Getting Started with Excel 2010

8

Excel is Office 2010's spreadsheet program. You use Excel to create, analyze, and manage documents called *workbooks* that contain text and numeric data. Workbooks can consist of simple lists (address books, club rosters, and collections) or complex calculations (bookkeeping systems, sales and expense tracking, engineering computations, and manufacturing measurements).

To get you started, this chapter presents the following essential Excel 2010 topics:

- Working with the Excel interface
- Understanding workbooks and worksheets
- Selecting cells and ranges
- Entering and editing data
- Reorganizing worksheets
- Filling cells
- Importing data
- Finding and replacing data
- Sorting data
- Naming cells and ranges
- Password-protecting workbooks

The Excel Interface

Before we jump into how to use Excel, take a moment to examine **Figure 8.1** (below). It shows many of the Excel interface components you'll be using. You'll note that some elements, such as the Ribbon, Quick Access Toolbar, and Backstage, can also be found in Word, PowerPoint, and Outlook.

Backstage. Click the File tab to go to the Backstage (**Figure 8.2**) to perform file-related activities, such as creating, opening, saving, and printing documents. Click Options to set Excel preferences. To open a document on which you've worked, click its filename in the Recent list. The Exit command can also be found in the Backstage.

Figure 8.2 The Backstage.

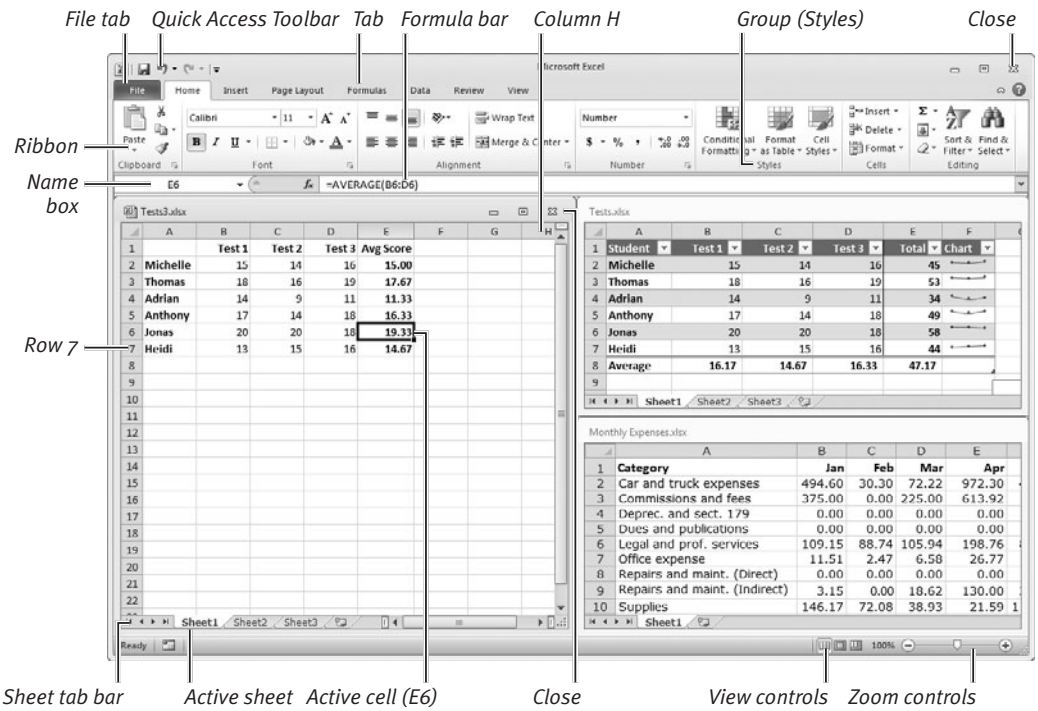


Figure 8.1 Elements of the Excel 2010 interface. In this example, three workbooks are open and tiled.

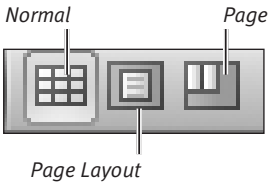


Figure 8.3 Click a View control icon to switch views.

View controls. Click an icon to switch views (**Figure 8.3**). You can also change views by selecting the View tab and clicking an icon in the Workbook Views group. Use Normal or Page Layout view to work with or view your data. Full Screen view is useful when you want to view a worksheet at the largest possible size (without the Ribbon). Before you print, you can switch to Page Break Preview to examine and manually adjust the page breaks.

Zoom controls. You can change the current magnification by dragging the slider, clicking + (increase) or – (decrease), or clicking the zoom percentage number.

Close. Workbooks and Excel each contain a close box that you can click to close an open workbook or to quit Excel, respectively.

Quick Access Toolbar. Common commands are found here, such as Save, Undo, and Redo.

Ribbon. The Ribbon is what Office now uses rather than menus. Similar commands and procedures are listed together on a *tab*, such as Insert or View. Within a tab, procedures are further divided into *groups*, based on similarity of function. To perform a command, you switch to the appropriate tab by clicking its name and clicking the command's icon.

Sheet tab bar. A workbook can contain multiple worksheets (or *sheets*). This area of the document window displays the names of all worksheets in the current workbook. To switch worksheets, click the sheet's name.

Active sheet. This is the sheet that you're currently viewing and/or editing.

Columns and rows. A worksheet is a grid of columns and rows. Columns are designated by letter and rows are numbered. A *column* consists of all cells directly beneath a column letter. A *row* is the string of cells to the right of a row number.

Active cell. This is the currently selected cell (indicated by a heavy black border), named by combining the intersection of column and row. For example, `E6` is in column E, row 6. The active cell name is shown in the name box, and the cell's column letter and row number are highlighted.

Name box. The name box performs a variety of functions, including displaying the name of the active cell and creating *names* (a descriptive name for a cell or range, such as `SalesTax` or `Budget`). Names are also referred to as *range names* and *named ranges*.

Formula bar. Data and formulas can be entered in the formula bar or directly into the active cell. The formula bar displays any formula or data contained in the active cell.

Workbooks and Worksheets

An Excel document consists of a single workbook containing one or more worksheets. A *worksheet* (or sheet) has numbered rows and lettered columns that form a grid. The intersection of a row and column is called a *cell* (**Figure 8.4**). You can enter text data, numeric data, or formulas into the cells. Unlike in other programs you may have used, data doesn't have to be entered from the top down, left to right. You can use any cells that you want, leaving blank rows and columns as best suits the data.

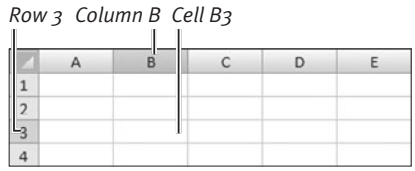


Figure 8.4 A worksheet is a grid composed of rows and columns.

A setting in the General section of Excel Options (**Figure 8.5**) determines the initial number of worksheets in a new workbook. Depending on the data you're entering and analyzing, you can ignore all worksheets but the first or use the others for a completely different type of data or related data. Because Excel lets you perform calculations across worksheets within a workbook, you can also use one sheet to consolidate the data in other sheets. For example, in a bookkeeping workbook, you might collect each month's data in a separate sheet and use another sheet to calculate annual figures, based on the data in the monthly sheets.

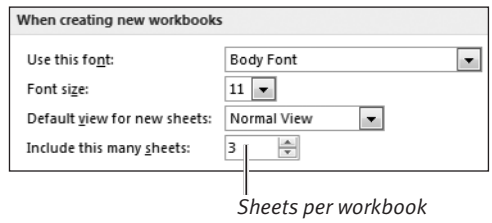


Figure 8.5 To set Excel preferences (such as the number of sheets per workbook), click the File tab to go to the Backstage and then click Options.

Worksheets are managed using the *Sheet tab bar*, found in the bottom-left corner of every workbook window (**Figure 8.6**). To make a different worksheet active, you click its name. You can add, delete, and change the order of the sheets. You can also rename a sheet to make it easier to identify.

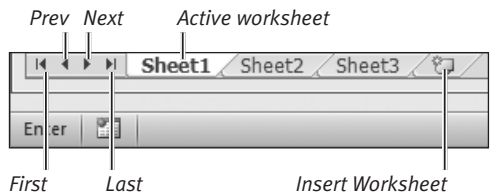


Figure 8.6 You use the Sheet tab bar to make a worksheet active and to manage your worksheets. Each worksheet is represented by a named tab. Click the arrow icons to view additional sheets.

To rename a worksheet:

- Right-click the tab of the worksheet you want to rename and choose Rename from the context menu (**Figure 8.7**). Type a new name and press Enter.

