widths manually.

When the format you assign to a cell causes the entry to exceed the width of a column, Excel automatically changes the column width to best fit. If you do not assign a format to a cell or cells in a column, the column width will remain 8.43 characters. To set a column width to best fit, double-click the right boundary of the column heading above row 1.

The following steps change the column widths: column A to 14.11 characters; columns B and C to best fit; column D to 6.00 characters; columns E, G, and J to 9.00 characters; and columns F, H, and I to 12.67 characters.

1

- Point to the boundary on the right side of the column A heading above row 1.
- When the mouse pointer changes to a split double arrow, drag until the ScreenTip indicates Width: 14.11 (134 pixels). Do not release the mouse button (Figure 2-53).

Q&A

What happens if I change the column width to zero (0)?

If you decrease the column width to 0, the column is hidden. **Hiding cells** is a technique you can use to hide data that might not be relevant to a particular report or sensitive data that you do not want others to see. To instruct Excel to display a hidden column, position the mouse pointer to the right of the column heading boundary where the hidden column is located and then drag to the right.

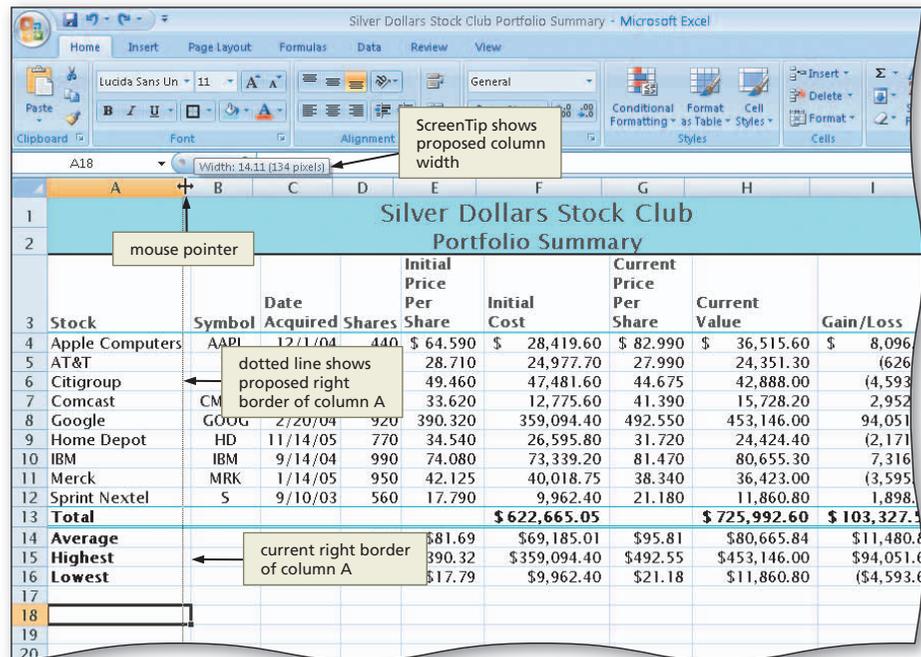


Figure 2-53

2

- Release the mouse button.
- Drag through column headings B and C above row 1.
- Point to the boundary on the right side of column heading C to cause the mouse pointer to become a split double arrow (Figure 2-54).

Q&A

What if I want to make a large change to the column width?

If you want to increase or decrease column width significantly, you can right-click a column heading and then use the Column Width command on the shortcut menu to change the column's width. To use this command, however, you must select one or more entire columns.

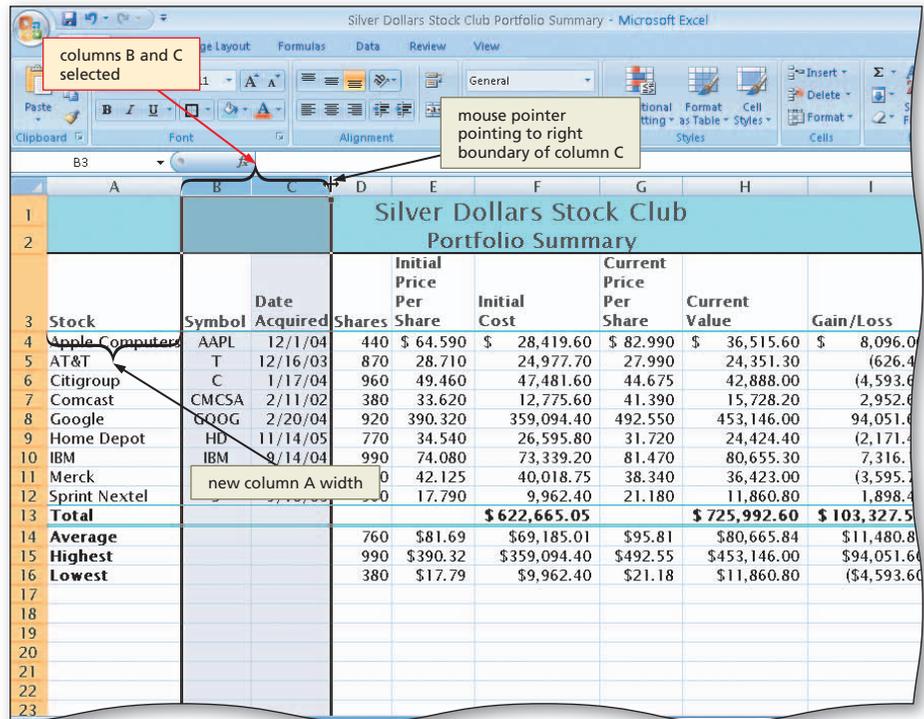


Figure 2-54

3

- Double-click the right boundary of column heading C to change the width of columns B and C to best fit.
- Click the column E heading above row 1.
- While holding down the CTRL key, click the column G heading and then the column J heading above row 1 so that columns E, G, and J are selected.
- Point to the boundary on the right side of the column J heading above row 1.
- Drag until the ScreenTip indicates Width: 9.00 (88 pixels). Do not release the mouse button (Figure 2-55).

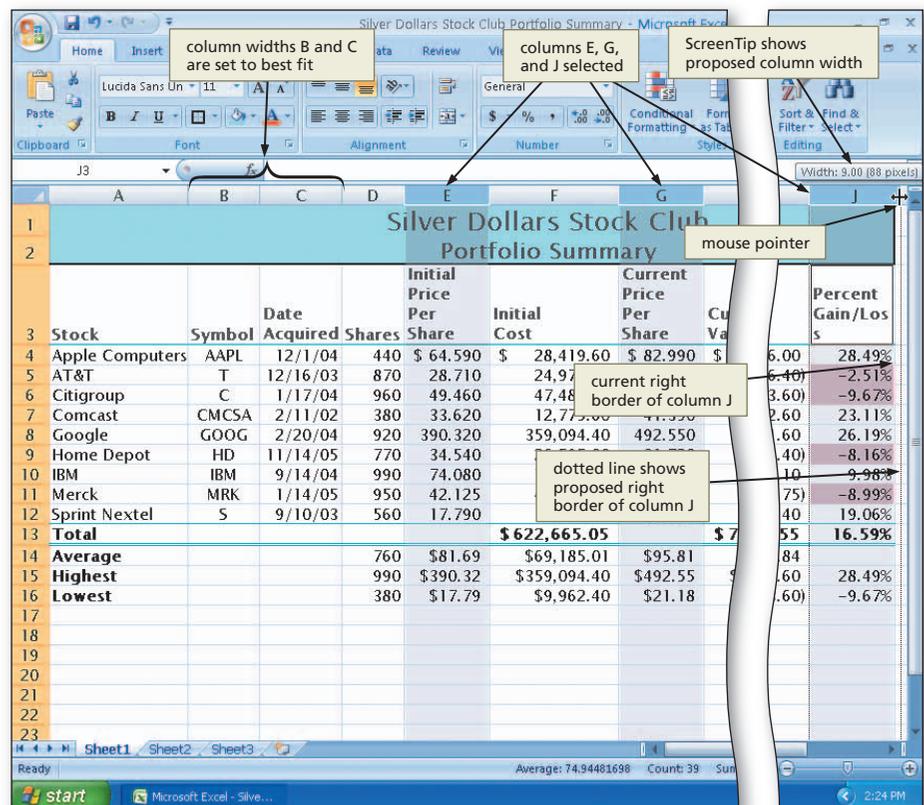


Figure 2-55

4

- Release the mouse button.
- Click the column F heading above row 1 to select column F.
- While holding down the CTRL key, click the column H heading and then the column I heading above row 1, to select columns F, H, and I.
- Point to the boundary on the right side of the column I heading above row 1.
- Drag to the left until the ScreenTip indicates Width: 12.67 (121 pixels). Do not release the mouse button (Figure 2-56).

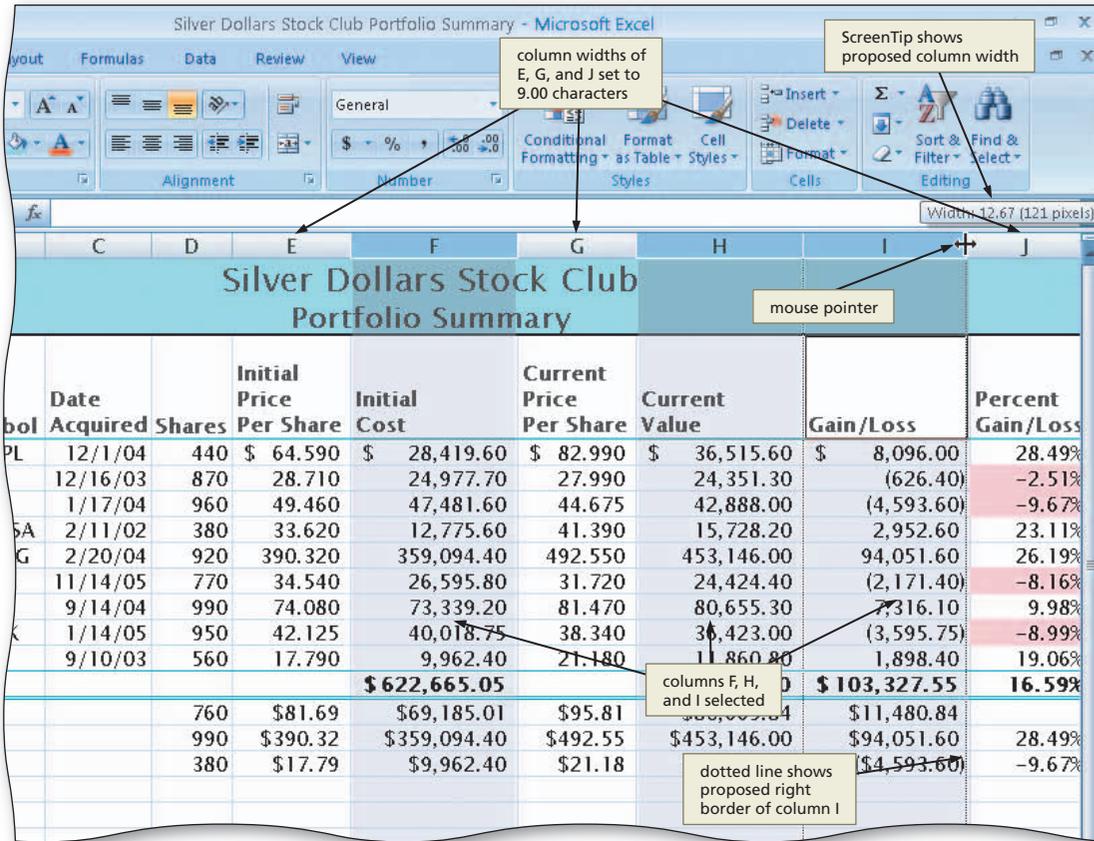


Figure 2-56

5

- Release the mouse button.
- Point to the boundary on the right side of the column D heading above row 1.
- Drag to the left until the ScreenTip indicates Width: 6.00 (61 pixels) and then release the mouse button to display the worksheet with the new column widths.
- Click cell A18 to deselect columns F, H, and I (Figure 2-57).

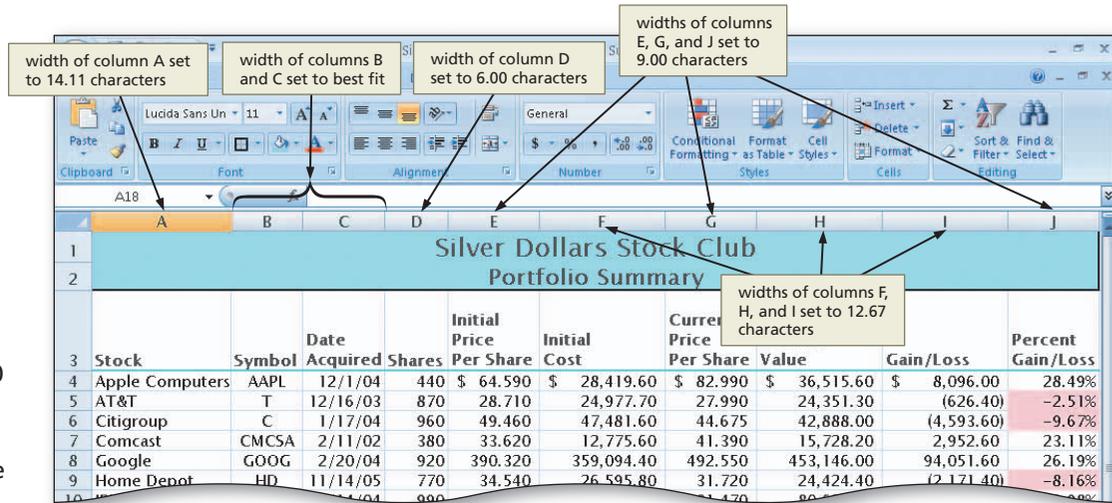


Figure 2-57

Other Ways

<ol style="list-style-type: none"> 1. Right-click column heading or drag through multiple column headings and right-click, click Column Width on shortcut menu, enter desired 	<ol style="list-style-type: none"> column width, click OK button 2. Right-click column heading or drag through multiple column headings and right- 	<ol style="list-style-type: none"> click, click Format button on Ribbon, click Column Width in Format gallery, enter desired column width, click OK button
--	--	---

To Change the Heights of Rows

When you increase the font size of a cell entry, such as the title in cell A1, Excel automatically increases the row height to best fit so it can display the characters properly. Recall that Excel did this earlier when multiple lines were entered in a cell in row 3, and when the cell style of the worksheet title and subtitle was changed.

You also can increase or decrease the height of a row manually to improve the appearance of the worksheet. The following steps show how to improve the appearance of the worksheet by decreasing the height of row 3 to 60.00 points, and increasing the height of row 14 to 26.25 points.

- 1
 - Point to the boundary below row heading 3.
 - Drag up until the ScreenTip indicates Height: 60.00 (80 pixels). Do not release the mouse button (Figure 2–58).

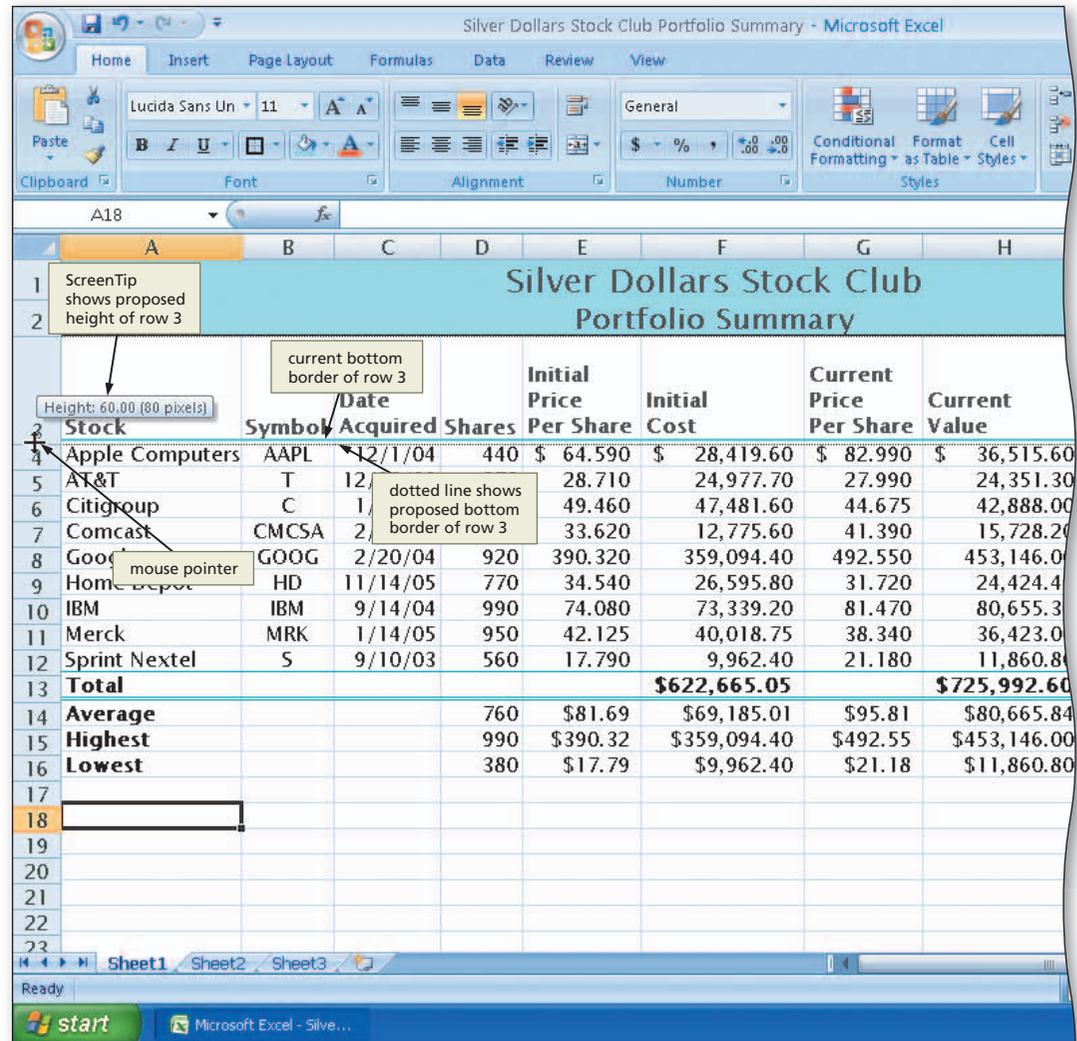


Figure 2–58

2

- Release the mouse button.
- Point to the boundary below row heading 14.
- Drag down until the ScreenTip indicates Height: 26.25 (35 pixels). Do not release the mouse button (Figure 2-59).