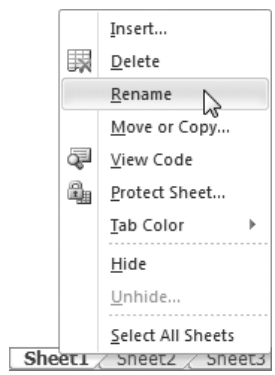


Figure 8.7 Right-click a worksheet's tab to reveal this context menu.

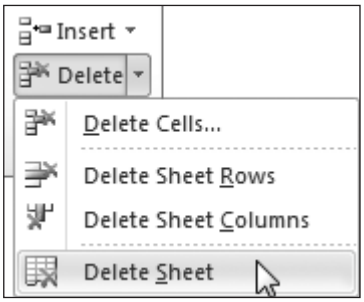


Figure 8.8 You can delete or insert sheets by choosing a command from the Delete or Insert icon.

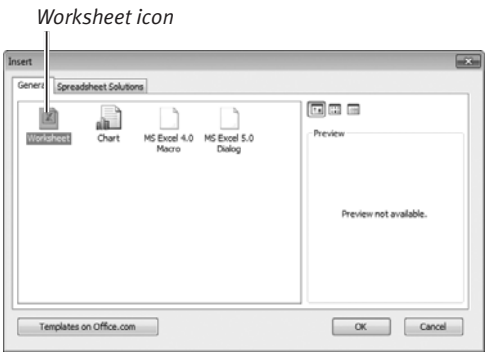


Figure 8.9 To insert a new worksheet, ensure that Worksheet is selected and click OK.

Creating New Workbooks

Although you can continue to add sheets to a workbook, you'll want to create a *new* workbook whenever you begin a project:

- To immediately create a new standard workbook, press Ctrl N.
- To create a specific type of workbook, click the File tab and click New. In the Available Templates gallery, select Blank workbook, a template, or New from existing. Click the Create button.

To delete a worksheet:

- *Do either of the following:*
  - Right-click the tab of the worksheet you want to delete and choose Delete from the context menu (see Figure 8.7).
  - Switch to the Home tab, click the worksheet's tab in the Sheet tab bar (to make the worksheet active), and choose Delete Sheet from the Delete drop-down menu in the Cells group (**Figure 8.8**).

  If the worksheet contains data, a warning dialog box appears. Otherwise, the worksheet is immediately deleted.

To insert a new worksheet:

- *Do one of the following:*
  - Click the Insert Worksheet icon in the Sheet tab bar (see Figure 8.6) or press Shift F11.
  - Right-click a worksheet name in the Sheet tab bar and choose Insert from the context menu. On the General tab of the Insert dialog box (**Figure 8.9**), select Worksheet and click OK.
  - Switch to the Home tab, and choose Insert Sheet from the Insert drop-down menu in the Cells group.

  The new worksheet is appended to the end of the sheet list or inserted to the right of the currently selected sheet.

To change the order of worksheets:

- Drag the worksheet's name to a new position in the Sheet tab bar (see Figure 8.6). As you drag, a tiny triangle shows the sheet's position. Release the mouse button to complete the move.

Cell and Range Selection

Whether you're preparing to enter, edit, or format data, the first step is to select a cell or cell range. Following are some cell-selection techniques.

To select cells:

- **Single cell.** *Do one of the following:*
  - Scroll to bring the cell into view and then click the cell.
  - Press a navigation key (such as ←, →, ↑, ↓, Tab, Shift Tab, Enter, or Shift Enter) to move into the cell. See the Tips on the following page for other useful key combinations.
  - On the Home tab, choose Go To (Ctrl G) from the Find & Select icon's menu in the Editing group (**Figure 8.10**). In the Go To dialog box (**Figure 8.11**), select or type the cell address or name (if a name has been assigned to the cell). Click OK.
  - Type the cell address, range, or name in the name box (**Figure 8.12**) and press Enter.
  - To find a cell based on its contents, choose Find from the Find & Select icon's drop-down menu (Figure 8.10). In the Find dialog box, enter the text, number, date, or time contained in the cell and click Find Next. When the desired cell is selected, click Close. See "Finding/Replacing Data," later in this chapter, for additional options.

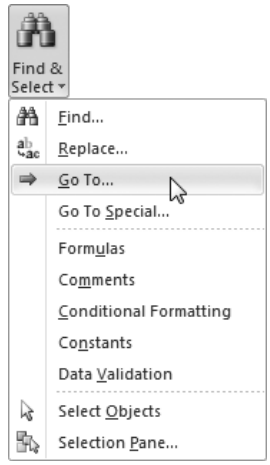


Figure 8.10 To go to a cell address or range, choose Go To from the Find & Select menu.

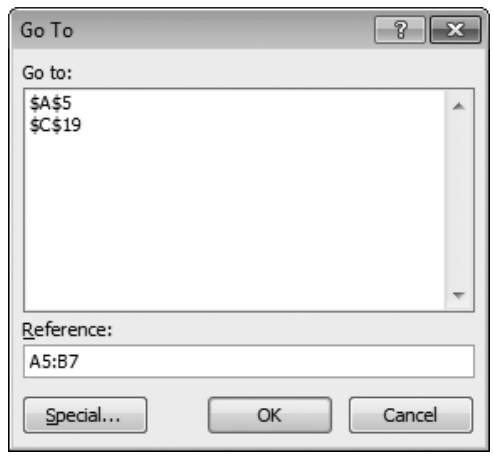


Figure 8.11 To specify a destination, enter an address, range, or name in the Reference text box or select a recently visited address, range, or name.

Figure 8.12 Type an address, range, or name in the name box.

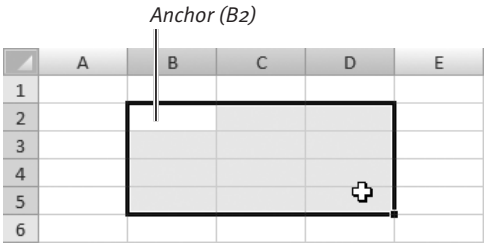


Figure 8.13 To select a range, click a cell in one corner of the range and drag to the opposite corner.

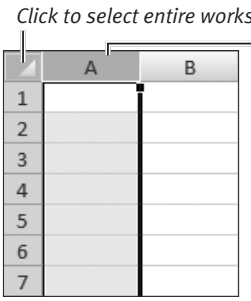


Figure 8.14 To select a column or row, click its letter or number.

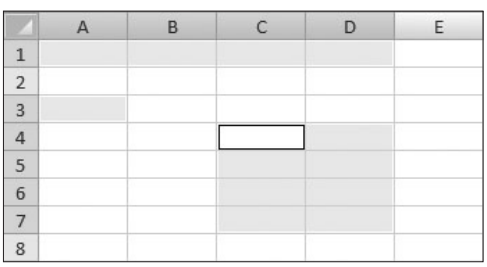


Figure 8.15 You can also select any combination of cells, ranges, rows, and columns (marked with light blue highlighting).

- Press Ctrl End to select the last cell in the active area of the worksheet, Home to move to the first cell in the current row, or Ctrl Home to move to cell A1.
- Press Ctrl and an arrow key to move to the next filled cell in the specified direction. If there are no other filled cells, the first or last cell in the row or column will be selected.
- **Contiguous cell range.** *Do one of the following:*
  - Click a cell in any corner of the range (called the *anchor*) and drag to the opposite corner to select the additional cells (**Figure 8.13**).
  - To select an entire column or row, click its letter or number (**Figure 8.14**).
  - To select the entire worksheet, click the intersection of the column and row headings (Figure 8.14).
  - On the Home tab, choose Go To (Ctrl G) from the Find & Select icon's menu in the Editing group (see Figure 8.10). In the Go To dialog box (see Figure 8.11), enter the cell range in the form

    `start cell:end cell`

    such as `a1:d4`. If you've named the range (see "Naming Cells and Ranges," later in this chapter), you can enter its name rather than the range. Click OK.
  - Enter the cell range or its name in the name box (see Figure 8.12) and press Enter.
- **Noncontiguous cells and ranges.** While pressing Ctrl, click or click-and-drag to select the cells, ranges, columns, and/or rows (**Figure 8.15**).

✔ Tips

- If you need to regularly return to a cell or range, naming it will enable you to easily do so using the Go To command or the name box (see "Naming Cells and Ranges," later in this chapter).
- You can speed the entry of new data by preselecting the destination range. After each entry, press Tab or Enter to move through the range in left-to-right or top-to-bottom fashion, respectively.

Entering Data

A cell can contain one or more lines of text, a number, a date, a time, or a formula that results in one of these data types. To enter data into a cell, follow the instructions below. (Formulas are discussed in Chapter 10.)

To enter data into a cell:

1. Select the cell into which you want to enter data, making it the active cell.

   You can select a cell by clicking in it. For other cell-selection methods, see the previous section.

2. *Do one of the following:*
   - **Text.** Type or paste the text.
   - **Number.** Type or paste the number.
   - **Date.** Type a date in a recognizable format, such as `9-12-06`, `09/12/2006`, or `12-Sep-06`. Date components must be separated by a slash (`/`) or hyphen (`-`) character.
   - **Time.** Type a time in a recognizable format, such as `4:`, `4:07`, `4:07:53`, `4:07 p`, `4 pm`, or `16:07`. Time components must be separated by a colon (`:`).

     When a 12-hour time is entered, such as `10:43`, it is assumed to be AM. To indicate PM, you must enter the time in military (24-hour) format or follow the time with `p` or `pm`, such as `6:15 p` or `6:15 pm`. Morning times can optionally be followed by an `a` or `am`, such as `7:15 a` or `7:15 am`.

3. To complete the entry, click another cell or press a navigation key, such as Enter or Tab. See **Table 8.1** for options.

Table 8.1

Keystrokes to Complete a Cell Entry

Keystroke	Direction
Tab, →	Right
Shift Tab, ←	Left
Enter, ↓	Down
Shift Enter, ↑	Up

Using Entry AutoComplete

When you enter text or a combination of text and numbers into a cell, Excel checks the current column for matching entries. If one is found, Excel proposes it. To accept this AutoComplete entry, press Enter. To ignore it, continue typing.

Changing the Behavior of Enter

Normally, pressing Enter when you finish entering data into a cell causes the cursor to move down, selecting the cell directly beneath the current cell. However, if you like, you can change the behavior of the Enter key:

1. Click the File tab. Click Options.
2. In the Excel Options dialog box, select the Advanced category.
3. Select a cursor-movement direction from the Direction drop-down list. (This is the first item in the Editing options section).
4. Click OK.

Figure 8.16 You can force line breaks within a cell.

Figure 8.17 You can see the formatting for the active cell in the Number group on the Home tab.

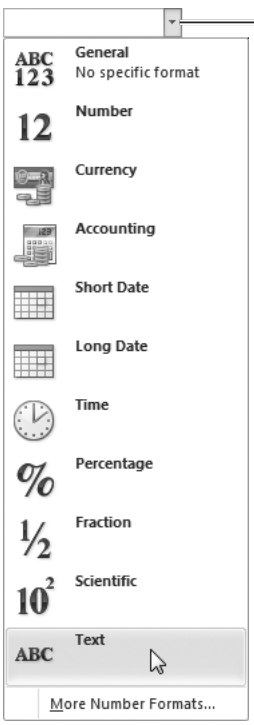


Figure 8.18 You can format any data as text by choosing Text from the Number Format drop-down menu.

✔ Tips

- If a cell shows a string of # characters (#####), it means that the number in the cell is too large to display. To display the complete number, widen the column (see Chapter 9).
- To enter multiple lines of text, numbers, dates, or times into a cell (**Figure 8.16**), press Alt Enter to insert a line break between each pair of lines.
- To enter today's date into a cell, press Ctrl ;. To enter the current time, press Ctrl Shift ;.
- If you want the data to display differently, select the cell and apply formatting (see Chapter 9). The current formatting for the active cell is shown in the Number Format box in the Number group on the Home tab (**Figure 8.17**).
- If you enter a number that begins with one or more zeros, Excel discards the zeros. This presents a problem with some ZIP codes, for example. To force Excel to retain leading zeros, choose Text from the Number Format menu (**Figure 8.18**) in the Number group before entering the data.
- Excel distinguishes between data *display* (determined by formatting) and what is *stored*. When performing calculations, Excel uses the stored data, regardless of what's shown in the cells. For example, when calculating a sales tax of 7.75% on a $12.50 purchase, the result is `0.9675`. When formatted as Currency, the number displays as `$0.97`, the result rounded to two decimal places. If you create a formula in another cell that adds the sale amount ($12.48) to the sales tax, the result is `13.46875`—*not* `$13.47`.

Editing Data

As you create and work with a worksheet, you can correct errors, update data with new values, and revise formulas.

To edit the contents of a cell:

1. Select the cell whose contents you want to change.
2. You can edit in the formula bar or in the cell itself. To set the text insertion mark and begin editing, click in the formula bar or double-click in the cell.

   If the cell contains a formula, the formula appears (**Figure 8.19**). Otherwise, the data is shown.
3. Make the desired changes.
4. To finish the edits, *do one of the following:*
   - ▲ Press a navigation key, such as Enter, to move to another cell (see Table 8.1).
   - ▲ Click another cell.
   - ▲ Click the check mark (✔) icon in the formula bar (**Figure 8.19**).

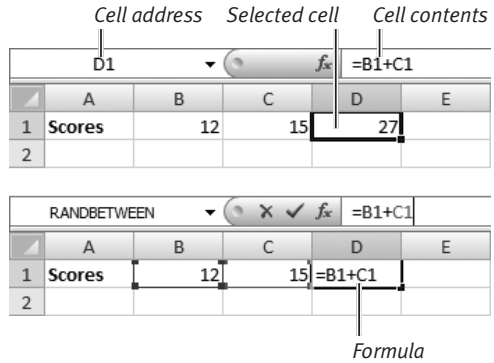


Figure 8.19 When you select a cell (top), its contents are shown in the formula bar. When you set the text insertion mark for editing (bottom), the result is replaced in the cell by the actual formula.

✔ Tips

- You can use the same editing techniques you use when modifying other kinds of Windows documents. For example, press Backspace to delete the character to the left, press Del or Delete to delete the character to the right, or press any of these keys to delete selected text. To replace a string, select it and type the replacement or delete the string and then type.
- The cursor keys are active while editing. Press ← or → to move one character in the desired direction; press Ctrl ← or Ctrl → to move one string at a time.
- To rearrange data within a cell, you can cut (Ctrl X) selected data, set the text insertion mark where you want to move the data, and then paste (Ctrl V).

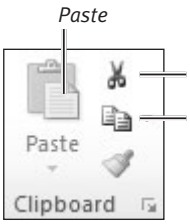


Figure 8.20 The Cut, Copy, and Paste commands can be found in the Clipboard group.

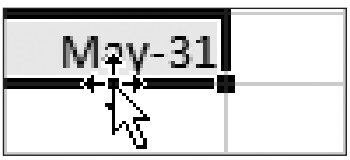


Figure 8.21 When the cursor changes to this symbol, you can drag the selected cell(s) to a new location.

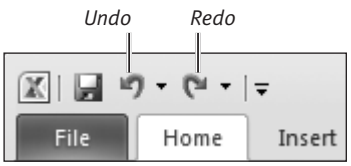


Figure 8.22 To undo your last action, click the Undo icon. To undo multiple actions, choose an action from the Undo icon's drop-down menu.

Reorganizing a Worksheet

In addition to editing cell contents, you can rearrange the data. You can move cells to other locations, add or delete cells (automatically shifting the affected surrounding cells), and insert or delete rows and columns.

To move cells to another location:

1. Select the cell or range you want to move.
2. *Do one of the following:*
   - ▲ Cut the cell/range by pressing Ctrl X or by clicking the Cut icon in the Clipboard group on the Home tab (**Figure 8.20**). Select the destination cell or the cell in the upper-left corner of the destination range. Press Enter, press Ctrl V, or click the Paste icon in the Clipboard group.
   - ▲ Move the cursor over the border of the selected cell or range (**Figure 8.21**). Drag the selected cell to the destination cell or the selected range to the cell that will serve as the upper-left corner of the destination range. Release the mouse button to complete the move.

   Neither procedure *deletes* the original cells. Their data is simply moved to the new location.

✔ Tips

- Whether performed by cut-and-paste or drag-and-drop, cell/range moves are *destructive*. If you select a destination that already contains data, the old data will be replaced by the moved data. If this happens unintentionally, immediately click the Undo icon in the Quick Access Toolbar (**Figure 8.22**) or press Ctrl Z.
- To move data between worksheets, use cut-and-paste.

To copy cells to another location:

1. Select the cell or range you want to copy.
2. *Do one of the following:*
   - ▲ Copy the cell/range by pressing Ctrl C or by clicking the Copy icon in the Clipboard group on the Home tab (see Figure 8.20). Select the destination cell or the cell in the upper-left corner of the destination range. Press Enter, press Ctrl V, or click the Paste icon in the Clipboard group on the Home tab.
   - ▲ While pressing Ctrl, move the cursor over the border of the selected cell or range. A tiny plus symbol is added to the cursor (**Figure 8.23**). Drag the cell/range to the destination cell or to the cell in the upper-left corner of the destination range.