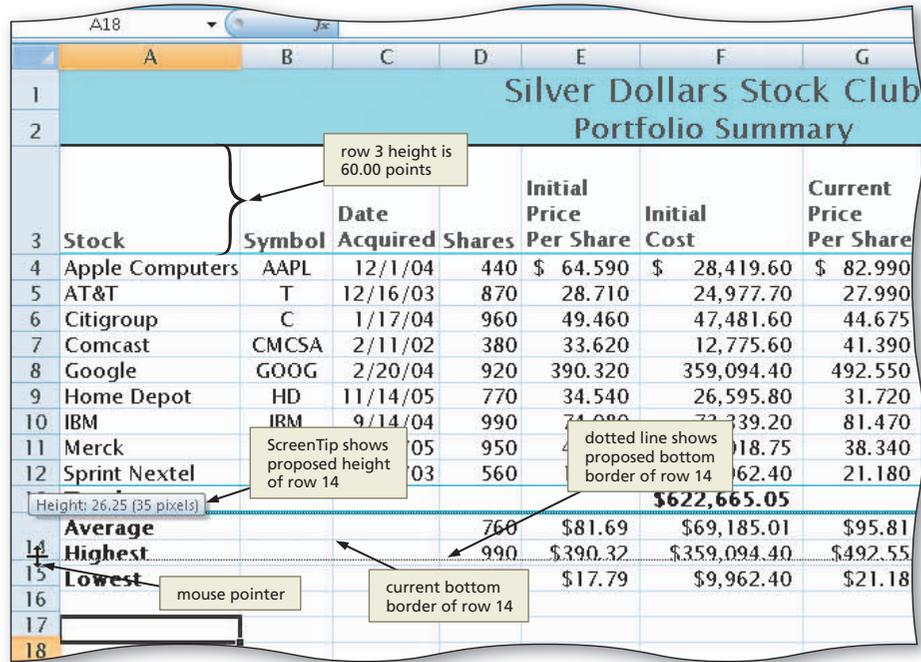


Figure 2-59

3

- Release the mouse button to change the row height of row 14 to 26.25.
- Select cells A3:J3 and then click the Center button on the Ribbon to center the column headings.
- Select cell A18 (Figure 2-60).

Q&A

Can I hide a row?

Yes. As with column widths, when you decrease the row height to 0, the row is hidden. To instruct Excel to display a hidden row, position the mouse pointer just below the row heading boundary where the row is hidden and then drag down. To set a row height to best fit, double-click the bottom boundary of the row heading.

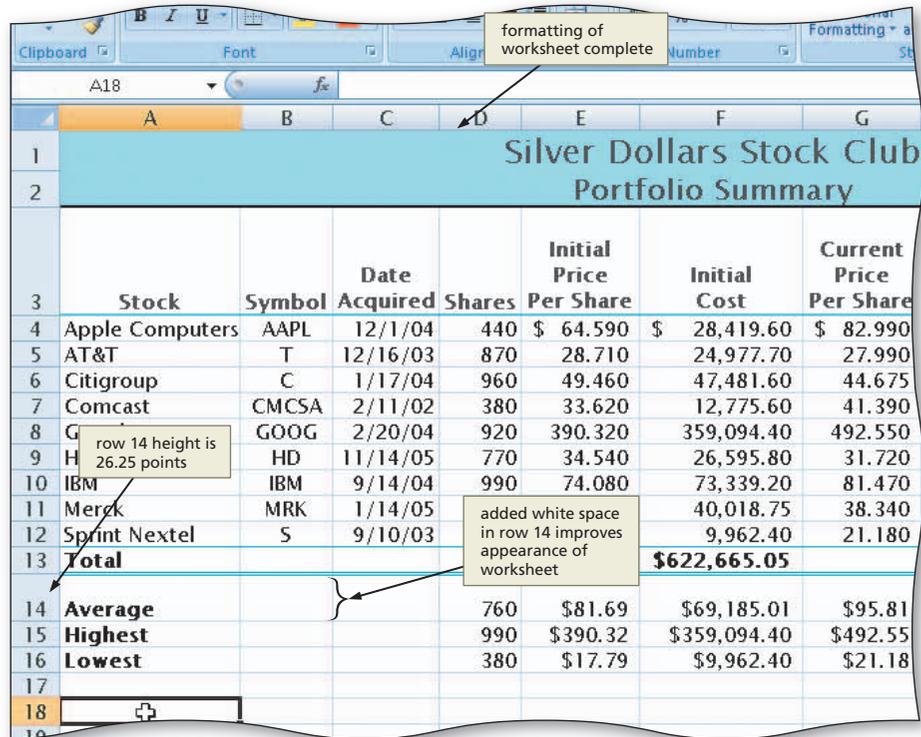


Figure 2-60

Other Ways

1. Right-click row heading or drag through multiple row headings and right-click, click Row Height on shortcut menu, enter desired row height, click OK button

Checking Spelling

Excel has a **spell checker** you can use to check the worksheet for spelling errors. The spell checker looks for spelling errors by comparing words on the worksheet against words contained in its standard dictionary. If you often use specialized terms that are not in the standard dictionary, you may want to add them to a custom dictionary using the Spelling dialog box.

When the spell checker finds a word that is not in either dictionary, it displays the word in the Spelling dialog box. You then can correct it if it is misspelled.

BTW Hidden Rows
 You can use the keyboard to unhide a range of rows by selecting the rows immediately above and below the hidden rows and then pressing CTRL+SHIFT+((LEFT PARENTHESIS). To use the keyboard to hide a range of rows, press CTRL+9.

To Check Spelling on the Worksheet

To illustrate how Excel responds to a misspelled word, the word, Stock, in cell A3 is misspelled purposely as the word, Stcok, as shown in Figure 2–61.

- 1
 - Click cell A3 and then type `Stcok` to misspell the word Stock.
 - Click cell A1.
 - Click the Review tab on the Ribbon.
 - Click the Spelling button on the Ribbon to run the spell checker and display the misspelled word, `Stcok`, in the Spelling dialog box (Figure 2–61).

Q&A What happens when the spell checker finds a misspelled word? When the spell checker identifies that a cell contains a word not in its standard or custom dictionary, it selects that cell as the active cell and displays the Spelling dialog box. The Spelling dialog box (Figure 2–61) lists the word not found in the dictionary and a list of suggested corrections.

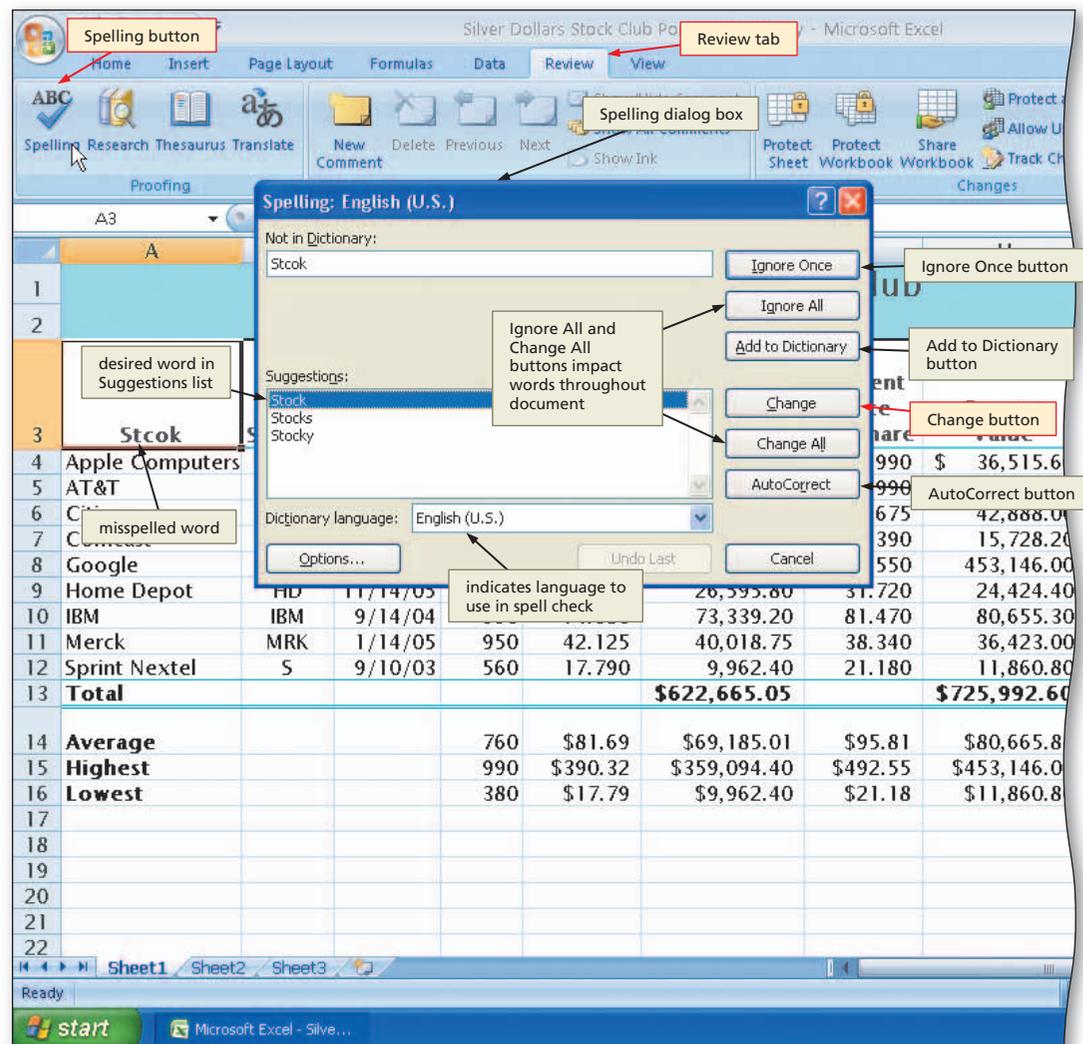


Figure 2–61

- 2**
- With the word Stock highlighted in the Suggestions list, click the Change button to change the misspelled word, Stcok, to the correct word, Stock and then select cell A18 (Figure 2–62).
 - If the Microsoft Office Excel dialog box is displayed, click the OK button.

- 3**
- Click the Close button.
 - Click the Home tab on the Ribbon.
 - Click the Save button on the Quick Access toolbar to save the workbook.

Q&A

What other actions can I take in the Spelling dialog box? If one of the words in the Suggestions list is correct, click it and then click the Change button. If none of the suggestions is correct, type the correct word in the Not in Dictionary text box and then click the Change button. To change the word throughout the worksheet, click the Change All button instead of the Change button. To skip correcting the word, click the Ignore Once button. To have Excel ignore the word for the remainder of the worksheet, click the Ignore All button.

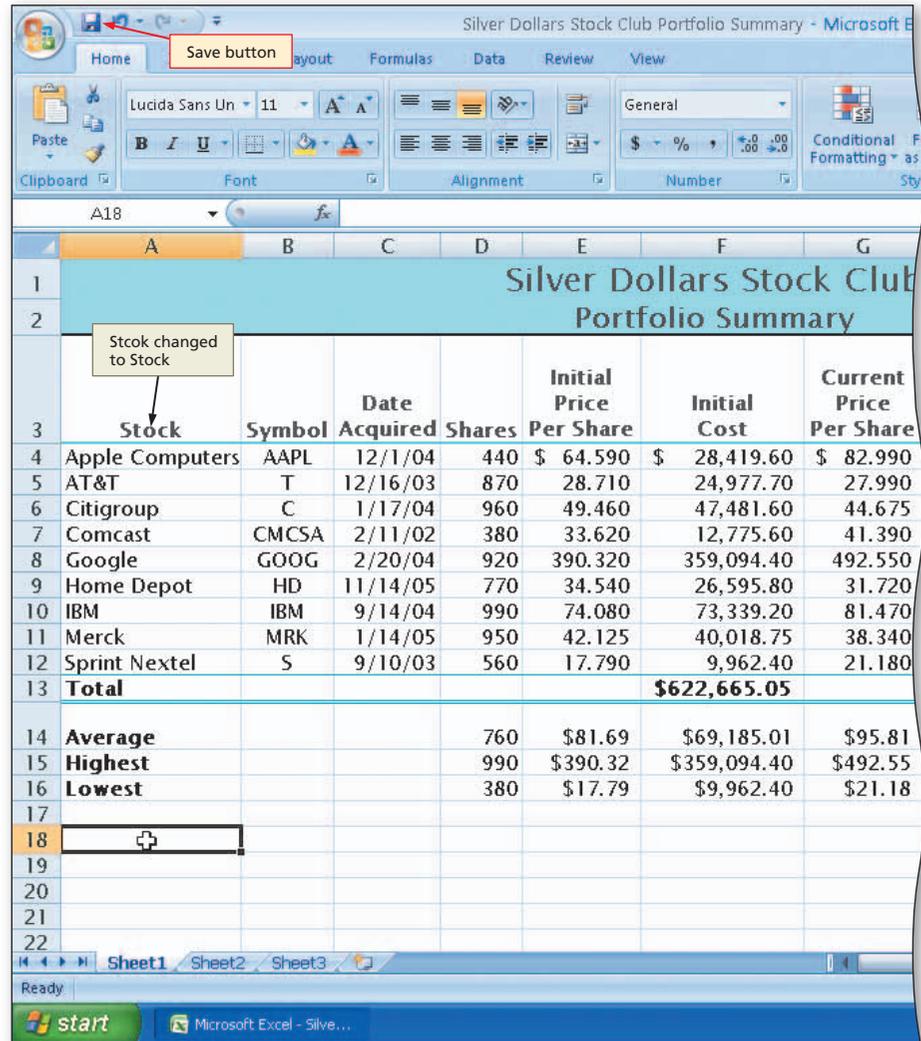


Figure 2–62

Other Ways

1. Press F7

Additional Spell Checker Considerations

Consider these additional guidelines when using the spell checker:

- To check the spelling of the text in a single cell, double-click the cell to make the formula bar active and then click the Spelling button on the Review tab on the Ribbon.
- If you select a single cell so that the formula bar is not active and then start the spell checker, Excel checks the remainder of the worksheet, including notes and embedded charts.
- If you select a cell other than cell A1 before you start the spell checker, Excel will display a dialog box when the spell checker reaches the end of the worksheet, asking if you want to continue checking at the beginning.
- If you select a range of cells before starting the spell checker, Excel checks the spelling of the words only in the selected range.
- To check the spelling of all the sheets in a workbook, click Select All Sheets on the sheet tab shortcut menu and then start the spell checker. To instruct Excel to display the sheet tab shortcut menu, right-click any sheet tab.
- To add words to the dictionary such as your last name, click the Add to Dictionary button in the Spelling dialog box (Figure 2–61 on page EX 127) when Excel identifies the word as not in the dictionary.
- Click the AutoCorrect button (Figure 2–61) to add the misspelled word and the correct version of the word to the AutoCorrect list. For example, suppose you misspell the word, do, as the word, dox. When the spell checker displays the Spelling dialog box with the correct word, do, in the Change to box, click the AutoCorrect button. Then, anytime in the future that you type the word, dox, Excel automatically will change it to the word, do.

BTW **Spell Checking**
While Excel's spell checker is a valuable tool, it is not infallible. You should proofread your workbook carefully by pointing to each word and saying it aloud as you point to it. Be mindful of misused words such as its and it's, through and though, and to and too. Nothing undermines a good impression more than a professional looking report with misspelled words.

BTW **Error Checking**
Always take the time to check the formulas of a worksheet before submitting it to your supervisor. You can check formulas by clicking the Error Checking button on the Formulas tab on the Ribbon. You also should test the formulas by employing data that tests the limits of formulas. Experienced spreadsheet specialists spend as much time testing a workbook as they do creating it, before placing it into production.

Preparing to Print the Worksheet

Excel allows for a great deal of customization in how a worksheet appears when printed. For example, the margins on the page can be adjusted. A header or footer can be added to each printed page as well. Excel also has the capability to work on the worksheet in Page Layout View. **Page Layout View** allows you to create or modify a worksheet while viewing how it will look in printed format. The default view that you have worked in up until this point in the book is called **Normal View**.

Specify how the printed worksheet should appear.

Before printing a worksheet, you should consider how the worksheet will appear when printed. In order to fit as much information on the printed page as possible, the margins of the worksheet should be set to a reasonably small width and height. The current Portfolio Summary worksheet will print on one page. If, however, the club added more data to the worksheet, then it may extend to multiple pages. It is, therefore, a good idea to add a page header to the worksheet that prints in the top margin of each page.