Figure 8.23 You can copy material to a new location by Ctrl-dragging.

✔ Tip

- Rather than just clicking Paste, you can click the arrow beneath Paste to reveal a gallery of Paste options (**Figure 8.24**). If you rest the cursor on an option, a ToolTip explains the option and a preview appears on the worksheet.

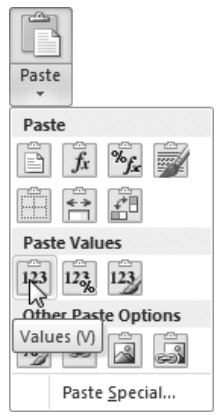


Figure 8.24 You can choose advanced Paste options from this gallery.

To insert cells:

1. Select the cell or range where you want to insert new, blank cells.
2. *Do one of the following:*
   - ▲ On the Home tab, click the Insert icon in the Cells group and choose Insert Cells (**Figure 8.25**).
   - ▲ Right-click the cell or range and choose Insert from the context menu.
3. In the Insert dialog box (**Figure 8.26**), select Shift cells right or Shift cells down, and then click OK.

   Cells affected by the insertion are shifted to make room for the inserted cell(s).

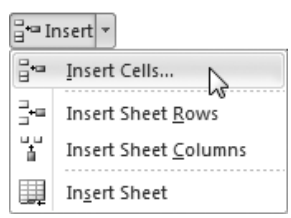


Figure 8.25 Choose Insert Cells from the Insert menu.

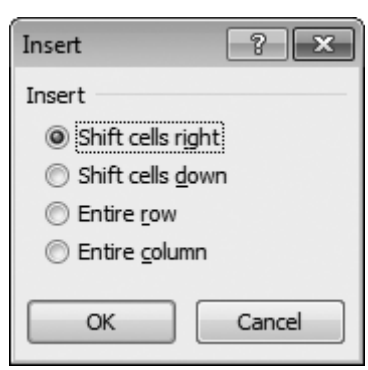


Figure 8.26 When inserting new cells, you must specify how surrounding cells will be affected.

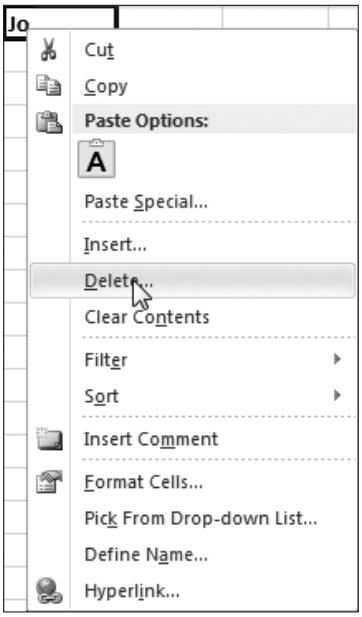


Figure 8.27 Right-click a selected cell or range, and then choose Delete.

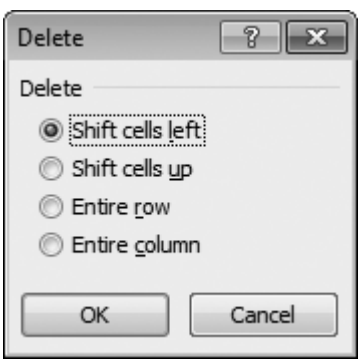


Figure 8.28 Specify how neighboring cells should shift in response to the cell or range deletion.

To delete cells:

1. Select the cell or range you want to delete.
2. *Do one of the following:*
   - ▲ On the Home tab, click the Delete icon in the Cells group and choose Delete Cells from the drop-down menu.
   - ▲ Right-click the cell or range and choose Delete from the context menu that appears (**Figure 8.27**).
3. In the Delete dialog box (**Figure 8.28**), select Shift cells left or Shift cells up, and then click OK.

   Surrounding cells affected by the deletion are shifted to close the space left by the deleted cell(s).

To insert a row:

1. Select the row where you want to insert a new row.
2. *Do one of the following:*
   - ▲ On the Home tab, click the Insert icon in the Cells group (see Figure 8.25).
   - ▲ Right-click any cell in the selected row and choose Insert from the context menu (Figure 8.27).

   The new row appears. The selected row and all those beneath it shift down one.

✔ Tips

- ■ You can also select a single cell in the row where you want to insert a new row. However, you must then choose Insert Sheet Rows from the Insert icon's menu (see Figure 8.25) or select Entire row in the Insert dialog box (see Figure 8.26).
- ■ To insert *multiple* rows, select as many rows as you want new rows and click the Insert icon. You can also right-click any cell in the selected rows and choose Insert from the context menu (Figure 8.27).

To insert a column:

1. Select the column where you want to insert a new column (**Figure 8.29**, top).
2. *Do either of the following:*
   - ▲ On the Home tab, click the Insert icon in the Cells group (see Figure 8.25).
   - ▲ Right-click any cell in the selected column and choose Insert from the context menu (see Figure 8.27).

   The new column appears (**Figure 8.29**, bottom). Other columns affected by the insertion shift to the right.

✔ Tips

- You can also select a single cell in the column where you want to insert the new column. However, you must then choose Insert Sheet Columns from the Insert icon's menu or select Entire column in the Insert dialog box (see Figure 8.26).
- You can insert *multiple* columns by selecting the columns (or a cell in each column) where you want to add the new columns in Step 1 (**Figure 8.30**).

To delete a row:

1. Select the row that you want to delete.
2. *Do one of the following:*
   - ▲ On the Home tab, click the Delete icon in the Cells group.
   - ▲ Right-click any cell in the selected row and choose Delete (see Figure 8.27).

   The row is deleted. Other rows that are affected by the deletion shift up to close the space.

Original worksheet *Selected column (E)*

	A	B	C	D	E	F
1		Test 1	Test 2	Test 3	Average	
2	Michelle	15	14	16	15.00	
3	Thomas	18	16	19	17.67	
4	Adrian	14	9	11	11.33	
5	Anthony	17	14	18	16.33	
6	Jonas	20	20	18	19.33	
7	Heidi	13	15	16	14.67	

Modified worksheet *Inserted column*

	A	B	C	D	E	F
1		Test 1	Test 2	Test 3		Average
2	Michelle	15	14	16		15.00
3	Thomas	18	16	19		17.67
4	Adrian	14	9	11		11.33
5	Anthony	17	14	18		16.33
6	Jonas	20	20	18		19.33
7	Heidi	13	15	16		14.67

Figure 8.29 Suppose that you need to record a fourth test. When you select column E and issue the Insert command, the original column E shifts to the right to become column F.

Selected cells in columns C and D

	A	B	C	D	E
1		Test 1	Test 2	Test 3	Average
2	Michelle	15	14	16	15.00
3	Thomas	18	16	19	17.67
4	Adrian	14	9	11	11.33
5	Anthony	17	14	18	16.33
6	Jonas	20	20	18	19.33
7	Heidi	13	15	16	14.67

Figure 8.30 You can also begin a column or row insertion by selecting single cells or a range. In this example, to insert new columns in C and D, it's sufficient to select any pair of cells that spans both columns.

Insertion and Deletion Considerations

When inserting or deleting cells, rows, or columns, you must consider the impact on your worksheet. Insertions and deletions often cause other data to move:

- When you insert a cell, the current cell must either move to the right or down. Other cells to the right or below the inserted cell will also shift to the right or down.
- When you delete a cell, all cells directly below or to the right of the deleted cell must shift up or left to fill the hole created by the deletion.
- When you insert a new row, the current row automatically moves down to make room for the new row. Rows below the current row also move down one row.
- When you insert a column, the current column and all columns to its right shift one column to the right.

The impact of an insertion or deletion on data *elsewhere* in the worksheet must be considered. For instance, if a worksheet contains a single data array or table, such as an address book, inserting or deleting a row or column will have little impact. And if you discover that you entered the same data in two cells in a row (causing the row to have an extra entry), deleting a duplicate and choosing Shift cells left quickly fixes the problem.

But when a worksheet is complex and has multiple data arrays, an insertion or deletion is liable to create problems elsewhere in the sheet. If this is the case, the safest approach may be to manually rearrange the data rather than make insertions or deletions.

✔ Tips

- You can also select a cell in the row you want to delete. However, you must then choose Delete Sheet Rows from the Delete icon or select Entire row in the Delete dialog box (see Figure 8.28).
- To delete *multiple* rows, select the rows (or a cell in each row) that you want to delete in Step 1.

To delete a column:

1. Select the column that you want to delete.
2. *Do one of the following:*
   - ▲ On the Home tab, click the Delete icon in the Cells group.
   - ▲ Right-click any cell in the selected column and choose Delete from the context menu (see Figure 8.27).

   The column is deleted, and all columns to its right shift to the left.

✔ Tips

- You can also select a single cell in the column you want to delete. However, you must then choose Delete Sheet Columns from the Delete icon or select Entire column in the Delete dialog box (see Figure 8.28).
- To delete *multiple* columns, select the columns (or a cell in each column) that you want to delete in Step 1.
- Deleting cells, rows, or columns isn't the same as clearing their contents. To clear selected cells, switch to the Home tab and choose a command from the Clear icon's menu in the Editing group.
- Deleting cells, rows, and columns are destructive processes. Because every row and column extends to the end or bottom of the worksheet, be sure not to accidentally delete data that isn't in view.

Filling Cells

Two situations occur in worksheet creation that can be simplified using the Fill feature:

- You have a text constant, numeric constant, or formula that you want to repeat many times in the current row or column.
- You have or are creating a series of cell entries in the current row or column that you want to extend.

To fill adjacent cells with a constant:

- *Do either of the following:*
  - Select the cell that contains the text or numeric constant. Move the cursor over the lower-right corner of the cell, click the *fill handle* (**Figure 8.31**), and drag in the direction that you want to fill (**Figure 8.32**).
  - Select the cell with the text or numeric constant and the cells you want to fill. On the Home tab, choose the fill direction from the Fill icon's menu in the Editing group (**Figure 8.33**).

  The cells fill with the constant.

✔ Tips

- To *duplicate* a cell regardless of the type of data it contains (text, number, date, or time), select the cell immediately to the right or below it and press Ctrl R or Ctrl D, respectively.
- You can perform a drag fill in any direction: right, left, down, or up.

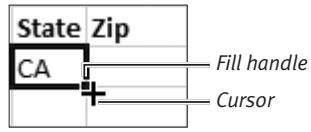


Figure 8.31 You can fill cells by dragging.

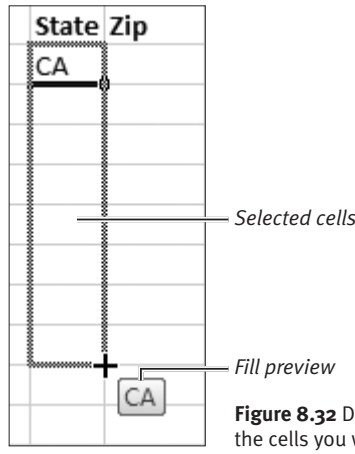


Figure 8.32 Drag to select the cells you want to fill.

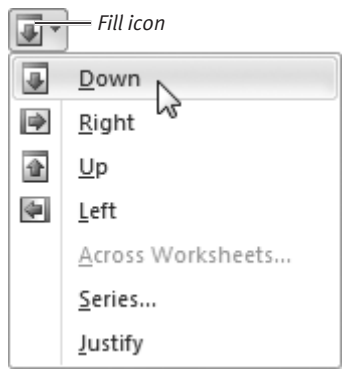
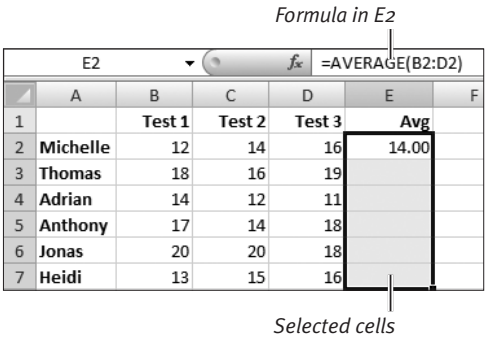


Figure 8.33 You can also perform a fill by choosing a direction from the Fill menu.



	A	B	C	D	E	F
1		Test 1	Test 2	Test 3	Avg	
2	Michelle	12	14	16	14.00	
3	Thomas	18	16	19		
4	Adrian	14	12	11		
5	Anthony	17	14	18		
6	Jonas	20	20	18		
7	Heidi	13	15	16		

Figure 8.34 Select the cell that contains the formula (E2), as well as the cells you want to fill (E3:E7).

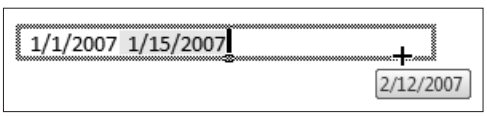


Figure 8.35 This series expands in 14-day increments.

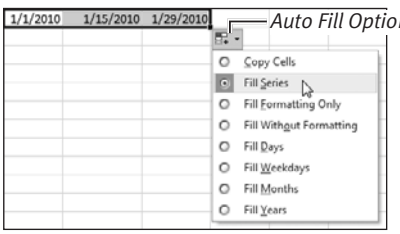


Figure 8.36 The Auto Fill Options menu.

- When continuing a series, select enough data to enable Excel to discern the nature of the series. In some cases, such as a day name, month name, or numbered text (Quarter 1, Score 1, or Team 1, for example), *one* item may be sufficient.
- For more complex series (especially numerical ones), you can choose Series from the Fill icon's menu (Figure 8.33) and set options in the Series dialog box. In general, however, you'll be happier if one of the previously described methods works. The Series dialog box can be seriously confusing.

To fill adjacent cells with a formula:

- *Do either of the following:*
  - Select the cell with the formula. Click the fill handle and drag in the direction that you want to fill (see Figures 8.31–8.32).
  - Select the cell with the formula, as well as the cells you want to fill (**Figure 8.34**). On the Home tab, click the Fill icon in the Editing group and choose a fill direction: Down, Right, Up, or Left (see Figure 8.33).

  The cells fill with the formula. Note that *relative cell references* (see Chapter 10) in the formula are automatically adjusted in the filled cells.

To continue a series into adjacent cells:

1. If the series doesn't already exist, begin it by typing at least two adjacent entries in a row or column.

   For example, for invoice numbers starting with 1050, you would enter `1050` and `1051`. For company divisions, you could type `Div1` and `Div2`, `Div. 1` and `Div. 2`, or `Division 1` and `Division 2`. For days of the week, you could enter `Sunday` and `Monday` or `Sun` and `Mon`.

2. Select two or more adjacent cells containing members of the series. Drag the fill handle of the rightmost or lowest cell in the direction you want to fill (**Figure 8.35**). As you drag, Excel shows the data each cell will contain.

   Series data fills the cells.

✔ Tips

- When expanding certain series such as dates, an Auto Fill Options icon appears (**Figure 8.36**). Click it to set a fill specification for the series. If you drag-extend the series using the *right* mouse button, similar options appear in a context menu.

Importing Data

You don't have to manually enter the data in every worksheet. If the data exists elsewhere, such as in a table on the Web, in another program, or in a properly formatted text file, you can *import* the data into a new or existing worksheet. Following are examples of common data-importing scenarios.

To import data from a Web table:

1. On the Data tab, click the From Web icon in the Get External Data group.

   A New Web Query dialog box appears.

2. In the Address box (**Figure 8.37**), type or paste the URL for the Web page that contains the data and click Go. (If you recently viewed the page, you may be able to select its URL from the Address box's drop-down menu.)

   The Web page is fetched from the Internet and displayed in the dialog box.

3. Each table on the page is marked with an arrow enclosed in a yellow box. Click the box for each table that you want to import (**Figure 8.38**) and click Import.

   The Import Data dialog box appears (**Figure 8.39**), asking where you want to import the data. By default, the active cell on the current worksheet is proposed.

4. *Select one of the following:*
   - **Existing worksheet.** Specify the starting cell to receive the imported data by typing its address in the box or by clicking the cell on the worksheet.
   - **New worksheet.** Excel will create a new worksheet in the current workbook and import the data into a range beginning with cell A1.

5. Click OK.

   Each table you selected in Step 3 is imported (**Figure 8.40**).

Figure 8.37 Enter a page address in the Address box at the top of the New Web Query dialog box.

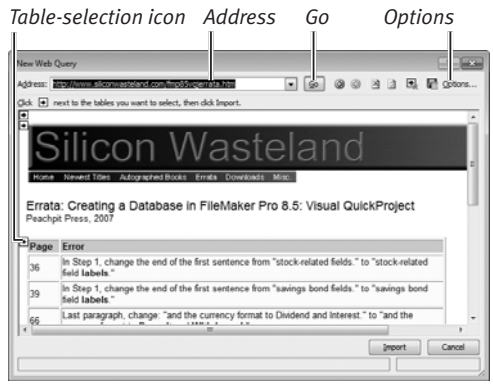


Figure 8.38 Click the icon beside each table that you want to import.