In Chapter 1, the worksheet was printed in **portrait orientation**, which means the printout is printed across the width of the page. **Landscape orientation** means the printout is printed across the length of the page. Landscape orientation is a good choice for the Silver Dollars Stock Club Portfolio Summary because the printed worksheet's width is greater than its length.

Plan Ahead

BTW **Certification**
The Microsoft Certified Application Specialist (MCAS) program provides an opportunity for you to obtain a valuable industry credential – proof that you have the Excel 2007 skills required by employers. For more information, see Appendix F or visit the Excel 2007 Certification Web page (scs.site.com/ex2007/cert).

To Change the Worksheet's Margins, Header, and Orientation in Page Layout View

The following steps change to Page Layout View, narrow the margins of the worksheet, change the header of the worksheet, and set the orientation of the worksheet to landscape.

- 1 Click the Page Layout View button on the status bar to view the worksheet in Page Layout View (Figure 2-63).

Q&A What are some key features of Page Layout View?
 Page Layout View shows the worksheet divided into pages. A blue background separates each page. The white areas surrounding each page indicate the print margins. The top of each page includes a Header area, and the bottom of each page includes a Footer area. Page Layout View also includes a ruler at the top of the page that assists you in placing objects on the page, such as charts and pictures.

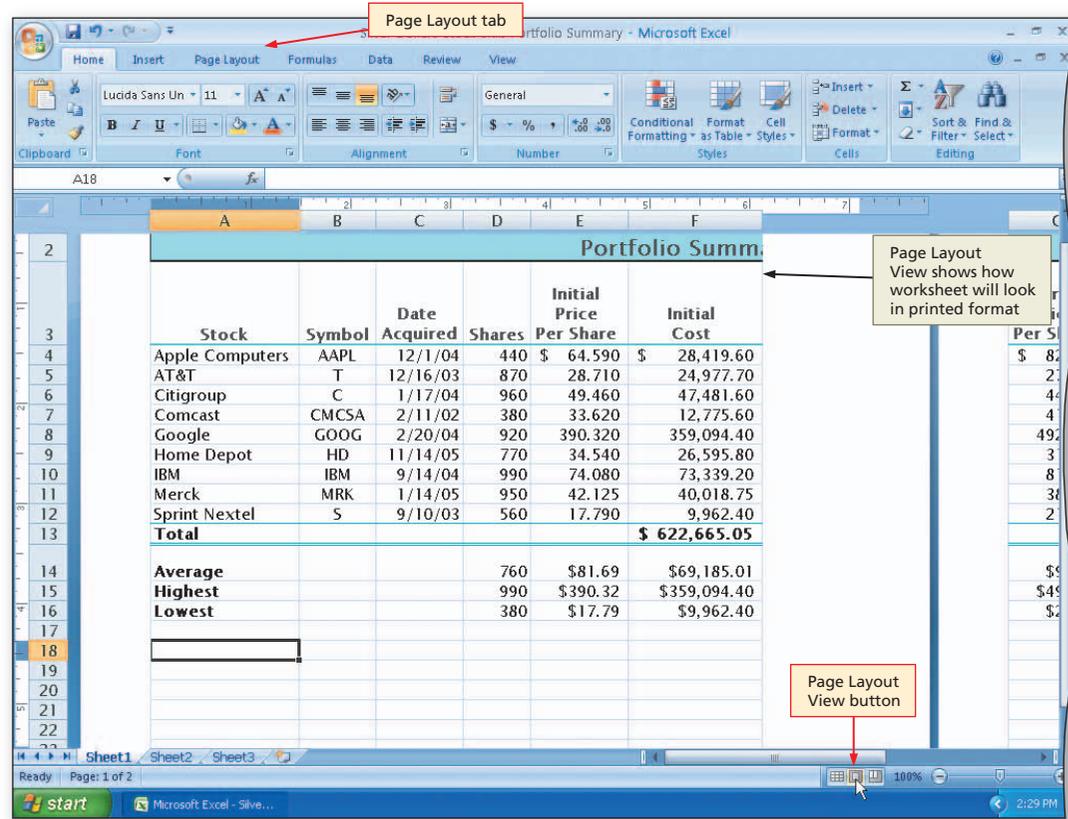


Figure 2-63

- 2 Click the Page Layout tab on the Ribbon.
 Click the Margins button on the Ribbon to display the Margins gallery (Figure 2-64).

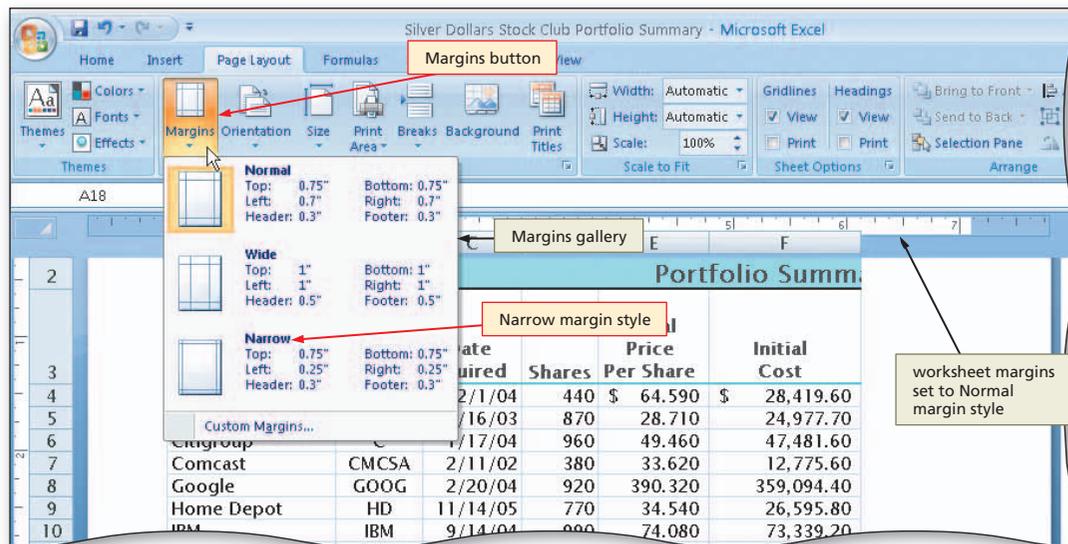


Figure 2-64

3

- Click Narrow in the Margins gallery to change the worksheet margins to the Narrow margin style.
- Drag the scroll bar on the right side of the worksheet to the top so that row 1 of the worksheet is displayed.
- Click above the worksheet title in cell A1 in the Header area.
- Type Treasurer: Juan Castillo and then press the ENTER key. Type castillo_juan37@hotmail.com to complete the worksheet header (Figure 2-65).

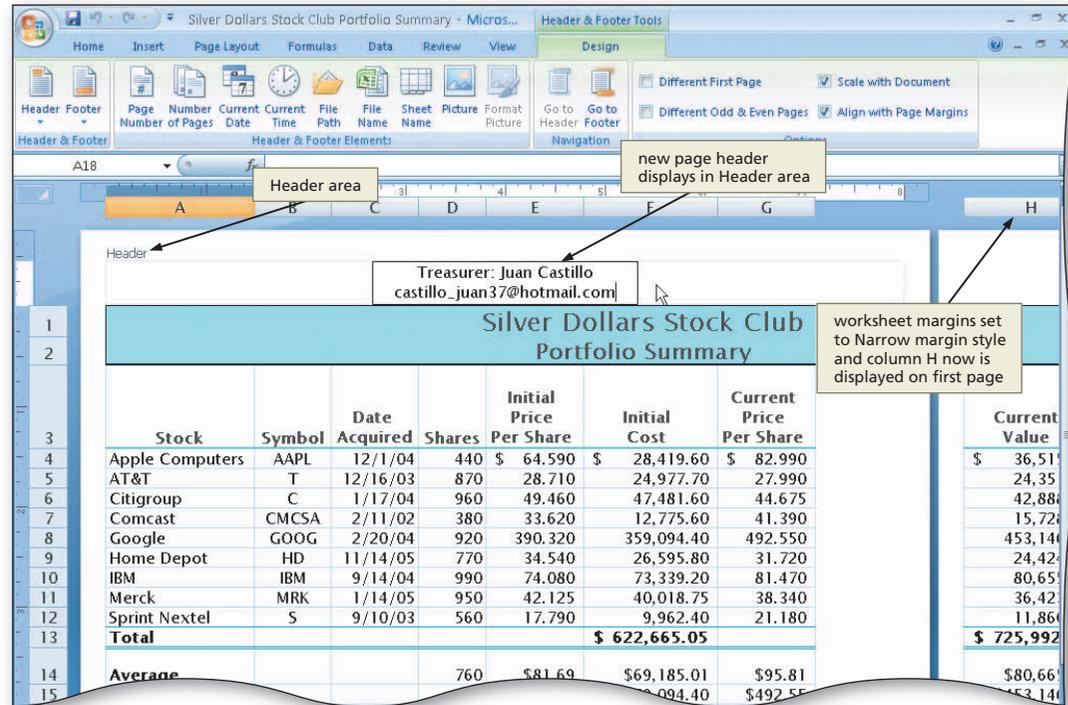


Figure 2-65

4

- Select cell B16 to deselect the header. Click the Orientation button on the Ribbon to display the Orientation gallery.
- Point to Landscape but do not click the mouse button (Figure 2-66).

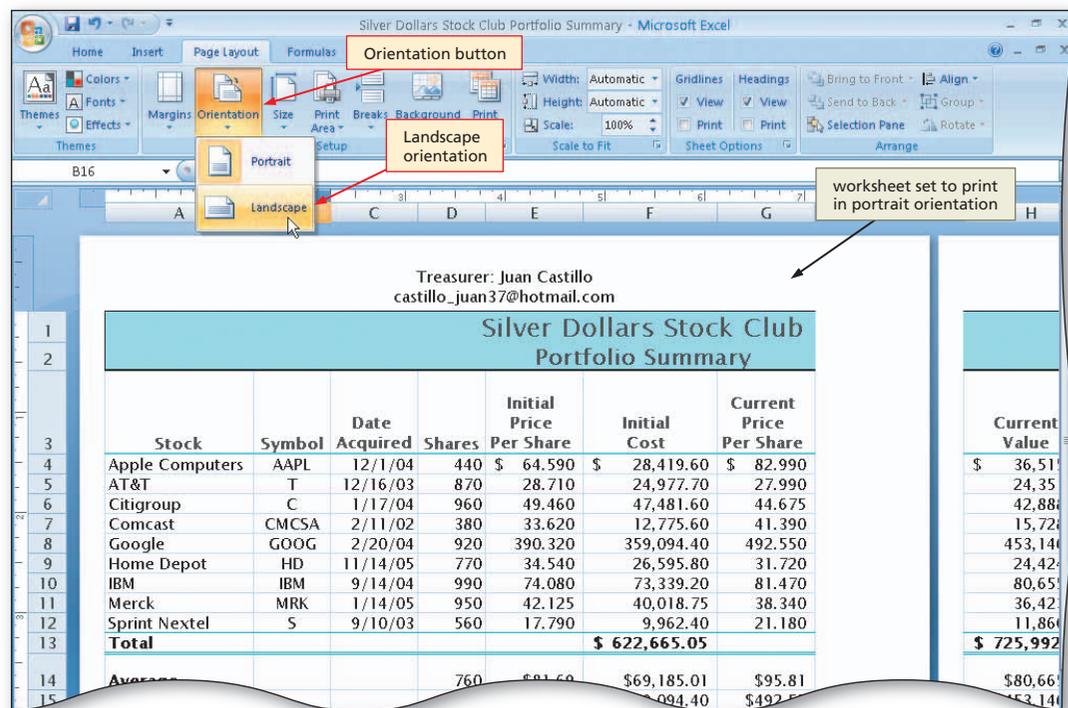


Figure 2-66

5

- Click Landscape in the Orientation gallery to change the worksheet's orientation to landscape (Figure 2–67).

Q&A Do I need to change the orientation every time I want to print the worksheet?

No. Once you change the orientation and save the workbook, Excel will save the orientation setting for that workbook until you change it.

When you open a new workbook, Excel sets the orientation to portrait.

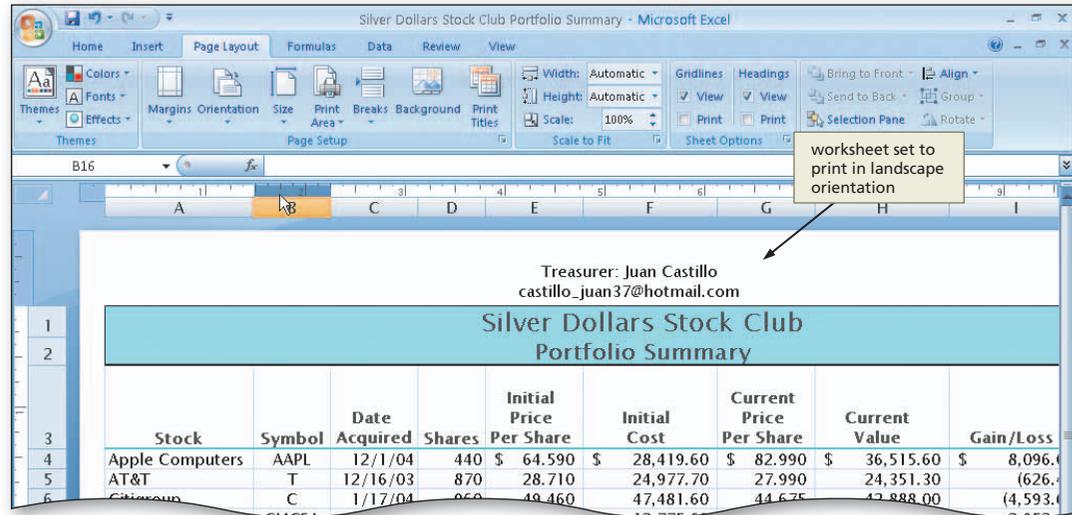


Figure 2–67

Other Ways

- Click Page Layout tab on Ribbon, click Page Setup Dialog Box Launcher button, click appropriate tab, change desired options, click OK button

Previewing and Printing the Worksheet

In Chapter 1, the worksheet was printed without first previewing it on the screen. By **previewing the worksheet**, however, you see exactly how it will look without generating a printout. Previewing a worksheet using the Print Preview command can save time, paper, and the frustration of waiting for a printout only to discover it is not what you want.

To Preview and Print a Worksheet

The following steps preview and then print the worksheet.

1

- Click the Office Button and then point to Print on the Office Button menu to display the Print submenu (Figure 2–68).

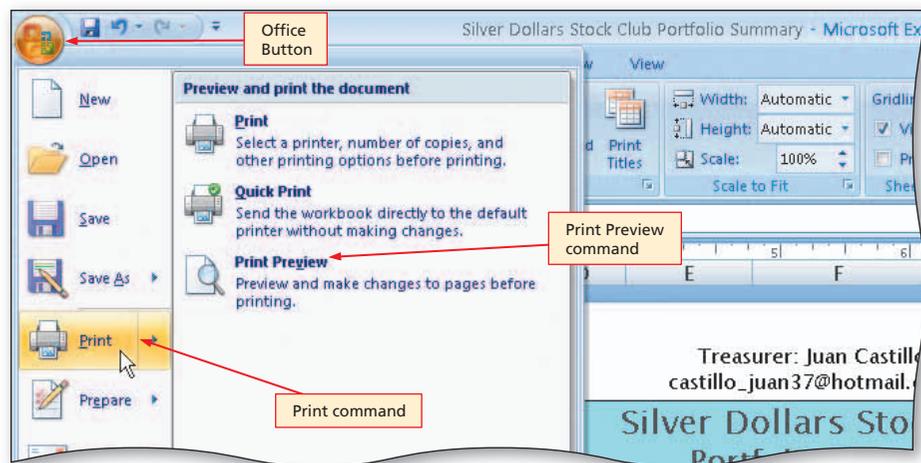


Figure 2–68

- 2**
- Click Print Preview on the Print sub-menu to display a preview of the worksheet in landscape orientation (Figure 2–69).

Q&A

What is the purpose of the buttons in the Print Preview area?

The Print button displays the Print dialog box and allows you to print the worksheet. The Page Setup button displays the Page Setup dialog box. The Zoom button allows you to zoom in and out of the page displayed in the Preview window.

You also can click the previewed page in the Preview window when the mouse pointer shape is a magnifying glass to carry out the function of the Zoom button.