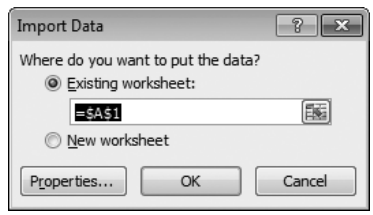
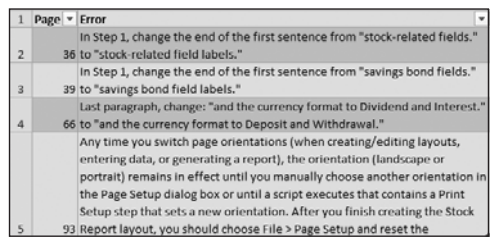


Figure 8.39 Specify a destination for the imported data and click OK.



	Page	Error
2	36	In Step 1, change the end of the first sentence from "stock-related fields." to "stock-related field labels."
3	39	In Step 1, change the end of the first sentence from "savings bond fields." to "savings bond field labels."
4	66	Last paragraph, change: "and the currency format to Dividend and Interest." to "and the currency format to Deposit and Withdrawal."
5	93	Any time you switch page orientations (when creating/editing layouts, entering data, or generating a report), the orientation (landscape or portrait) remains in effect until you manually choose another orientation in the Page Setup dialog box or until a script executes that contains a Print Setup step that sets a new orientation. After you finish creating the Stock Report layout, you should choose File > Page Setup and reset the

Figure 8.40 Here's the imported data (after applying text wrap to column B and formatting the data set as a table).

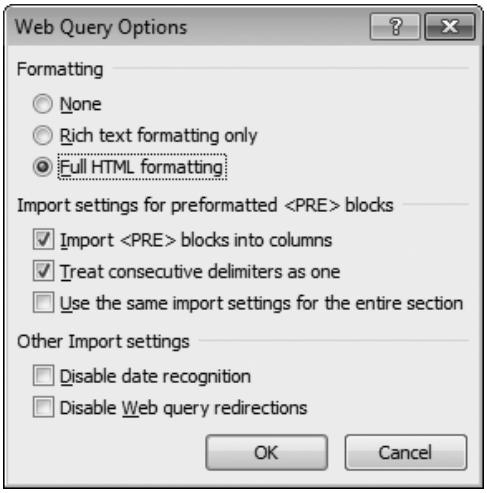


Figure 8.41 To retain formatting, select a Formatting option in the Web Query Options dialog box.

✔ Tips

- After entering a URL in the Address box (see Figures 8.37–8.38), you can interact with the fetched page. You can follow links by clicking them; enter your user name and password (for sites that require a login); and click buttons at the top of the dialog box to go backward or forward, refresh the page, or stop.
- To import data with its original formatting intact, click the Options button at the top of the New Web Query dialog box (see Figure 8.38). In the Formatting section of the Web Query Options dialog box (**Figure 8.41**), select Rich text formatting only or Full HTML formatting, and then click OK.
- Another way to retain a Web table's formatting is to open the page in a Web browser, drag to select the table, and copy (Ctrl C) the data. Select a destination cell in the worksheet and then paste (Ctrl V). See **Figure 8.42** for an example.
- Additional options for a Web import can be viewed by clicking the Properties button in the Import Data dialog box (see Figure 8.39).

	A	B
1	**Page**	**Error**
2	36	In Step 1, change the end of the first sentence from "stock-related fields." to "stock-related field **labels**."
3	39	In Step 1, change the end of the first sentence from "savings bond fields." to "savings bond field **labels**."
4	66	Last paragraph, change: "and the currency format to Dividend and Interest." to "and the currency format to **Deposit** and **Withdrawal**."
5	93	Any time you switch page orientations (when creating/editing layouts, entering data, or generating a report), the orientation (landscape or portrait) remains in effect until you manually choose another orientation in the Page Setup dialog box or until a script executes that contains a Print Setup step that sets a new orientation. After you finish creating the Stock Report layout, you should choose File > Page Setup and reset the orientation to portrait.

Figure 8.42 When moved into a worksheet via copy-and-paste, a Web table retains its fonts, styles, colors, and cell shadings. This can also be achieved by selecting Full HTML formatting in the Web Query Options dialog box.

To export data from another program in Excel format:

1. Open the document in its creating application, such as a database, a spreadsheet, or an address book utility.
2. *Optional:* Select the records (or portion of the document) that you want to use in Excel. If possible, rearrange the data fields to match the order in which you want them to appear in the worksheet.
3. Use the program's Export, Save As, or equivalent command to save a copy of the data as an *Excel (.xls or .xlsx) worksheet file* (**Figure 8.43**).

   Note, however, that not all programs offer this capability.
4. In Excel, click the File tab to go to the Backstage, click Open, and open the exported data file (**Figure 8.44**).

   Alternatively, you may be able to open the file by simply clicking or double-clicking it.

Figure 8.43 In FileMaker Pro (Mac version shown), any database can be exported as an Excel file.

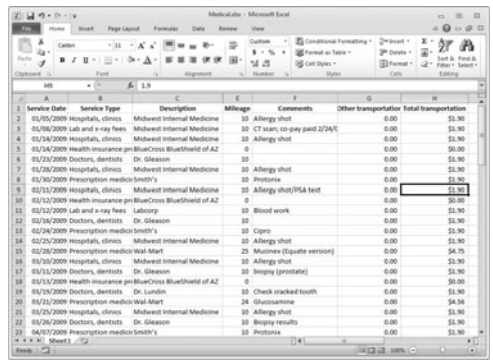


Figure 8.44 Here's the exported database opened in Excel 2010.

✔ Tips

- The exported data may require cleanup in Excel. For instance, you may need to add or edit column heads, rearrange the columns and change their widths, and add appropriate number and date formatting.
- Most Export and Save As procedures do not export formulas. In general, the *results* of such calculations are exported. If you intend to work with and extend the data in Excel, you'll probably want to recreate the formulas. On the other hand, if the reason you exported the data was so you could use Excel to analyze or chart it, working with the export as is may suffice.

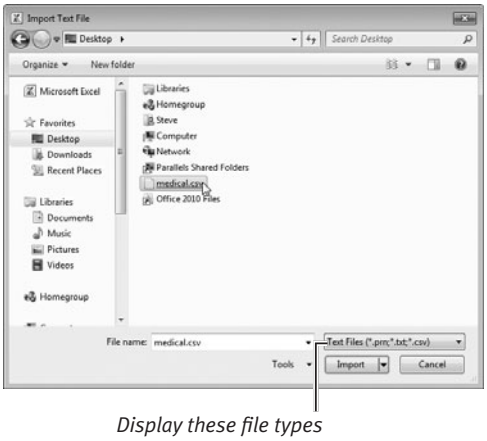


Figure 8.45 Select the exported data file from the files listed in the Import Text File dialog box (Windows 7 shown).

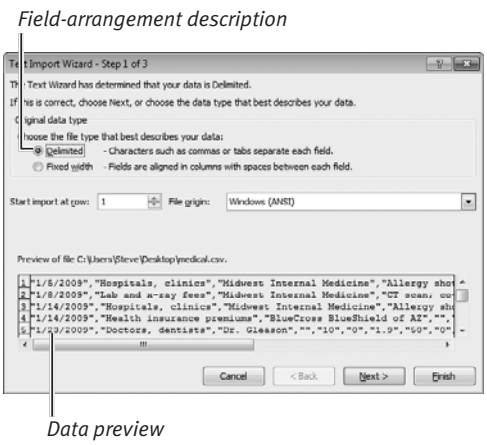


Figure 8.46 Examine the data in the preview area and ensure that the correct field-export description is selected.

To export data from another program as a text file:

1. Open the document in its creating application, such as a database, spreadsheet, or address book utility.
2. *Optional:* Select the records (or portion of the document) that you want to use in Excel. If possible, rearrange the data fields to match the order in which you want them to appear in the worksheet.
3. Use the program's Export, Save As, or equivalent command to save a copy of the data as a *tab-delimited* or a *comma-delimited text file.*

   The program may refer to these file types as *tab-separated* and *comma-separated.*
4. In Excel, switch to the Data tab and click the From Text icon in the Get External Data group.

   The Import Text File dialog box appears (**Figure 8.45**).
5. Navigate to the drive/folder that contains the exported data file.
6. *Do one of the following:*
   - If the exported data file appears in the file list, select it and click Import (or Open).
   - If the export file is *not* present in the file list, select All Files from the file-type list (Figure 8.45). Select the export file in the file list and click Import (or Open).
7. In Step 1 of the Text Import Wizard (**Figure 8.46**), ensure that Delimited is selected. Examine the data preview in the bottom of the window, verifying that it is the correct file and displays properly. Click Next to continue.

continues on next page

8. In Step 2 of the wizard (**Figure 8.47**), ensure that the correct data delimiter is checked. (Data in the Data preview section will be correctly divided into fields when the right delimiter is selected.) Click Next to continue.

9. *Optional:* In Step 3 of the wizard (**Figure 8.48**), you can specify a format for the data in each field. Select the field in the Data preview and click the appropriate Column data format radio button.

   Note that General format is appropriate for most types of data, including dates.

10. *Optional:* If you decide not to import certain fields, select each field in the Data preview and click the Do not import column (skip) radio button.

11. Click Finish.

    The Import Data dialog box appears (see Figure 8.39).

12. *Do one of the following:*
    - ▲ To open the file in the current worksheet, select Existing worksheet and specify the starting cell in which to receive the data.
    - ▲ To open the file in a new sheet in the workbook, select New worksheet.

13. Click OK to import the data into Excel.

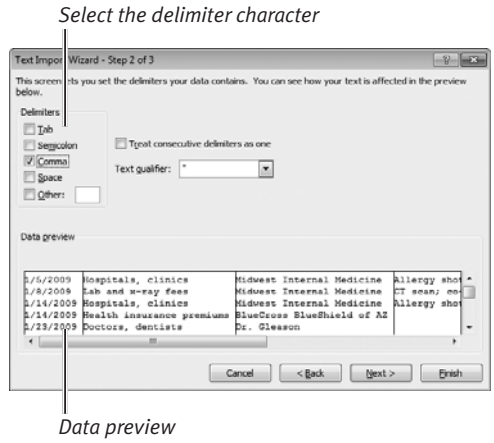


Figure 8.47 Select the delimiter character that was used to separate fields in the export file.

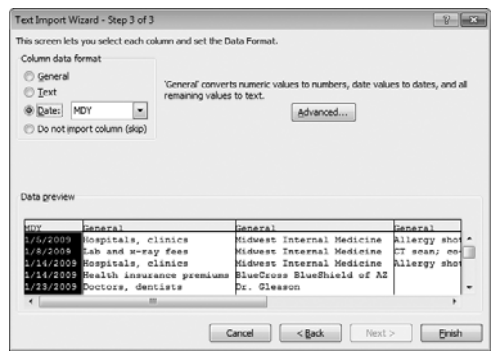


Figure 8.48 Click each column in the Data preview area to ensure that an appropriate format is assigned.

✔ Tips

- Excel can also import data from files with *fixed-width fields* (see Figure 8.46). Some programs, especially very old database applications, store data in fixed-width fields. When originally creating the file, you had to specify the maximum number of characters for each field. When you entered data but failed to use the allotted characters for a field, the program simply padded the field with spaces.
- Excel can also open comma-separated value (*CSV*) files *directly*, bypassing the Text Import Wizard. Instead of clicking the From Text icon in Step 4, click the File tab, click Open, set the file type to Text Files, and open the .csv file.

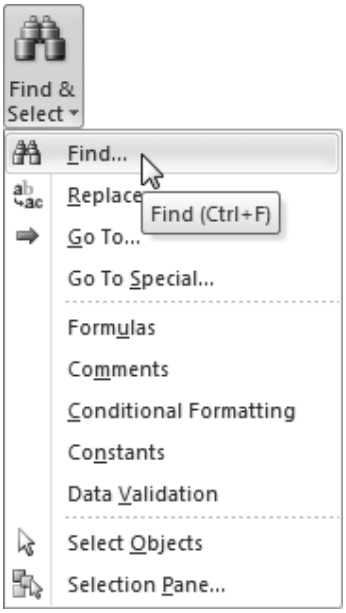


Figure 8.49 Find, Replace, Go To, and Select commands can be chosen from the Find & Select menu.

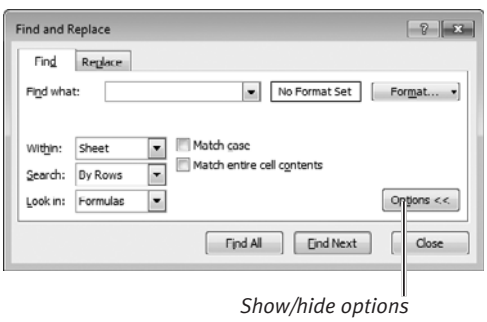


Figure 8.50 The Find and Replace dialog box (with options displayed).

Finding/Replacing Data

Although you can scroll through a worksheet to find a particular string (such as a label, data, a cell reference, or a formula element), you may be able to use the Find feature to quickly locate the item. You can optionally replace any found string with another string.

To perform a Find:

1. To restrict the search to a range, select the range. Otherwise, click the cell in which you'd like to begin the search.
2. On the Home tab, choose Find from the Find & Select icon's drop-down menu in the Editing group (**Figure 8.49**) or press Ctrl F.

   The Find and Replace dialog box appears (**Figure 8.50**).
3. Enter a search string in the Find what box.
4. *Optional:* If the additional search options aren't visible, click the Options button to display them. You can set any combination of the following options:
   - **Within.** Indicate whether you want to search within the current worksheet or all sheets in the workbook.
   - **Search.** Specify whether the search will proceed across rows and down (By Rows) or down columns and across (By Columns).
   - **Look in.** Specify the cells to be searched. Choose *Formulas* to consider all cells, *Values* to search all cells except those containing a formula, or *Comments* to search only within comments (ignoring cell contents).
   - **Match case.** When this option is enabled, capitalization within a cell must match that of the search string.

continues on next page

- **Match entire cell contents.** Cell contents must exactly match the search string. For example, searching for `Microsoft` will find cells that contain `Microsoft` but ignore `Microsoft Corporation`.

  Unless you check this option, a match can be found *anywhere* within a cell. For instance, searching for `3` would match `3`, `7.23`, `1:37`, `5/3/2005`, `A32`, and `=B7-G23`.

- **Format.** To include formatting in the Find criteria, click the Format button and choose one of these options from the drop-down menu (**Figure 8.51**):

  Format. Specify format settings in the Find Format dialog box.

  Choose Format From Cell. Using the eyedropper cursor, click a cell whose formatting will serve as the criterion.

  Clear Find Format. Choose this option to remove previously chosen formatting as a criterion.

5. *Do one of the following:*
   - Click Find Next to go to the first match (if any are present). Continue clicking Find Next to step through the matches.
   - Click Find All to display a list of all matches in the bottom of the dialog box (**Figure 8.52**). Click any match to go to that cell.
6. When you're finished, click Close.

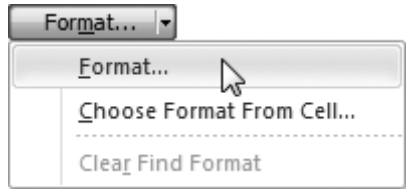


Figure 8.51 To add or remove formatting as a match criterion, click the Format button and choose a command.

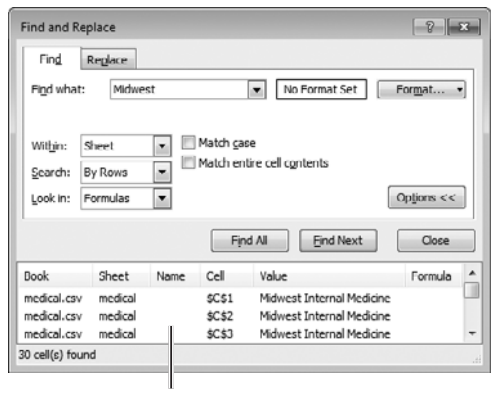


Figure 8.52 When you click Find All, matching cells are displayed in a scrolling list.

✔ Tips

- To perform a simple search, hide the options in the Find and Replace dialog box by clicking the Options button, and then click Close. Issue the Find command again, enter a search string in the Find and Replace dialog box, and click Find Next or Find All. The search is performed by rows, identifies partial matches, and searches in every cell.
- Another way to limit the scope of a Find is to first choose a selection command from the Find & Select icon's drop-down menu (see Figure 8.49).
- The Find and Replace procedures support the use of *wildcards* as criteria. Use the `?` wildcard to replace a single character and `*` to replace multiple (or 0) characters. For example, you could enter `ba?k` to find `back`, `balk`, `bank`, `bark`, and `bask`. Enter `John*` to find `John`, `Johns`, `Johnson`, and `Johnston`.