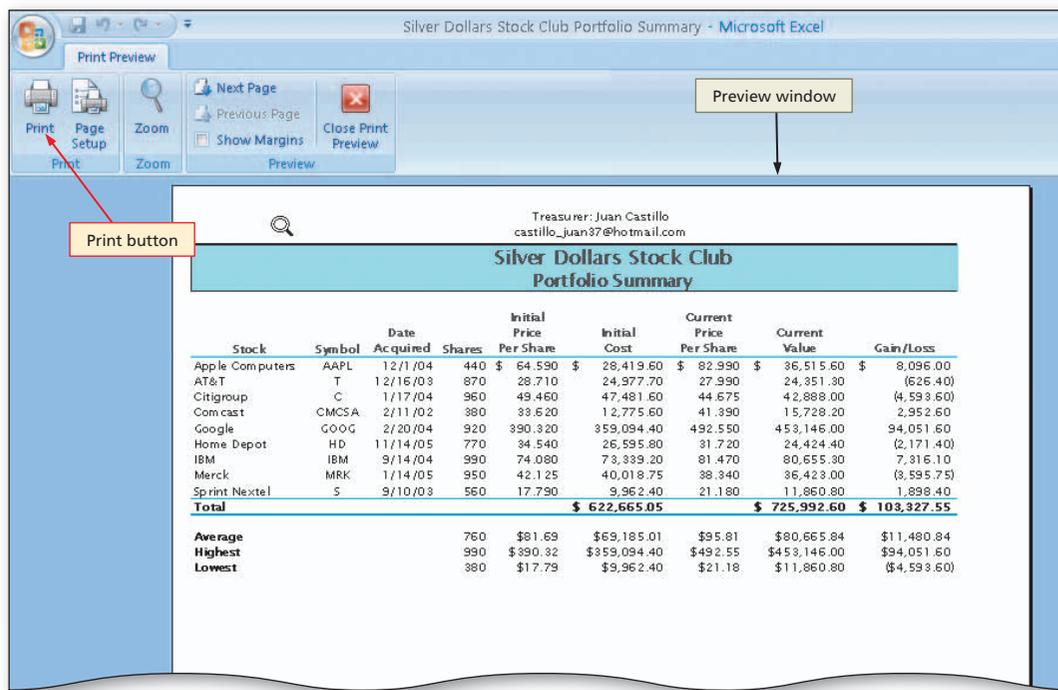


Figure 2–69

- 3**
- Click the Print button to display the Print dialog box (Figure 2–70).

Q&A

How can I use the Print dialog box?

When you click the Print command on the Print submenu of the Office Button menu or a Print button in a dialog box or Preview window, Excel displays the Print dialog box shown in Figure 2–70. Excel does not display the Print dialog box when you use the Print button on the Quick Access toolbar, as was the case in Chapter 1. The Print dialog box allows you to select a printer, instruct Excel what to print, and indicate how many copies of the printout you want.

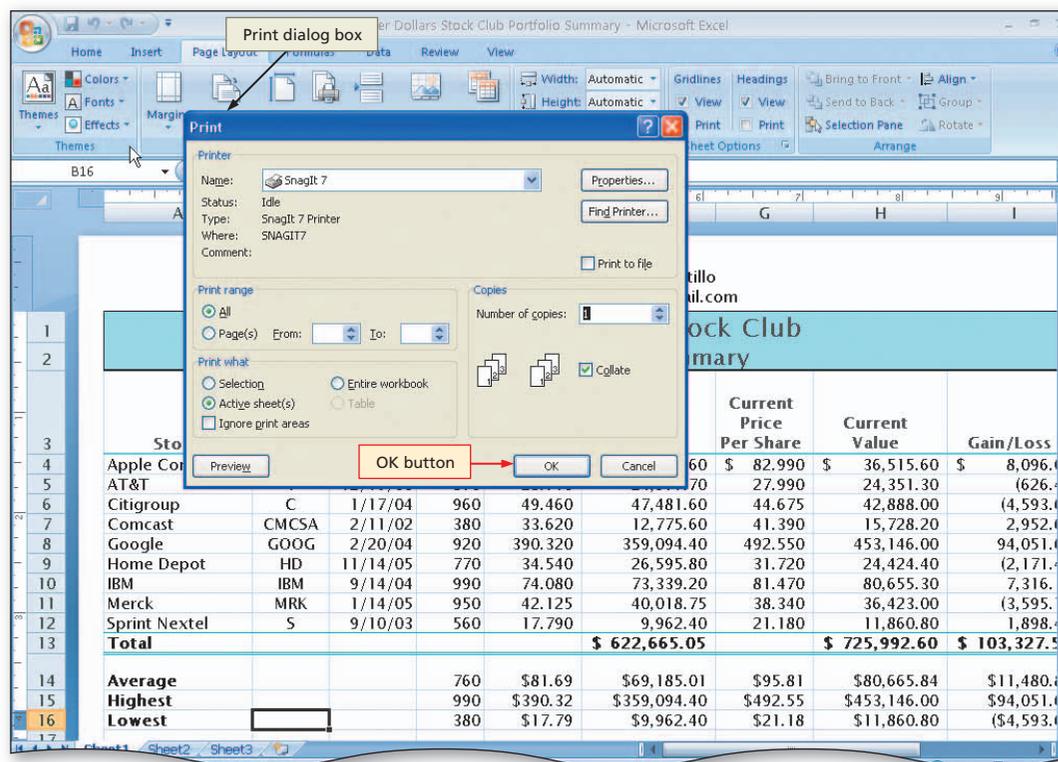


Figure 2–70

- 4**
- Click the OK button to print the worksheet (Figure 2-71).

Other Ways

1. Click Page Layout tab on Ribbon, click Page Setup Dialog Box Launcher button, click appropriate tab, change desired options, click OK button

worksheet printed in landscape orientation

Treasurer: Juan Castillo
castillo_juan37@hotmail.com

Silver Dollars Stock Club Portfolio Summary								
Stock	Symbol	Date Acquired	Shares	Initial Price Per Share	Initial Cost	Current Price Per Share	Current Value	Gain/Loss
Apple Computers	AAPL	12/1/04	440	\$ 64.590	\$ 28,419.60	\$ 82.990	\$ 36,515.60	\$ 8,096.00
AT&T	T	12/16/03	870	28.710	24,977.70	27.990	24,351.30	(626.40)
Citigroup	C	1/17/04	960	49.460	47,481.60	44.675	42,888.00	(4,593.60)
Comcast	CMCSA	2/11/02	380	33.620	12,775.60	41.390	15,728.20	2,952.60
Google	GOOG	2/20/04	920	390.320	359,094.40	492.550	453,146.00	94,051.60
Home Depot	HD	11/14/05	770	34.540	26,595.80	31.720	24,424.40	(2,171.40)
IBM	IBM	9/14/04	990	74.080	73,339.20	81.470	80,655.30	7,316.10
Merck	MRK	1/14/05	950	42.125	40,018.75	38.340	36,423.00	(3,595.75)
Sprint Nextel	S	9/10/03	560	17.790	9,962.40	21.180	11,860.80	1,898.40
Total					\$ 622,665.05		\$ 725,992.60	\$ 103,327.55
Average			760	\$81.69	\$69,185.01	\$95.81	\$80,665.84	\$11,480.84
Highest			990	\$390.32	\$359,094.40	\$492.55	\$453,146.00	\$94,051.60
Lowest			380	\$17.79	\$9,962.40	\$21.18	\$11,860.80	(\$4,593.60)

Figure 2-71

To Print a Section of the Worksheet

You might not always want to print the entire worksheet. You can print portions of the worksheet by selecting the range of cells to print and then clicking the Selection option button in the Print what area in the Print dialog box. The following steps print the range A3:F16.

- 1**
- Select the range A3:F16.
 - Click the Office Button and then click Print on the Office Button menu to display the Print dialog box.
 - Click Selection in the Print what area to instruct Excel to print only the selected range (Figure 2-72).

Print dialog box

Selection option button selected

OK button

12	Sprint Nextel	9/10/03	560	17.790	9,962.40
13	Total				\$ 622,665.05
14	Average		760	\$81.69	\$69,185.01
15	Highest		990	\$390.32	\$359,094.40
16	Lowest		380	\$17.79	\$9,962.40

range A3:F16 selected

Figure 2-72

- 2
 - Click the OK button to print the selected range of the worksheet on the printer (Figure 2–73).
 - Click the Normal View button on the status bar.
 - Click cell A18 to deselect the range A3:F13.

Stock	Symbol	Date Acquired	Shares	Initial Price Per Share	Initial Cost
Apple Computers	AAPL	12/1/04	440	\$ 64.590	\$ 28,419.60
AT&T	T	12/16/03	870	28.710	24,977.70
Citigroup	C	1/17/04	960	49.460	47,481.60
Comcast	CMCSA	2/11/02	380	33.620	12,775.60
Google	GOOG	2/20/04	920	390.320	359,094.40
Home Depot	HD	11/14/05	770	34.540	26,595.80
IBM	IBM	9/14/04	990	74.080	73,339.20
Merck	MRK	1/14/05	950	42.125	40,018.75
Sprint Nextel	S	9/10/03	560	17.790	9,962.40
Total					\$ 622,665.05
Average			760	\$81.69	\$69,185.01
Highest			990	\$390.32	\$359,094.40
Lowest			380	\$17.79	\$9,962.40

Figure 2–73

Q&A

What are the options in the Print what area? The Print what area of the Print dialog box includes three option buttons (Figure 2–72). As shown in the previous steps, the Selection option button instructs Excel to print the selected range. The Active sheet(s) option button instructs Excel to print the active worksheet (the worksheet currently on the screen) or the selected worksheets. Finally, the Entire workbook option button instructs Excel to print all of the worksheets in the workbook.

Displaying and Printing the Formulas Version of the Worksheet

Thus far, you have been working with the **values version** of the worksheet, which shows the results of the formulas you have entered, rather than the actual formulas. Excel also can display and print the **formulas version** of the worksheet, which shows the actual formulas you have entered, rather than the resulting values. You can toggle between the values version and formulas version by holding down the CTRL key while pressing the ACCENT MARK (´) key, which is located to the left of the number 1 key on the keyboard.

The formulas version is useful for debugging a worksheet. **Debugging** is the process of finding and correcting errors in the worksheet. Viewing and printing the formulas version instead of the values version makes it easier to see any mistakes in the formulas.

When you change from the values version to the formulas version, Excel increases the width of the columns so the formulas and text do not overflow into adjacent cells on the right. The formulas version of the worksheet thus usually is significantly wider than the values version. To fit the wide printout on one page, you can use landscape orientation, which has already been selected for the workbook, and the Fit to option in the Page sheet in the Page Setup dialog box.

Other Ways

1. Select range, click Page Layout tab on Ribbon, click Print Area button, click Quick Print button on Quick Access toolbar, click Print Area button, click Clear Print Area button

BTW Values versus Formulas

When completing class assignments, do not enter numbers in cells that require formulas. Most instructors require their students to hand in both the values version and formulas version of the worksheet. The formulas version verifies that you entered formulas, rather than numbers, in formula-based cells.

To Display the Formulas in the Worksheet and Fit the Printout on One Page

The following steps change the view of the worksheet from the values version to the formulas version of the worksheet and then print the formulas version on one page.

1

- Press CTRL+ACCENT MARK (').
- When Excel displays the formulas version of the worksheet, click the right horizontal scroll arrow until column J appears to display the worksheet with formulas (Figure 2–74).

	Current Price Per Share	Current Value	Gain/Loss	Percent Gain/Loss
4	82.99	=D4*G4	=H4-F4	=I4/F4
5	27.99	=D5*G5	=H5-F5	=I5/F5
6	44.675	=D6*G6	=H6-F6	=I6/F6
7	41.39	=D7*G7	=H7-F7	=I7/F7
8	492.55	=D8*G8	=H8-F8	=I8/F8
9	31.72	=D9*G9	=H9-F9	=I9/F9
10	81.47	=D10*G10	=H10-F10	=I10/F10
11	38.34	=D11*G11	=H11-F11	=I11/F11
12	21.18	=D12*G12	=H12-F12	=I12/F12
13		=SUM(H4:H12)	=SUM(I4:I12)	=I13/F13
14	=AVERAGE(G4:G12)	=AVERAGE(H4:H12)	=AVERAGE(I4:I12)	
15	=MAX(G4:G12)	=MAX(H4:H12)	=MAX(I4:I12)	=MAX(J4:J12)
16	=MIN(G4:G12)	=MIN(H4:H12)	=MIN(I4:I12)	=MIN(J4:J12)
17				

Figure 2–74

2

- If necessary, click the Page Layout tab on the Ribbon and then click the Page Setup Dialog Box Launcher to display the Page Setup dialog box.
- If necessary, click Landscape to select it and then click Fit to in the Scaling area.

3

- Click the Print button in the Page Setup dialog box to print the formulas in the worksheet on one page in landscape orientation (Figure 2–75).
- When Excel displays the Print dialog box, click the OK button.

Stock	Symbol	Date Acquired	Shares	Initial Price Per Share	Initial Cost	Current Price Per Share	Current Value	Gain/Loss	Percent Gain/Loss
Apple Computers	AAPL	38322	440	64.59	=D4*E4	82.99	=D4*G4	=H4-F4	=I4/F4
AT&T	T	37971	870	28.71	=D5*E5	27.99	=D5*G5	=H5-F5	=I5/F5
Citigroup	C	38003	960	49.46	=D6*E6	44.675	=D6*G6	=H6-F6	=I6/F6
Comcast	CMCSA	37298	380	33.62	=D7*E7	41.39	=D7*G7	=H7-F7	=I7/F7
Google	GOOG	38037	920	390.32	=D8*E8	492.55	=D8*G8	=H8-F8	=I8/F8
Home Depot	HD	38670	770	34.54	=D9*E9	31.72	=D9*G9	=H9-F9	=I9/F9
IBM	IBM	38244	990	74.08	=D10*E10	81.47	=D10*G10	=H10-F10	=I10/F10
Merck	MRK	38366	950	42.125	=D11*E11	38.34	=D11*G11	=H11-F11	=I11/F11
Sprint Nextel	S	37874	560	17.79	=D12*E12	21.18	=D12*G12	=H12-F12	=I12/F12
Total					=SUM(F4:F12)		=SUM(H4:H12)	=SUM(I4:I12)	=I13/F13
Average					=AVERAGE(D4:D12)		=AVERAGE(H4:H12)	=AVERAGE(I4:I12)	
Highest					=MAX(D4:D12)		=MAX(H4:H12)	=MAX(I4:I12)	=MAX(J4:J12)
Lowest					=MIN(D4:D12)		=MIN(H4:H12)	=MIN(I4:I12)	=MIN(J4:J12)

Figure 2–75

4

- After viewing and printing the formulas version, press CTRL+ACCENT MARK (') to instruct Excel to display the values version.
- Click the left horizontal scroll arrow until column A appears.

Other Ways

1. Click Show Formulas button on Formulas tab on Ribbon

To Change the Print Scaling Option Back to 100%

Depending on your printer, you may have to change the Print Scaling option back to 100% after using the Fit to option. The following steps reset the Print Scaling option so future worksheets print at 100%, instead of being resized to print on one page.

- 1 If necessary, click the Page Layout tab on the Ribbon and then click the Page Setup Dialog Box Launcher to display the Page Setup dialog box.
- 2 Click Adjust to in the Scaling area.
- 3 If necessary, type 100 in the Adjust to box.
- 4 Click the OK button to set the print scaling to normal.
- 5 Click the Home tab on the Ribbon.

Q&A

What is the purpose of the Adjust to box in the Page Setup dialog box?

The Adjust to box allows you to specify the percentage of reduction or enlargement in the printout of a worksheet. The default percentage is 100%. When you click the Fit to option, this percentage automatically changes to the percentage required to fit the printout on one page.

Importing External Data from a Web Source Using a Web Query

One of the major features of Excel is its capability of importing external data from Web sites. To import external data from a Web site, you must have access to the Internet. You then can import data stored on a Web site using a **Web query**. When you run a Web query, Excel imports the external data in the form of a worksheet. As described in Table 2–6, three Web queries are available when you first install Excel. All three Web queries relate to investment and stock market activities.

Table 2–6 Excel Web Queries

Query	External Data Returned
MSN MoneyCentral Investor Currency Rates	Currency rates
MSN MoneyCentral Investor Major Indices	Major indices
MSN MoneyCentral Investor Stock Quotes	Up to 20 stocks of your choice

Gather information regarding the needed Web query.

As shown in Table 2–6, the MSN Money Central Investor Stock Quotes feature that is included with Excel allows you to retrieve information on up to 20 stocks of your choice. The Web query requires that you supply the stock symbols. The stock symbols are located in column B of the Portfolio Summary worksheet.

BTW

Web Queries

Most Excel specialists that build Web queries use the worksheet returned from the Web query as an engine to supply data to another worksheet in the workbook. With 3-D cell references, you can create a worksheet similar to the Silver Dollars Stock Club worksheet to feed the Web query stock symbols and get refreshed stock prices in return.

Plan Ahead

To Import Data from a Web Source Using a Web Query

Although you can have a Web query return data to a blank workbook, the following steps have the data for the nine stock symbols in column B of the Portfolio Summary worksheet returned to a blank worksheet in the Silver Dollars Stock Club Portfolio Summary workbook. The data returned by the stock-related Web queries is real time in the sense that it is no more than 20 minutes old during the business day.

1

- With the Silver Dollars Stock Club Portfolio Summary workbook open, click the Sheet2 tab at the bottom of the window.
- With cell A1 active, click the Data tab on the Ribbon, and then click the Existing Connections button to display the Existing Connections dialog box (Figure 2-76).

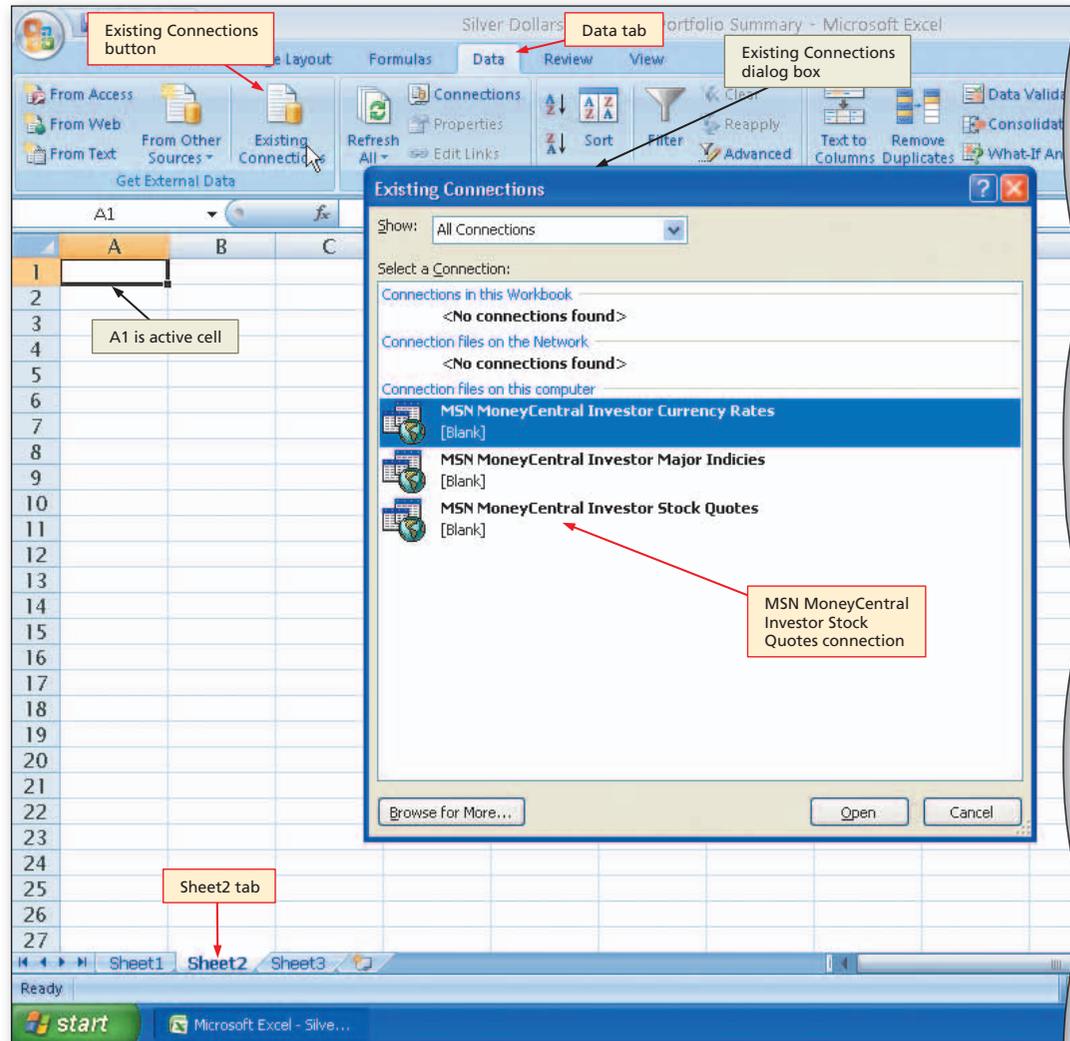


Figure 2-76

2

- Double-click MSN MoneyCentral Investor Stock Quotes to display the Import Data dialog box (Figure 2-77).

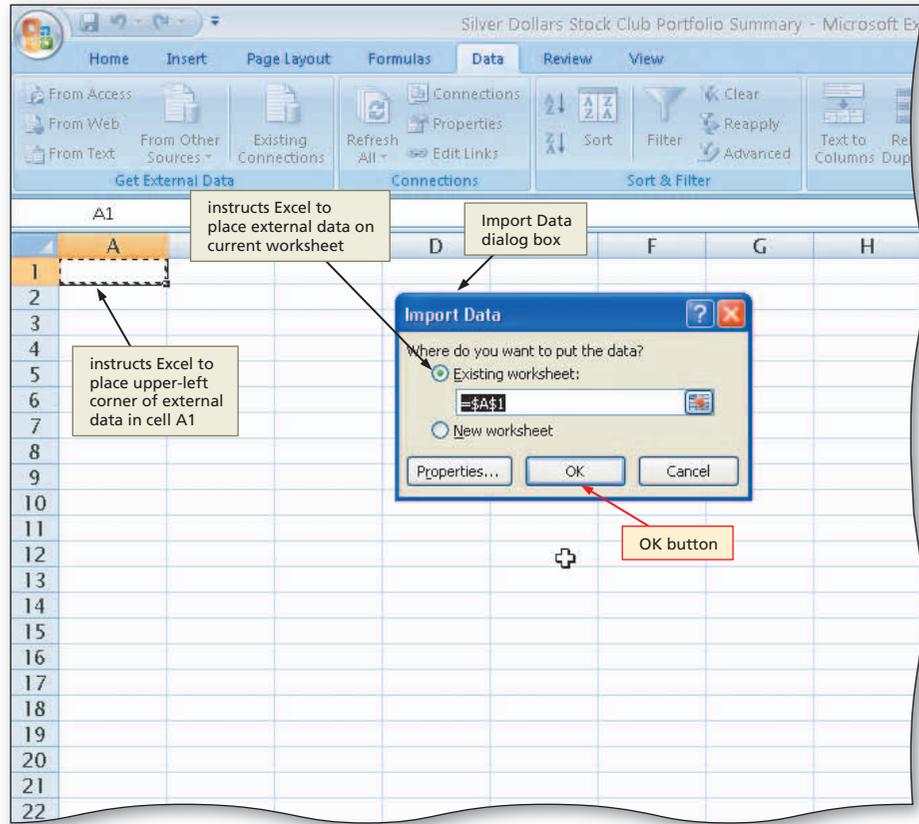


Figure 2-77

3

- Click the OK button.
- When Excel displays the Enter Parameter Value dialog box, type the nine stock symbols aapl t c cmcsa goog hd ibm mrk s in the text box.
- Click the 'Use this value/reference for future refreshes' check box to select it (Figure 2-78).

Q&A

What is the purpose of clicking the check box?

Once Excel displays the worksheet, you can refresh the data as often as you want. To refresh the data for all the stocks, click the Refresh All button on the Data tab on the Ribbon. Because the 'Use this value/reference for future refreshes' check box was selected, Excel will continue to use the same stock symbols each time it refreshes.

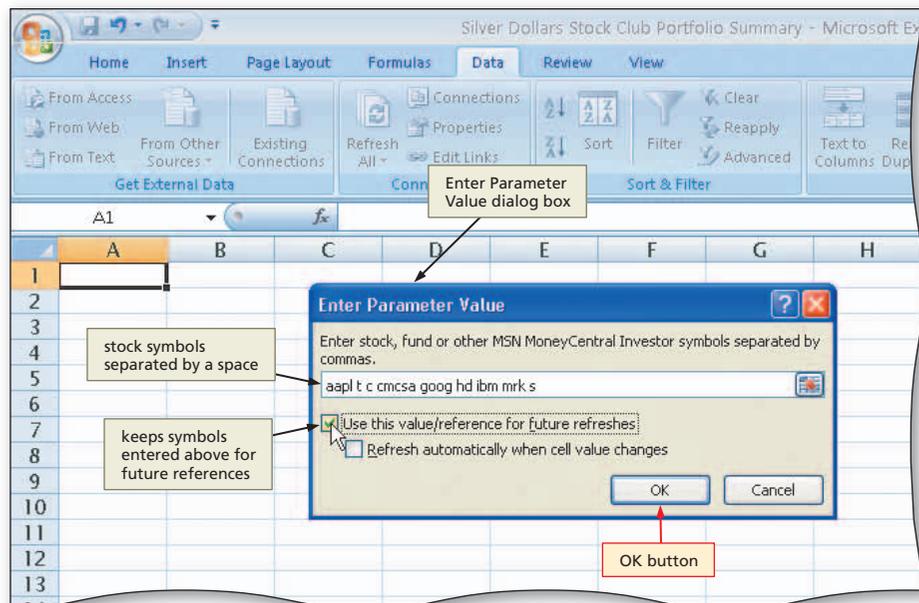


Figure 2-78

4

- Click the OK button to retrieve the stock quotes and display a new worksheet with the desired data (Figure 2–79).

Q&A

What composes the new worksheet?

As shown in Figure 2–79, Excel displays the data returned from the Web query in an organized, formatted worksheet, which has a worksheet title, column titles, and a row of data for each stock symbol entered. Other than the first column, which contains the stock name and stock symbol, you have no control over the remaining columns of data returned. The latest price of each stock appears in column D.

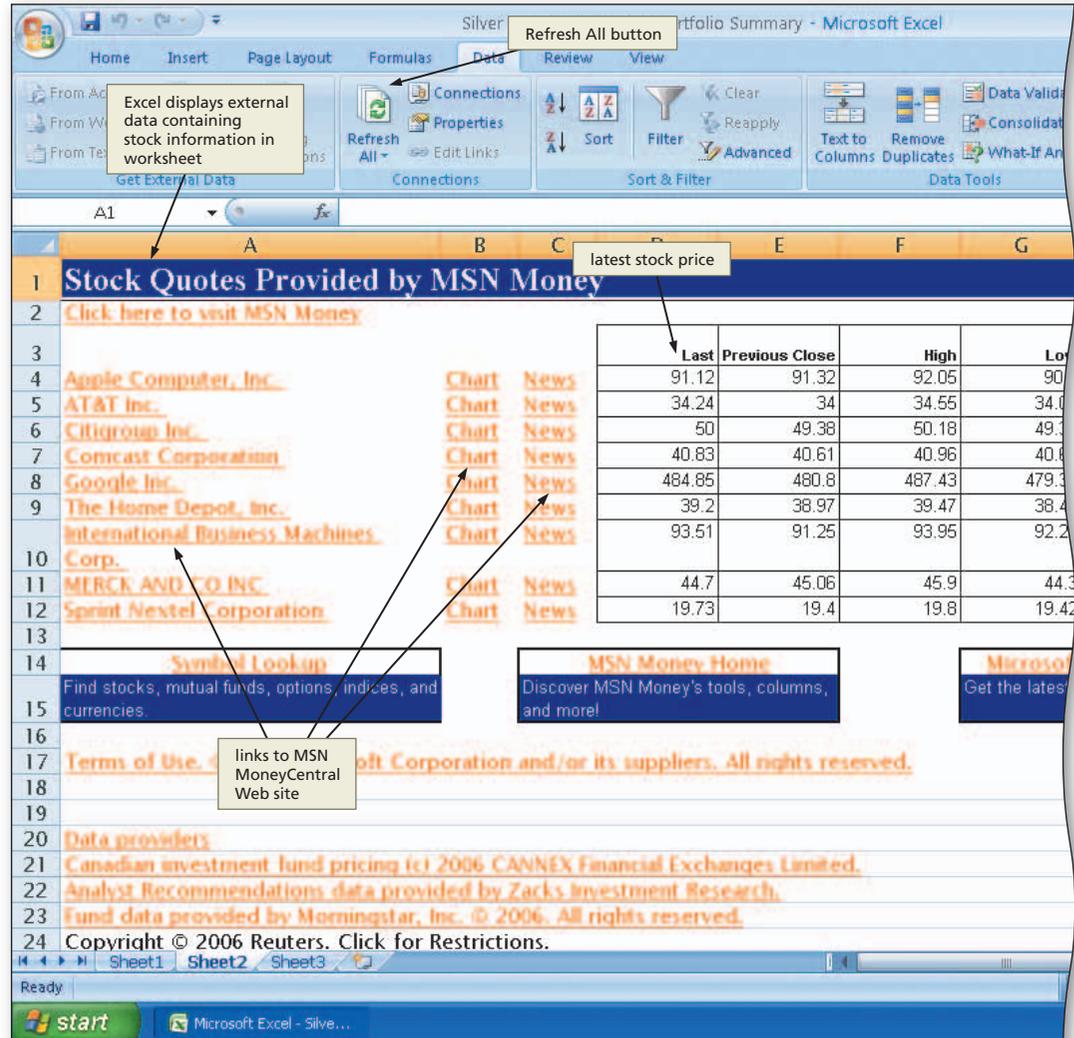


Figure 2–79

Other Ways

- Press ALT+A, X, select data source

Changing the Worksheet Names

The sheet tabs at the bottom of the window allow you to view any worksheet in the workbook. You click the sheet tab of the worksheet you want to view in the Excel window. By default, Excel presets the names of the worksheets to Sheet1, Sheet2, and so on. The worksheet names become increasingly important as you move towards more sophisticated workbooks, especially workbooks in which you reference cells between worksheets.

Plan Ahead

Choose names for the worksheets.

Use simple, meaningful names for each worksheet. Name the first worksheet that includes the portfolio summary Portfolio Summary. The second worksheet that includes the stock quotes should be named Real-Time Stock Quotes to reflect its contents.

To Change the Worksheet Names

The following steps show how to rename worksheets by double-clicking the sheet tabs.

1

- Double-click the sheet tab labeled Sheet2 in the lower-left corner of the window.
- Type Real-Time Stock Quotes as the worksheet name and then press the ENTER key to display the new worksheet name on the sheet tab (Figure 2-80).

Q&A

What is the maximum length for a worksheet tab?

Worksheet names can be up to 31 characters (including spaces) in length. Longer worksheet names, however, mean that fewer sheet tabs will show. To view more sheet tabs, you can drag the tab split box (Figure 2-81) to the right. This will reduce the size of the scroll bar at the bottom of the screen. Double-click the tab split box to reset it to its normal position.

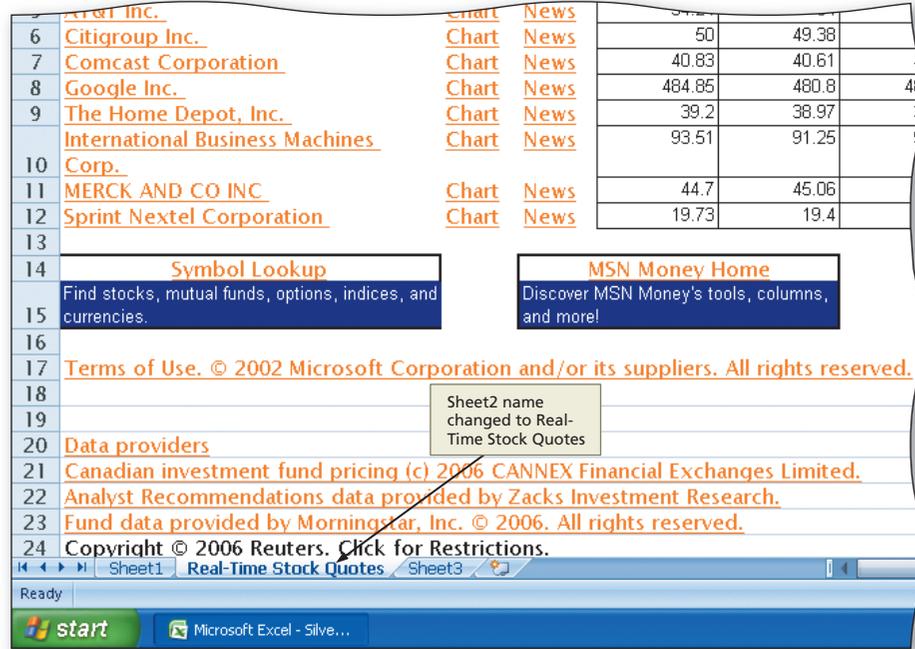


Figure 2-80

2

- Double-click the sheet tab labeled Sheet1 in the lower-left corner of the window.
- Type Portfolio Summary as the worksheet name and then press the ENTER key to change the name of the worksheet from Sheet 1 to Portfolio Summary (Figure 2-81).

Q&A

How can I quickly move between worksheet tabs?

You can use the tab scrolling buttons to the left of the sheet tabs (Figure 2-81) to move between worksheets. The leftmost and rightmost scroll buttons move to the first or last worksheet in the workbook. The two middle scroll buttons move one worksheet to the left or right.

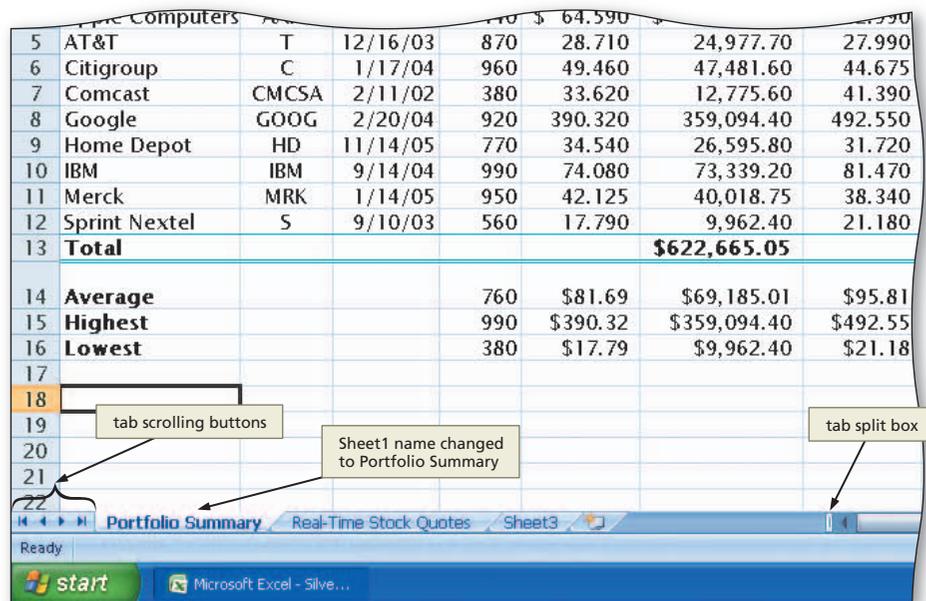


Figure 2-81

3

- Click the Home tab on the Ribbon.

BTW **Obtaining an E-Mail Account**

Several Web sites that allow you to sign up for free e-mail are available. Some choices are MSN Hotmail, Yahoo! Mail, and Google Gmail.

E-Mailing a Workbook from within Excel

The most popular service on the Internet is electronic mail, or **e-mail**, which is the electronic transmission of messages and files to and from other computers using the Internet. Using e-mail, you can converse with friends across the room or on another continent. One of the features of e-mail is the capability to attach Office files, such as Word documents or Excel workbooks, to an e-mail message and send it to a coworker. In the past, if you wanted to e-mail a workbook, you saved the workbook, closed the file, started your e-mail program, and then attached the workbook to the e-mail message before sending it. With Excel, you have the capability of e-mailing a worksheet or workbook directly from within Excel. For these steps to work properly, you must have an e-mail address and one of the following as your e-mail program: Microsoft Outlook, Microsoft Outlook Express, Microsoft Exchange Client, or another 32-bit e-mail program compatible with Messaging Application Programming Interface.

To E-Mail a Workbook from within Excel

The following steps show how to e-mail the Silver Dollars Stock Club Portfolio Summary workbook from within Excel to Juan Castillo at the e-mail address castillo_juan37@hotmail.com.

- 1 • With the Silver Dollars Stock Club Portfolio Summary workbook open, click the Office Button and then click Send to display the Send submenu (Figure 2–82).

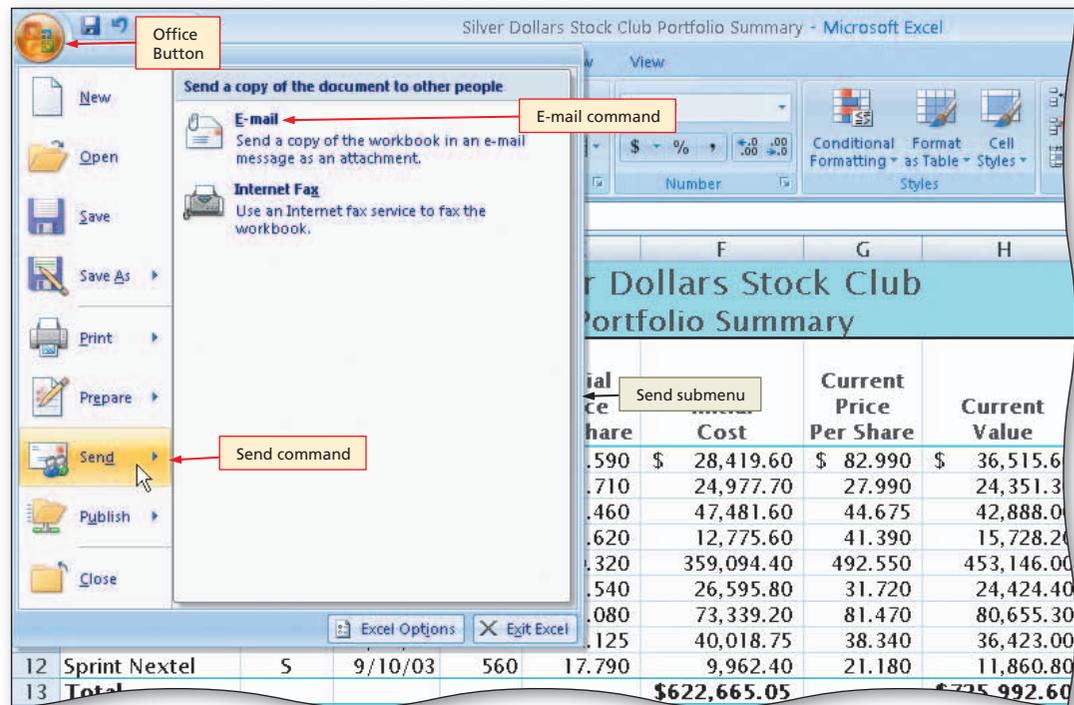


Figure 2–82

- 2
 - Click E-mail on the Send submenu.
 - When the e-mail Message window appears, type `castillo_juan37@hotmail.com` in the To text box.
 - Type the message shown in the message area in Figure 2–83.

- 3
 - Click the Send button to send the e-mail with the attached workbook to `castillo_juan37@hotmail.com`.

Q&A How can the recipient use the attached workbook?
Because the workbook was sent as an attachment, Juan Castillo can double-click the attachment in the e-mail to open it in Excel, or he can save it on disk and then open it later.

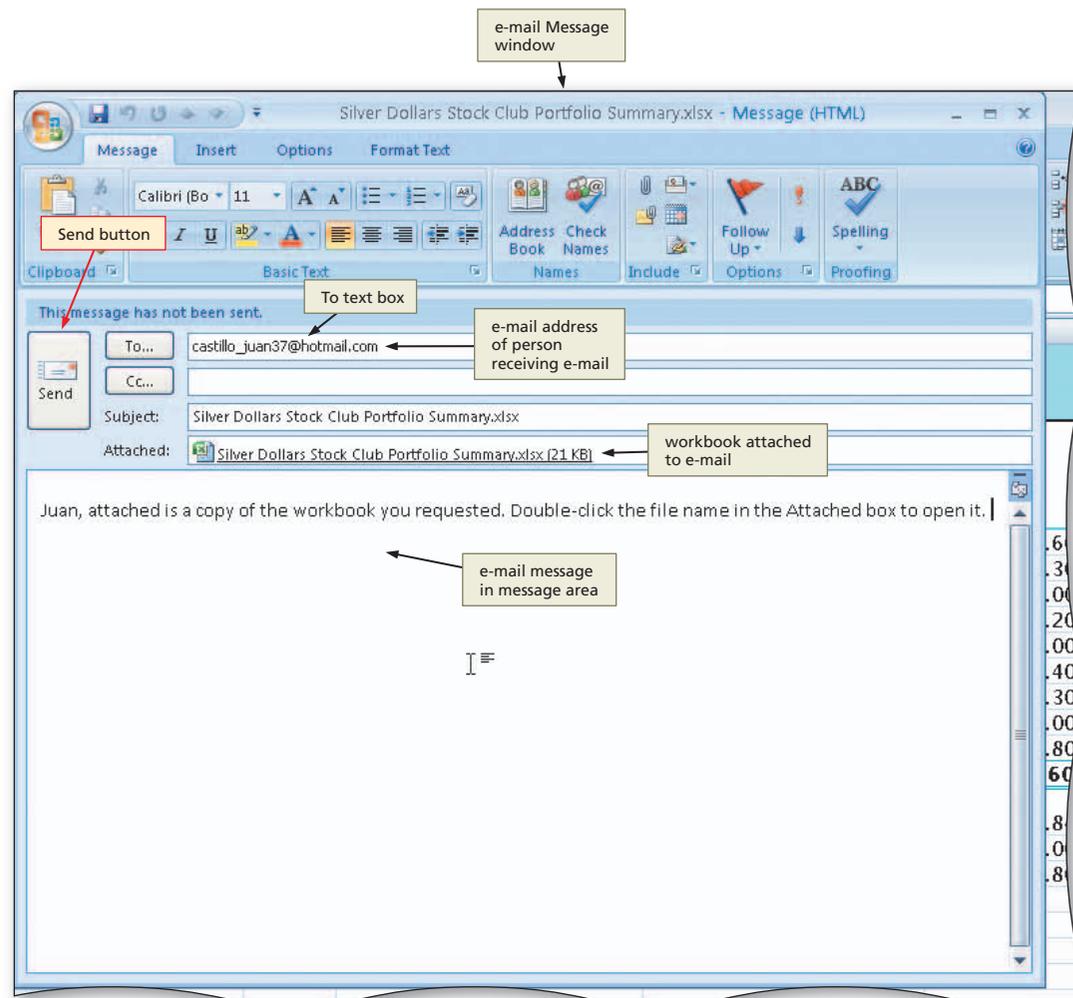


Figure 2–83

To Save the Workbook and Quit Excel

With the workbook complete and e-mailed, the following steps save the workbook and quit Excel.

- 1 Click the Save button on the Quick Access toolbar.
- 2 Click the Close button on the upper-right corner of the title bar.

BTW **Quick Reference**
For a table that lists how to complete the tasks covered in this book using the mouse, Ribbon, shortcut menu, and keyboard, see the Quick Reference Summary at the back of this book, or visit the Excel 2007 Quick Reference Web page (scsite.com/ex2007/qr).

Chapter Summary

In creating the Silver Dollars Stock Club Portfolio Summary workbook, you learned how to enter formulas, calculate an average, find the highest and lowest numbers in a range, verify formulas using Range Finder, draw borders, align text, format numbers, change column widths and row heights, and add conditional formatting to a range of numbers. In addition, you learned to spell check a worksheet, preview a worksheet, print a section of a worksheet, display and print the formulas version of the worksheet using the Fit to option, complete a Web query, rename sheet tabs,

and send an e-mail directly from within Excel with the opened workbook as an attachment. The items listed below include all the new Excel skills you have learned in this chapter.

1. Enter a Formula Using the Keyboard (EX 91)
2. Enter Formulas Using Point Mode (EX 93)
3. Copy Formulas Using the Fill Handle (EX 95)
4. Determine the Average of a Range of Numbers Using the Keyboard and Mouse (EX 99)
5. Determine the Highest Number in a Range of Numbers Using the Insert Function Box (EX 101)
6. Determine the Lowest Number in a Range of Numbers Using the Sum Menu (EX 102)
7. Copy a Range of Cells across Columns to an Adjacent Range Using the Fill Handle (EX 104)
8. Verify a Formula Using Range Finder (EX 106)
9. Change the Workbook Theme (EX 109)
10. Change the Background Color and Apply a Box Border to the Worksheet Title and Subtitle (EX 110)
11. Center Data in Cells and Format Dates (EX 113)
12. Apply an Accounting Number Format and Comma Style Format Using the Ribbon (EX 115)
13. Apply a Currency Style Format with a Floating Dollar Sign Using the Format Cells Dialog Box (EX 116)
14. Apply a Percent Style Format and Use the Increase Decimal Button (EX 118)
15. Apply Conditional Formatting (EX 119)
16. Change the Widths of Columns (EX 122)
17. Change the Heights of Rows (EX 125)
18. Check Spelling on the Worksheet (EX 127)
19. Change the Worksheet's Margins, Header, and Orientation in Page Layout View (EX 130)
20. Preview and Print a Worksheet (EX 132)
21. Print a Section of the Worksheet (EX 134)
22. Display the Formulas in the Worksheet and Fit the Printout on One Page (EX 136)
23. Import Data from a Web Source Using a Web Query (EX 138)
24. Change the Worksheet Names (EX 141)
25. E-Mail a Workbook from within Excel (EX 142)



If you have a SAM user profile, you may have access to hands-on instruction, practice, and assessment. Log in to your SAM account (<http://sam2007.course.com>) to launch any assigned training activities or exams that relate to the skills covered in this chapter.

Learn It Online

Learn It Online is a series of online student exercises that test your knowledge of chapter content and key terms.

Instructions: To complete the Learn It Online exercises, start your browser, click the Address bar, and then enter the Web address scsite.com/ex2007/learn. When the Excel 2007 Learn It Online page is displayed, click the link for the exercise you want to complete and then read the instructions.

Chapter Reinforcement TF, MC, and SA

A series of true/false, multiple choice, and short answer questions that test your knowledge of the chapter content.

Flash Cards

An interactive learning environment where you identify chapter key terms associated with displayed definitions.

Practice Test

A series of multiple choice questions that test your knowledge of chapter content and key terms.

Who Wants To Be a Computer Genius?

An interactive game that challenges your knowledge of chapter content in the style of a television quiz show.

Wheel of Terms

An interactive game that challenges your knowledge of chapter key terms in the style of the television show *Wheel of Fortune*.

Crossword Puzzle Challenge

A crossword puzzle that challenges your knowledge of key terms presented in the chapter.

Apply Your knowledge

Reinforce the skills and apply the concepts you learned in this chapter.

Profit Analysis Worksheet

Instructions Part 1: Start Excel. Open the workbook Apply 2-1 Car-B-Clean Profit Analysis. See the inside back cover of this book for instructions for downloading the Data Files for Students or see your instructor for information on accessing the files required in this book. The purpose of this exercise is to open a partially completed worksheet, enter formulas and functions, copy the formulas and functions, and then format the worksheet titles and numbers. As shown in Figure 2–84, the completed worksheet analyzes profits by product.

Car-B-Clean Accessories Profit Analysis						
Item	Unit Cost	Unit Profit	Units Sold	Total Sales	Total Profit	% Total Profit
Brush	\$ 5.84	\$ 3.15	36,751	\$ 330,391.49	\$ 115,765.65	35.039%
Bucket	7.14	2.75	57,758	571,226.62	158,834.50	27.806%
Drying Cloth	3.52	1.17	42,555	199,582.95	49,789.35	24.947%
Duster	2.55	1.04	78,816	282,949.44	81,968.64	28.969%
Polish	7.19	7.80	57,758	865,792.42	450,512.40	52.035%
Soap	8.52	4.09	50,646	638,646.06	207,142.14	32.435%
Sponge	2.05	1.84	23,154	90,069.06	42,603.36	47.301%
Wax	10.15	7.44	53,099	934,011.41	395,056.56	42.297%
Vacuum	43.91	33.09	17,780	1,369,060.00	588,340.20	42.974%
Totals			418,317	\$5,281,729.45	\$2,090,012.80	39.571%
Lowest	\$2.05	\$1.04	17,780	\$90,069.06	\$42,603.36	24.947%
Highest	\$43.91	\$33.09	78,816	\$1,369,060.00	\$588,340.20	52.035%
Average	\$10.10	\$6.93	46,480	\$586,858.83	\$232,223.64	

Figure 2–84

Perform the following tasks.

1. Use the following formulas in cells E4, F4, and G4:

Total Sales (cell E4) = Units Sold * (Unit Cost + Unit Profit) or =D4 * (B4 + C4)

Total Profit (cell F4) = Units Sold * Unit Profit or = D4 * C4

% Total Profit (cell G4) = Total Profit / Total Sales or = F4 / E4

Use the fill handle to copy the three formulas in the range E4:G4 to the range E5:G12.

2. Determine totals for the units sold, total sales, and total profit in row 13. Copy cell G12 to G13 to assign the formula in cell G12 to G13 in the total line.

Continued >

Apply Your Knowledge *continued*

3. In the range B14:B16, determine the lowest value, highest value, and average value, respectively, for the values in the range B4:B12. Use the fill handle to copy the three functions to the range C14:G16. Delete the average from cell G16, because an average of percentages of this type is mathematically invalid.
4. Format the worksheet as follows:
 - a. change the workbook theme to Concourse by using the Themes button on the Page Layout tab on the Ribbon
 - b. cell A1 — change to font size 24 with a green (column 6 of standard colors) background and white font color by using the buttons in the Font group on the Home tab on the Ribbon
 - c. cell A2 — change to a green (column 6 of standard colors) background and white font color
 - d. cells B4:C4, E4:F4, and E13:F13 — Accounting style format with two decimal places and fixed dollar signs (use the Accounting Style button on the Home tab on the Ribbon)
 - e. cells B5:C12 and E5:F12 — Comma style format with two decimal places (use the Comma Style button on the Home tab on the Ribbon)
 - f. cells D4:D16 — Comma style format with no decimal places
 - g. cells G4:G15 — Percent style format with three decimal places
 - h. cells B14:C16 and E14:F16 — Currency style format with floating dollar signs (use the Format Cells: Number Dialog Box Launcher on the Home tab on the Ribbon)
5. Switch to Page Layout view and enter your name, course, laboratory assignment number (Apply 2-1), date, and any other information requested by your instructor in the Header area. Preview and print the worksheet in landscape orientation. Change the document properties, as specified by your instructor. Save the workbook using the file name, Apply 2-1 Car-B-Clean Profit Analysis Complete in the format specified by your instructor.
6. Use Range Finder to verify the formula in cell F4.
7. Print the range A3:E16. Press CTRL+ACCENT MARK (ˆ) to change the display from the values version of the worksheet to the formulas version. Print the formulas version in landscape orientation on one page (Figure 2–85) by using the Fit to option in the Page sheet in the Page Setup dialog box. Press CTRL+ACCENT MARK (ˆ) to change the display of the worksheet back to the values version. Do not save the workbook. If requested, submit the three printouts to your instructor.

Instructions Part 2:

1. In column C, use the keyboard to add manually \$1.00 to the profit of each product with a unit profit less than \$7.00 and \$3.00 to the profits of all other products. You should end up with \$2,765,603.80 in cell F13.
2. Print the worksheet. Do not save the workbook. If requested, submit the revised workbook in the format specified by your instructor.

Jeff Quasney
Apply Your Knowledge 2-1

Car-B-Clean Accessories Profit Analysis							
Item	Unit Cost	Unit Profit	Units Sold	Total Sales	Total Profit	% Total Profit	
Brush	5.84	3.15	36751	=D4*(B4+C4)	=D4*C4	=F4/E4	
Bucket	7.14	2.75	57758	=D5*(B5+C5)	=D5*C5	=F5/E5	
Drying Cloth	3.52	1.17	42555	=D6*(B6+C6)	=D6*C6	=F6/E6	
Duster	2.55	1.04	78816	=D7*(B7+C7)	=D7*C7	=F7/E7	
Polish	7.19	7.8	57758	=D8*(B8+C8)	=D8*C8	=F8/E8	
Soap	8.52	4.09	50646	=D9*(B9+C9)	=D9*C9	=F9/E9	
Sponge	2.05	1.84	23154	=D10*(B10+C10)	=D10*C10	=F10/E10	
Wax	10.15	7.44	53099	=D11*(B11+C11)	=D11*C11	=F11/E11	
Vacuum	43.91	33.09	17780	=D12*(B12+C12)	=D12*C12	=F12/E12	
Totals			=SUM(D4:D12)	=SUM(E4:E12)	=SUM(F4:F12)	=F13/E13	
Lowest	=MIN(B4:B12)	=MIN(C4:C12)	=MIN(D4:D12)	=MIN(E4:E12)	=MIN(F4:F12)	=MIN(G4:G12)	
Highest	=MAX(B4:B12)	=MAX(C4:C12)	=MAX(D4:D12)	=MAX(E4:E12)	=MAX(F4:F12)	=MAX(G4:G12)	
Average	=AVERAGE(B4:B12)	=AVERAGE(C4:C12)	=AVERAGE(D4:D12)	=AVERAGE(E4:E12)	=AVERAGE(F4:F12)		

Figure 2-85

Extend Your Knowledge

Extend the skills you learned in this chapter and experiment with new skills. You may need to use Help to complete the assignment.

Applying Conditional Formatting to Cells

Instructions: Start Excel. Open the workbook Extend 2-1 Biology 201 Midterm Scores. See the inside back cover of this book for instructions for downloading the Data Files for Students, or see your instructor for information on accessing the files required in this book. Perform the following tasks to apply new conditional formatting to the worksheet.

1. Select the range C4:C18. Click the Conditional Formatting button on the Home tab on the Ribbon and then select New Rule in the Conditional Formatting gallery. Select 'Format only top or bottom ranked values' in the Select a Rule Type area (Figure 2-86). Enter a value between 20 and 35 of your choosing in the text box in the Edit the Rule Description area and click the '% of selected range' check box to select it. Click the Format button and choose a format to assign to this conditional format. Click the OK button in each dialog box to close the dialog boxes and view the worksheet.
2. With range C4:C18 selected, apply a conditional format to the range that highlights scores that are below average.
3. With range D4:D18 selected, apply a conditional format to the range that highlights any grade that is a D or an F.
4. With range B4:B18 selected, apply a conditional format to the range that uses a red color to highlight any duplicate student names.
5. Change the document properties, as specified by your instructor. Change the worksheet header with your name, course number, and other information requested by your instructor. Save the workbook using the file name, Extend 2-1 Biology 201 Midterm Scores Complete, and submit the revised workbook as specified by your instructor.

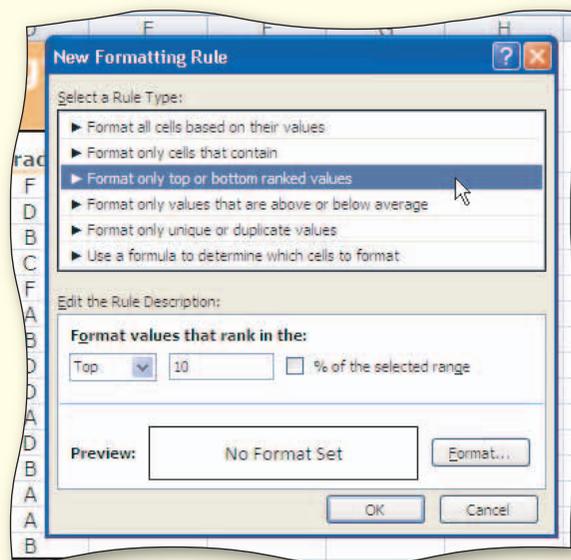


Figure 2-86

Make It Right

Analyze a workbook and correct all errors and/or improve the design.

Correcting Functions and Formulas in a Worksheet

Instructions: Start Excel. Open the workbook Make It Right 2-1 El Centro Diner Payroll Report. See the inside back cover of this book for instructions for downloading the Data Files for Students, or see your instructor for information on accessing the files required for this book. Correct the following formatting, function, and formula problems (Figure 2–87) in the worksheet.

	A	B	C	D	E	F	G	H	I	J	K
1	El Centro Diner										
2	Payroll Report										
3	Employee	Dependents	Rate per Hour	Hours Worked	Gross Pay	Federal Tax	State Tax	Net Pay	% Taxes		
4	Vincent Flores	1	\$9.90	20.00	\$198.00	\$34.97	\$7.92	\$162.03	21.660%		
5	Wonda Jefferson	2	11.20	40.00	448.00	80.33	17.92	365.67	21.931%		
6	Anthony Sanchez	2	15.90	21.25	337.88	58.31	13.52	277.57	21.257%		
7	Alexa Martin	3	11.30	23.50	265.55	39.21	10.62	223.34	18.765%		
8	Maria Reyes	1	10.30	21.25	218.88	39.14	8.76	178.73	21.883%		
9	Lori Romanoff	2	10.75	40.00	430.00	76.73	17.20	351.27	21.845%		
10	Carmen Alvarez	1	12.60	21.50	270.90	49.55	10.84	220.35	22.289%		
11	Peter Lane	4	14.50	37.50	543.75	90.21	21.75	449.54	20.591%		
12	Claudi Moreno	1	16.00	33.00	528.00	100.97	21.12	426.03	23.122%		
13	Wayne Vargas	3	8.00	29.25	234.00	32.90	9.36	198.10	18.059%		
14	Totals			287.25	\$3,474.95	\$ 602.31	\$ 139.00	\$2,852.64	21.333%		
15	Average	1.8888889	\$12.49	28.67	\$360.11	\$60.23	\$13.90	\$294.95	21.140%		
16	Highest	4	\$16.00	40.00	\$543.75	\$100.97	\$21.75	\$449.54	23.122%		
17	Lowest	1	\$8.00	20.00	\$198.00	\$32.90	\$7.92	\$162.03	18.059%		
18											

Figure 2–87

1. Adjust the width of column B to 11.25 pixels so that the word in the column header does not wrap.
2. Spell check the worksheet and correct any spelling mistakes that are found, but ignore any spelling mistakes found with the worksheet title and the employee names.
3. The averages in several columns do not include the employee in row 13. Adjust the functions in these cells so that all employees are included in the calculation.
4. The net pay calculation should be:

$$\text{Net Pay} = \text{Gross Pay} - (\text{Federal Taxes} + \text{State Taxes})$$
 Adjust the formulas in the range H4:H13 so that the correct formula is used.
5. The value for the highest value in column C was entered as a number rather than as a function. Replace the value with the appropriate function.
6. The currency values in row 4 should be formatted with the Accounting Number Format button on the Home tab on the Ribbon. They are currently formatted with the Currency format.
7. Delete the function in the cell containing the average of % Taxes because it is mathematically invalid.

- Change the document properties, as specified by your instructor. Change the worksheet header with your name, course number, and other information requested by your instructor. Save the workbook using the file name, Make It Right 2-1 El Centro Diner Payroll Report Corrected. Submit the revised workbook as specified by your instructor.

In the Lab

Create a workbook using the guidelines, concepts, and skills presented in this chapter. Labs are listed in order of increasing difficulty.

Lab 1: Sales Analysis Worksheet

Problem: You have been asked to build a sales analysis worksheet for Facade Importers that determines the sales quota and percentage of quota met for the sales representatives in Table 2–8. The desired worksheet is shown in Figure 2–88.

Table 2–8 Facade Importers Sales Data

Sales Representative	Sales Amount	Sales Return	Sales Quota
Polizzi, Bernard	591518	12638	765130
Li, Grace	895050	12015	776381
Volpe, Pamela	716502	18141	733309
Khan, Anwer	709672	22326	566940
Hudson, Emma	802525	11138	712222
Huerta, Teresa	885156	18721	778060



Figure 2–88

Continued >

In the Lab *continued*

Instructions Part 1: Perform the following tasks to build the worksheet shown in Figure 2–88.

1. Apply the Aspect theme to the worksheet by using the Themes button on the Page Layout tab on the Ribbon.
2. Increase the width of column A to 19.00 points and the width of columns B through F to 13.50 points.
3. Enter the worksheet title *Facade Importers* in cell A1 and the worksheet subtitle *Sales Analysis* in cell A2. Enter the column titles in row 3 as shown in Figure 2–88. In row 3, use ALT+ENTER to start a new line in a cell.
4. Enter the sales data described in Table 2–8 in columns A, B, C, and E in rows 4 through 9. Enter the row titles in the range A10:A14 as shown in Figure 2–88 on the previous page.
5. Obtain the net sales in column D by subtracting the sales returns in column C from the sales amount in column B. Enter the formula in cell D4 and copy it to the range D5:D9.
6. Obtain the above quota amounts in column F by subtracting the sales quota in column E from the net sales in column D. Enter the formula in cell F4 and copy it to the range F5:F9.
7. Obtain the totals in row 10 by adding the column values for each salesperson. In the range B11:B13, use the AVERAGE, MAX, and MIN functions to determine the average, highest value, and lowest value in the range B4:B9. Copy the range B11:B13 to the range C11:F13.
8. Determine the percent of quota sold in cell B14 by dividing the total net sales amount in cell D10 by the total sales quota amount in cell E10. Center this value in the cell.
9. If necessary, click the Home tab on the Ribbon. One at a time, merge and center the worksheet title and subtitle across columns A through F. Select cells A1 and A2 and change the background color to red (column 2 in the Standard Colors area on the Fill Color palette). Apply the Title cell style to cells A1 and B1 by clicking the Cell Styles button on the Home tab on the Ribbon and clicking the Title cell style in the Titles and Headings area in the Cell Styles gallery. Change the worksheet title in cell A1 to 28-point white (column 1, row 1 on the Font Color gallery). Change the worksheet subtitle to the same color. Assign a thick box border from the Borders gallery to the range A1:A2.
10. Center the titles in row 3, columns A through F. Apply the Heading 3 cell style to the range A3:F3. Use the Italic button on the Home tab on the Ribbon to italicize the column titles in row 3 and the row titles in the range A10:A14.
11. Apply the Total cell style to the range A10:F10. Assign a thick box to cell B14. Change the background and font colors for cell B14 to the same colors applied to the worksheet title in Step 9.
12. Change the row heights of row 3 to 33.00 points and rows 11 and 14 to 30.00 points.
13. Select cell B14 and then click the Percent Style button on the Home tab on the Ribbon. Click the Increase Decimal button on the Ribbon twice to display the percent in cell B14 to hundredths.
14. Use the CTRL key to select the ranges B4:F4 and B10:F13. That is, select the range B4:F4 and then while holding down the CTRL key, select the range B10:F13. Use the Format Cells: Number Dialog Box Launcher button on the Home tab on the Ribbon to display the Format Cells dialog box to assign the selected ranges a Floating Dollar Sign style format with two decimal places and parentheses to represent negative numbers. Select the range B5:F9 and click the Comma Style button on the Home tab on the Ribbon.
15. Rename the sheet tab as Sales Analysis. Change the document properties, as specified by your instructor. Change the worksheet header with your name, course number, and other information requested by your instructor.

16. Save the workbook using the file name Lab 2-1 Part 1 Facade Importers Sales Analysis. Print the entire worksheet in landscape orientation. Print only the range A3:B10.
17. Display the formulas version by pressing CTRL+ACCENT MARK (´). Print the formulas version using the Fit to option button in the Scaling area on the Page tab in the Page Setup dialog box. After printing the worksheet, reset the Scaling option by selecting the Adjust to option button on the Page tab in the Page Setup dialog box and changing the percent value to 100%. Change the display from the formulas version to the values version by pressing CTRL+ACCENT MARK (´). Do not save the workbook.
18. Submit the assignment as specified by your instructor.

Instructions Part 2: With the workbook created in Part 1, manually decrement each of the six values in the net sales column by \$10,000.00 until the percent of quota sold in cell B14 is below, yet as close as possible to, 100%. All six values in column E must be incremented the same number of times. The percent of quota sold in B14 should equal 99.85%. Update the worksheet header and save the workbook as Lab 2-1 Part 2 Facade Importers Sales Analysis. Print the worksheet. Submit the assignment as specified by your instructor.

Instructions Part 3: With the percent of quota sold in cell B14 equal to 99.85% from Part 2, manually decrement each of the six values in the sales return column by \$1,000.00 until the percent of quota sold in cell B14 is above, yet as close as possible to, 100%. Decrement all six values in column C the same number of times. Your worksheet is correct when the percent of quota sold in cell B14 is equal to 100.12%. Update the worksheet header and save the workbook as Lab 2-1 Part 3 Facade Importers Sales Analysis. Print the worksheet. Submit the assignment as specified by your instructor.

In the Lab

Lab 2: Balance Due Worksheet

Problem: You are a spreadsheet intern for Jackson's Bright Ideas, a popular Denver-based light fixture store with outlets in major cities across the western United States. You have been asked to use Excel to generate a report (Figure 2–89) that summarizes the monthly balance due. A graphic breakdown of the data also is desired. The customer data in Table 2–9 is available for test purposes.

Customer	Beginning Balance	Credits	Payments	Purchases
Costa, Dan	160.68	18.70	99.33	68.28
Hernandez, Abraham	138.11	48.47	75.81	46.72
Mc Cartan, John	820.15	32.11	31.23	29.19
Paoli, Pam	167.35	59.32	52.91	33.90
Ramirez, Alberto	568.34	55.17	18.53	36.34
Vaughn, Noah	449.92	25.90	82.05	99.77
Xiong, James	390.73	48.12	19.35	92.13

Continued >

In the Lab *continued*

Instructions Part 1: Create a worksheet similar to the one shown in Figure 2–89. Include the five columns of customer data in Table 2–9 in the report, plus two additional columns to compute a service charge and a new balance for each customer. Assume no negative unpaid monthly balances.

	A	B	C	D	E	F	G	H	
1	Jackson's Bright Ideas								
2	Monthly Balance Due Report								
3	Customer	Beginning Balance	Credits	Payments	Purchases	Service Charge	New Balance		
4	Costa, Dan	\$160.68	\$18.70	\$99.33	\$68.28	\$1.17	\$112.10		
5	Hernandez, Abraham	138.11	48.47	75.81	46.72	0.38	60.93		
6	Mc Cartan, John	820.15	32.11	31.23	29.19	20.81	806.81		
7	Paoli, Pam	167.35	59.32	52.91	33.90	1.52	90.54		
8	Ramirez, Alberto	568.34	55.17	18.53	36.34	13.60	544.58		
9	Vaughn, Noah	449.92	25.90	82.05	99.77	9.40	451.14		
10	Xiong, James	390.73	48.12	19.35	92.13	8.89	424.28		
11	Totals	\$2,695.28	\$287.79	\$379.21	\$406.33	\$55.78	\$2,490.39		
12	Highest	\$820.15	\$59.32	\$99.33	\$99.77	\$20.81	\$806.81		
13	Lowest	\$138.11	\$18.70	\$18.53	\$29.19	\$0.38	\$60.93		
14	Average	\$385.04	\$41.11	\$54.17	\$58.05	\$7.97	\$355.77		
15									
16									

Figure 2–89

Perform the following tasks:

- Enter and format the worksheet title Jackson's Bright Ideas and worksheet subtitle Monthly Balance Due Report in cells A1 and A2. Change the theme of the worksheet to the Technic theme. Apply the Title cell style to cells A1 and A2. Change the font size in cell A1 to 28 points. One at a time, merge and center the worksheet title and subtitle across columns A through G. Change the background color of cells A1 and A2 to yellow (column 4 in the Standard Colors area in the Font Color palette). Draw a thick box border around the range A1:A2.
- Change the width of column A to 20.00 characters. Change the widths of columns B through G to 12.00. Change the heights of row 3 to 36.00 and row 12 to 30.00 points.
- Enter the column titles in row 3 and row titles in the range A11:A14 as shown in Figure 2–89. Center the column titles in the range A3:G3. Apply the Heading 3 cell style to the range A3:G3. Bold the titles in the range A11:A14. Apply the Total cell style to the range A11:G11. Change the font size of the cells in the range A3:G14 to 12 points.
- Enter the data in Table 2–9 in the range A4:E10.
- Use the following formulas to determine the service charge in column F and the new balance in column G for the first customer. Copy the two formulas down through the remaining customers.
 - Service Charge (cell F4) = 2.75% * (Beginning Balance – Payments – Credits)
or = 0.0275 * (B4 – C4 – D4)
 - New Balance (G4) = Beginning Balance + Purchases – Credits – Payments + Service Charge
or = B4 + E4 – C4 – D4 + F4
- Determine the totals in row 11.

7. Determine the maximum, minimum, and average values in cells B12:B14 for the range B4:B10 and then copy the range B12:B14 to C12:G14.
8. Use the Format Cells command on the shortcut menu to format the numbers as follows: (a) assign the Currency style with a floating dollar sign to the cells containing numeric data in the ranges B4:G4 and B11:G14; and (b) assign the Comma style (currency with no dollar sign) to the range B5:G10.
9. Use conditional formatting to change the formatting to white bold font on a red background in any cell in the range C4:C10 that contains a value greater than 50.
10. Change the worksheet name from Sheet1 to Balance Due. Change the document properties, as specified by your instructor. Change the worksheet header with your name, course number, and other information requested by your instructor.
11. Spell check the worksheet. Preview and then print the worksheet in landscape orientation. Save the workbook using the file name, Lab 2-2 Part 1 Jackson's Bright Ideas Monthly Balance Due Report.
12. Print the range A3:D14. Print the formulas version on one page. Close the workbook without saving the changes. Submit the assignment as specified by your instructor.

Instructions Part 2: This part requires that a 3-D Bar chart with a cylindrical shape be inserted on a new worksheet in the workbook. If necessary, use Excel Help to obtain information on inserting a chart on a separate sheet in the workbook.

1. With the Lab 2-2 Part 1 Jackson's Bright Ideas Monthly Balance Due Report workbook open, draw the 3-D Bar chart with cylindrical shape showing each customer's total new balance as shown in Figure 2-90.

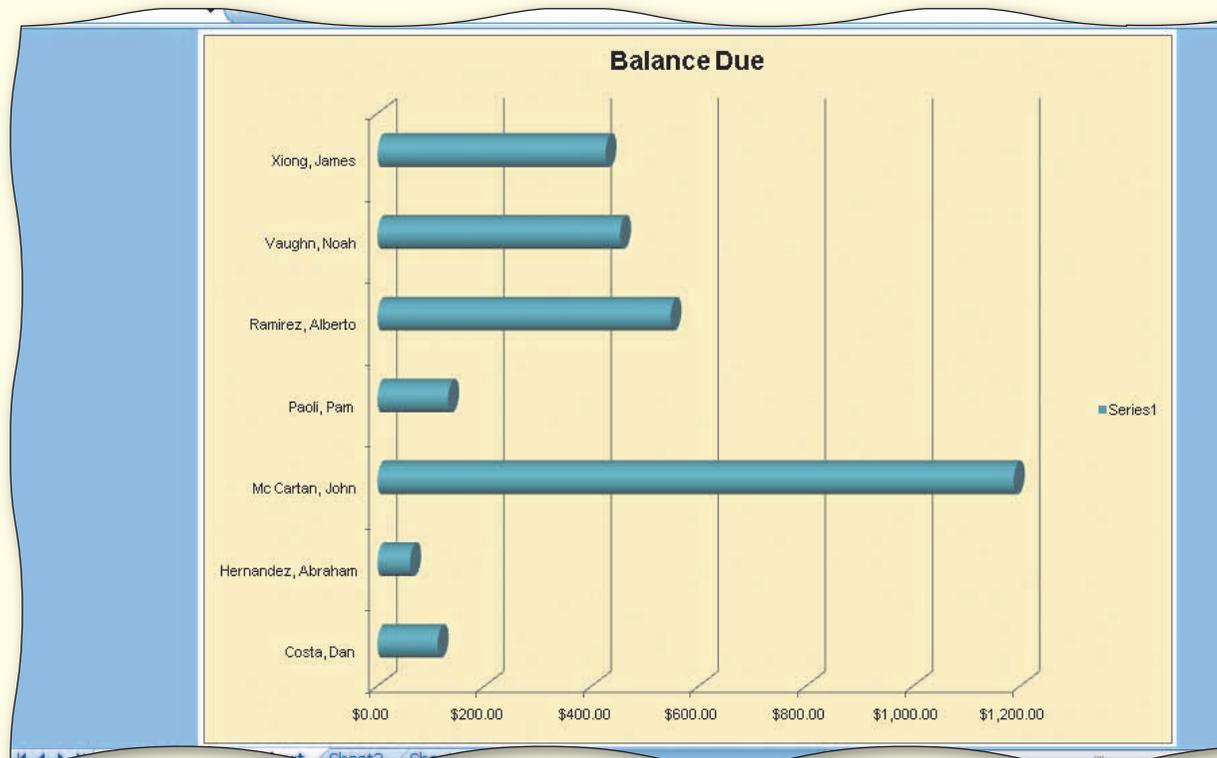


Figure 2-90

2. Use the CTRL key and mouse to select the nonadjacent chart ranges A4:A10 and G4:G10. That is, select the range A4:A10 and then while holding down the CTRL key, select the range G4:G10. The customer names in the range A4:A10 will identify the cylindrical bars, while the data series in the range G4:G10 will determine the length of the bars.

Continued >

In the Lab *continued*

- Click the Insert tab on the Ribbon. Click the Bar button in the Charts group on the Ribbon and then select Clustered Horizontal Cylinder in the Cylinder area. When the chart is displayed on the worksheet, click the Move Chart button on the Ribbon. When the Move Chart dialog box appears, click New sheet and then type Bar Chart for the sheet name. Click the OK button.
- When the chart is displayed on the new worksheet, click the wall behind the bars and then click the Format contextual tab. Click the Shape Fill button on the Ribbon and then select Gold, Accent 2, Lighter 80% in the gallery (column 6, row 2). Click the Layout contextual tab. Click the Chart Title button on the Ribbon and then select Above Chart in the Chart Title gallery. If necessary, use the scroll bar on the right side of the worksheet to scroll to the top of the chart. Click the chart title to select it and then type Balance Due as the chart title.
- Drag the Balance Due tab at the bottom of the worksheet to the left of the Bar Chart tab to reorder the sheets in the workbook. Preview and print the chart.
- Click the Balance Due sheet tab. Change the following purchases: customer John Mc Cartan to \$406.58, and customer Pam Paoli to \$74.99. The company also decided to change the service charge from 2.75% to 3.25% for all customers. After copying the adjusted formula in cell F4 to the range F5:F10, click the Auto Fill Options button and then click Fill without Formatting to maintain the original formatting in the range F5:F10. The total new balance in cell G11 should equal \$2,919.01.
- Select both sheets by holding down the SHIFT key and then clicking the Bar Chart tab. Preview and print the selected sheets. Submit the assignment as requested by your instructor. Save the worksheet using the file name, Lab 2-2 Part 2 Jackson's Bright Ideas Monthly Balance Due Report.
- Submit the assignment as specified by your instructor.

Instructions Part 3: With your instructor's permission, e-mail the workbook created in this exercise with the changes indicated in Part 2 as an attachment to your instructor. Close the workbook without saving the changes.

In the Lab

Lab 3: Equity Web Queries

Problem: A friend of your family, Benson Yackley, has learned that Excel can connect to the Web, download real-time stock data into a worksheet, and then refresh the data as often as needed. Because you have had courses in Excel and the Internet, he has hired you as a consultant to develop a stock analysis workbook. His portfolio is shown in Table 2–10.

Instructions Part 1: Start Excel. If necessary, connect to the Internet. Perform a Web query to obtain multiple stock quotes (Figure 2–91), using the stock symbols in the second column of Table 2–10. Place the results of the Web query in a new worksheet. Rename the worksheet Real-Time Stock Quotes. Change the document properties, as specified by your instructor. Add a header with your name, course number, and other information requested by your instructor. Save the workbook using the file name, Lab 2-3 Part 1 Benson Yackley Equities Online. Preview and then print the worksheet in landscape orientation using the Fit to option.

Table 2–10 Benson Yackley's Stock Portfolio

Company	Stock Symbol
Exxon Mobil	XOM
Dell	DELL
Hewlett-Packard	HPQ
Intel	INTC
MetLife	MET
PepsiCo	PEP

Click the following links and print the Web page that appears in the browser window: Click here to visit MSN Money; Dell Inc.; Chart (to the right of MetLife, Inc.); and News (to the right of PepsiCo, Inc.). Submit the assignment as specified by your instructor.

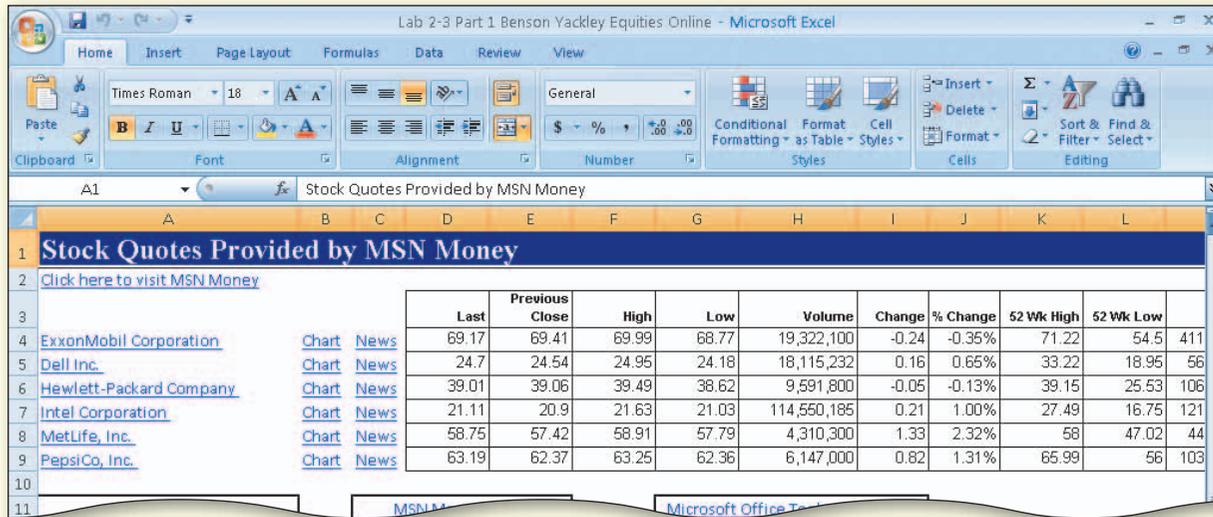


Figure 2-91

Instructions Part 2: While connected to the Internet and with the Lab 2-3 Benson Yackley Equities Online workbook open, create a worksheet listing the major indices and their current values on Sheet2 of the workbook (Figure 2-92). After clicking the Sheet2 tab, create the worksheet by double-clicking MSN MoneyCentral Investor Major Indices in the Select Data Source dialog box. The dialog box is displayed when you click the Existing Connections button on the Data tab on the Ribbon. Rename the worksheet Major Indices. Preview and then print the Major Indices worksheet in landscape orientation using the Fit to option. Save the workbook using the same file name as in Part 1. Submit the assignment as specified by your instructor.

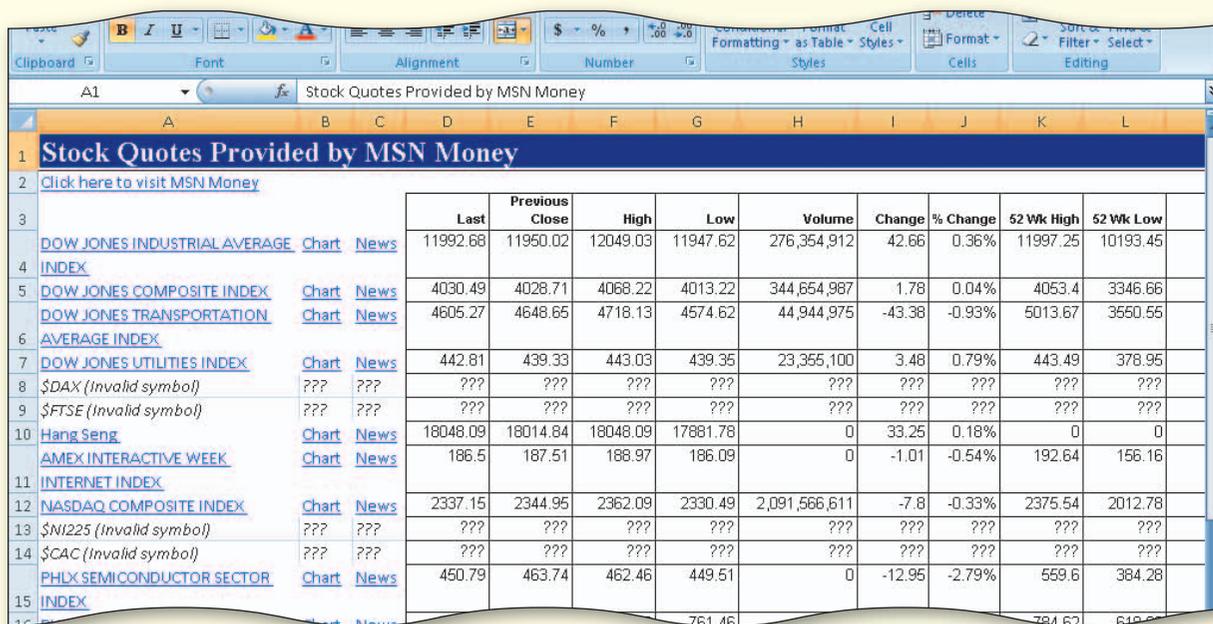


Figure 2-92

Cases and Places

Apply your creative thinking and problem solving skills to design and implement a solution.

- EASIER • • MORE DIFFICULT

• 1: Design and Create a Weight-Loss Plan Worksheet

As a summer intern working for Choose to Lose, a local weight-loss clinic, you have been asked to create a worksheet that estimates the monthly weight lost for an individual based on recommended average daily activities. You have been given the numbers of calories burned per hour and the average number of hours for each activity (Table 2–11). Use the following formulas:

Formula A: Total Calories Burned per Day = Calories burned per Hour × Average Hours Daily

Formula B: Total Pounds Lost per Month (30 days) = 30 × Total Calories Burned per Day × 3500

Formula C: Average function

Formula D: Max function

Formula E: Min function

Use the concepts and techniques presented in this project to create and format the worksheet. Include an embedded 3-D Pie chart that shows the contribution of each activity to the total calories burned per day. Use Microsoft Excel Help to create a professional looking 3-D Pie chart with title and data labels.

Table 2–11 Activities with Corresponding Calories Burned per Hour and Worksheet Layout

Activity	Calories Burned per Hour	Average Hours Daily	Total Calories Burned per Day	Total Pounds Lost per Month (30 Days)
Aerobics class	450	0.50	Formula A	Formula B
Brisk walking	350	0.50		
House work	150	1.00		
Office work/sitting	120	6.00		
Sleeping	70	9.00		
Standing	105	2.00		
Swimming	290	0.50		
Tennis	315	0.25		
Walking	240	4.25		
Totals	—			
Average	Formula C			
Highest	Formula D			
Lowest	Formula E			

• 2: Create a Profit Potential Worksheet

You work part-time for Doze-Now, a retailer of sleep-related products. Your manager wants to know the profit potential of their inventory based on the categories of inventory in Table 2–12. Table 2–12 contains the format of the desired report. The required formulas are shown in Table 2–13. Use the concepts and techniques developed in this project to create and format the worksheet. Submit a printout of the values version and formulas version of the worksheet. The company just received a shipment of 175 additional comforters and 273 items of sleepwear. Update the appropriate cells in the Units on Hand column.

Table 2–12 Doze-Now Profit Potential Data and Worksheet Layout

Item	Units on Hand	Average Unit Cost	Total Cost	Average Unit Price	Total Value	Potential Profit
Comforters	216	46.52	Formula A	Formula B	Formula C	Formula D
Night lights	4,283	6.89	↓	↓	↓	↓
Pillows	691	47.64				
Sleep sound machines	103	45.06				
Sleepwear	489	16.77	↓	↓	↓	↓
Total	—		—	—	—	—
Average	Formula E	→				
Lowest	Formula F	→				
Highest	Formula G	→				

Table 2–13 Doze-Now Profit Potential Formulas

Formula A = Units on Hand * Average Unit Cost

Formula B = Average Unit Cost * (1 / (1 - .58))

Formula C = Units on Hand * Average Unit Price

Formula D = Total Value - Total Cost

Formula E = AVERAGE function

Formula F = MIN function

Formula G = MAX function

Continued >

Cases and Places *continued*

•• 3: Create a Fund-Raising Analysis Worksheet

You are the chairperson of the fund-raising committee for a local charity. You want to compare various fund-raising ideas to determine which will give you the best profit. The data obtained from six businesses about their products and the format of the desired report are shown in Table 2–14. The required formulas are shown in Table 2–15. Use the concepts and techniques presented in this project to create and format the worksheet.

Table 2–14 Fund-Raising Data and Worksheet Layout

Product	Company	Cost per Unit	Margin	Selling Price	Profit per 2000 Sales	Profit per 5000 Sales
Candles	Woodland Farms	\$4.75	40%	Formula A	Formula B	Formula C
Candy	Polkandy	3.00	70%			
Coffee	Garcia Coffee	6.50	45%			
Cookie dough	Oh, Dough!	2.90	65%			
Flower bulbs	Early Bloom	2.40	50%			
T-shirts	Zed’s Sports	5.75	42%			
Minimum		Formula D				
Maximum		Formula E				

Table 2–15 Band Fund-Raising Formulas

Formula A = Cost per Unit / (1 – Margin)
Formula B = 2000 * (Selling Price – Cost per Unit)
Formula C = 5000 * 110% * (Selling Price – Cost per Unit)
Formula D = MIN function
Formula E = MAX function

•• 4: Design and Create a Projected Budget

Make It Personal

For the next six-month period, forecast your income for each month, your base expenditures for each month, and your special expenditures for each month. Base expenditures include expenses that occur each month, such as food and loan payments. Special expenditures include expenses that are out of the ordinary, such as the purchase of gifts, automobile insurance, and medical expenses. With this data, develop a worksheet calculating the amount of remaining money at the end of each month. You can determine this amount by subtracting both expenses from the anticipated income.

Include a total, average value, highest value, and lowest value for income, base expenditures, special expenditures, and remaining money. Use the concepts and techniques presented in this project to create and format the worksheet.

Create a 3-D Pie chart on a separate sheet illustrating the portion each month’s special expenditures deducts from the total remaining money after all six months have passed. Use Microsoft Excel Help to create a professional looking 3-D Pie chart with title and data labels.

•• 5: Design and Create a Stock Analysis Worksheet

Working Together

Have each member of your team select six stocks — two bank stocks, two communications stocks, and two Internet stocks. Each member should submit the stock names, stock symbols, and an approximate six-month-old price. Create a worksheet that lists the stock names, symbols, price, and number of shares for each stock (use 350 shares as the number of shares for all stocks). Format the worksheet so that it has a professional appearance and is as informative as possible.

Have the group do research on the use of 3-D references, which is a reference to a range that spans two or more worksheets in a workbook (use Microsoft Excel Help). Use what the group learns to create a Web query on the Sheet2 worksheet by referencing the stock symbols on the Sheet1 worksheet. On the Sheet1 worksheet, change the cells that list current price per share numbers on the Sheet1 worksheet so that they use 3-D cell references that refer to the worksheet created by the Web query on the Sheet2 worksheet. Present your workbook and findings to the class.