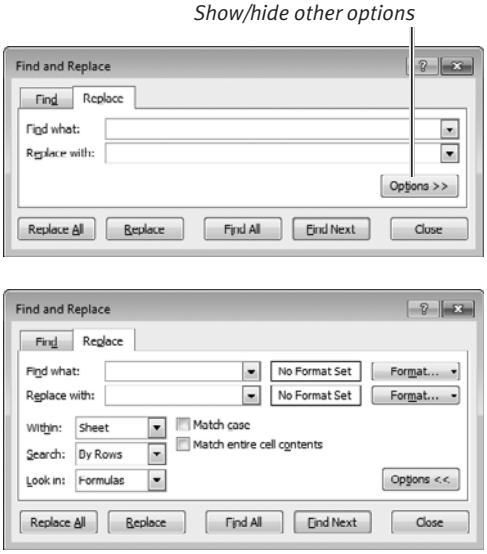


Figure 8.53 The Find and Replace dialog box with options hidden (top) and displayed (bottom).

✔ Tips

- When the Find and Replace dialog box is open, you can switch freely between its modes by clicking the Find or the Replace tab. In fact, a Replace is frequently preceded by a Find, allowing you to first determine if there is anything to replace.
- When making a replacement without checking Match entire cell contents, you will only replace the matching portion of a cell's contents. For example, if you search for `corp` with the intent of replacing it with `corporation`, `scorpio` will be replaced by `scorporationio`.
- You can also use the Find and Replace dialog box to replace formatting without changing cell contents. Leave the Find what and Replace with boxes empty, and set Format options for both.

To perform a Find/Replace:

1. To restrict the Find/Replace to a range, select the range. Otherwise, click the cell in which you'd like to start the search.
2. Open the Find and Replace dialog box by doing one of the following:
   - ▲ On the Home tab, choose Replace from the Find & Select icon's menu in the Editing group (see Figure 8.49) or press Ctrl H.
   - ▲ On the Home tab, choose Find from the Find & Select icon's drop-down menu in the Editing group (see Figure 8.49) or press Ctrl F. In the Find and Replace dialog box, click the Replace tab.

   The Find and Replace dialog box is ready to receive search criteria (**Figure 8.53**).
3. Enter criteria by performing Steps 3–4 of the previous procedure. Enter a replacement string in the Replace with box.

   Note that Format can be set separately for the Find and Replace strings.
4. *Do one of the following:*
   - ▲ To make the replacement decision individually for each match, click Find Next. Excel moves to the first match, if one is found.

     To replace the matching contents with the Replace with string, click Replace. Or to ignore the current match, click Find Next. Excel selects the next matching cell. Repeat for each additional match.
   - ▲ To simultaneously perform all replacements, click Find All. Review the matches in the bottom of the dialog box and click Replace All. Click OK to close the dialog box and view the results of the Replace All.
5. Click Close.

Sorting Data

To maintain data in a particular order (arranging entries in an address list by last name, phone number, or ZIP code, for example), you can *sort* the data. You can sort any column in ascending or descending order, based on the contents of that column. If surrounding data is related to the data in the selected column (created as records), data in the adjacent columns can also be reorganized to match that of the sorted column.

To sort a column or data array:

1. Select the column you want to sort or by which you want to sort all surrounding data (**Figure 8.54**).
2. On the Home tab, click the Sort & Filter icon and choose a sort order, such as Sort A to Z, Sort Smallest to Largest, or Sort Oldest to Newest (**Figure 8.55**).

   The options presented vary with the type of data in the selected column. If there are no adjacent columns on either side of the selected column, the column is sorted as specified.
3. Otherwise, if columns *are* adjacent to the selected column, the Sort Warning dialog box appears (**Figure 8.56**). *Select one of these options:*
   - **Expand the selection.** Treat all contiguous columns (on both sides of the selected column) as a data array.
   - **Continue with the current selection.** Sort only the selected column, leaving any surrounding columns unchanged.
4. Click Sort to sort the data as specified.

Selected column

	A	B	C	D	E	F	G	H	I	J	K
1	Post Position	Name	Last Race	Post	Finish	Time	Odds	Races	Wins	Places	Shows
2	1	Flying Stone	Jun-15	4	1	2:03	5.0	11	4	0	0
3	2	Lady Chris Time	Jun-12	2	5	2:00	32.5	18	4	1	1
4	3	Black Bart	Jun-13	7	2	2:00	24.6	13	3	2	2
5	4	Shadrack	Jun-08	5	5	2:02	3.9	4	1	0	1
6	5	Sundust Prince	Jun-18	4	5	2:01	15.1	10	2	1	4
7	6	J.J.'s Ferro	Jun-15	3	4	2:04	1.0	8	3	0	3
8	7	Pat's Comedian	May-31	4	8	2:01	8.1	7	1	1	1

Figure 8.54 Start by selecting the column to sort.

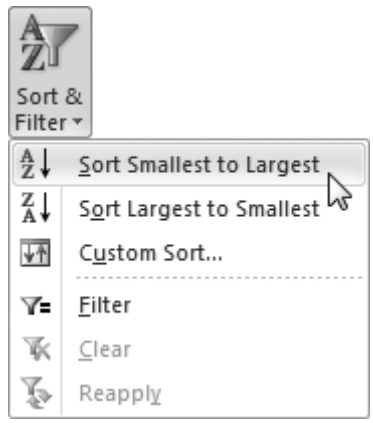


Figure 8.55 Choose a sort command from the Sort & Filter menu.

Figure 8.56 To clarify your selection, indicate whether you want to sort the entire array or only the selected column.

Figure 8.57 Choose Custom Sort to sort on multiple fields. In this example, a medical expenses data array is sorted on Service Type and then—within Service Type—by Description.

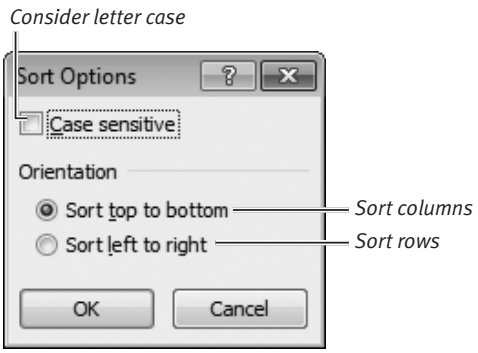


Figure 8.58 Set additional options in the Sort Options dialog box.

- Another way to analyze a data array is to *filter* it by hiding selected rows (records) or showing only those that satisfy a criterion, such as `after 5/1/10`:
  - To add filter capabilities to a single column (whether or not it's part of an array), select the column, switch to the Home tab, click the Sort & Filter icon in the Editing group, and choose Filter from the drop-down menu.
  - To add filter capabilities to all columns in a data array, select the entire array or any individual cell in the array, and choose Filter from the Sort & Filter icon's drop-down menu.

  See Chapter 11 for more information about applying and using filters.

✔ Tips

- To perform a more complex sort, choose Custom Sort from the Sort & Filter drop-down menu, and then set options in the Sort dialog box (**Figure 8.57**). Options include sorting on multiple columns (last name *and* first name, for example) and performing sorts based on cell or font color.

  To sort by rows (rather than by columns) or to use letter case in a sort, click the Options button in the Sort dialog box. Set options in the Sort Options dialog box (**Figure 8.58**) and then click OK to return to the Sort dialog box.
- To really simplify the process of sorting a data array, consider defining the array as a *table* (see Chapter 11).
- A sort can also be initiated using other cell and range selections:
  - If you select only a cell in the column you want to sort or by which you want to sort all surrounding data, the sort is performed immediately. If there are no adjacent columns, the column is sorted as specified. If there *are* adjacent columns, they are treated as an array. The entire array is sorted based on the data in the sort column.
  - If you select a range that contains multiple columns prior to choosing a Sort command, the selected range will be sorted. The first column is automatically treated as the sort-by column. Other adjacent columns and cells outside the selected range are not changed.

Naming Cells and Ranges

In addition to referencing cells and ranges by their addresses (such as `G17` and `A1:D8`), you can assign names to them. There are two reasons to name certain cells and ranges:

- It's easier to find important data in the Go To dialog box (see Figure 8.11) using a name because you don't have to memorize cell or range addresses.
- A name can be used in formulas (see Chapter 10) as a replacement for a cell address or range, making the formula easier to create and understand, such as `=Total*Tax_Pct`.

A name can contain 255 characters: letters, numbers, periods, and underscores (_). The first character must be a letter, underscore, or backslash (\). Although names cannot contain spaces, you can represent a space with a period or underscore, such as `Div_1` or `Div.1`. Names aren't case-sensitive, so `Budget`, `BUDGET`, and `budget` are considered to be the same name.

To name a cell or range:

1. Select the cell or range that you want to name (**Figure 8.59**).
2. *Do either of the following:*
   - ▲ Enter the name in the name box (**Figure 8.60**) and press Enter.
   - ▲ On the Formulas tab, click the Define Name icon in the Defined Names group or choose Define Name from the Define Name menu. Complete the information in the New Name dialog box (**Figure 8.61**) and click OK.

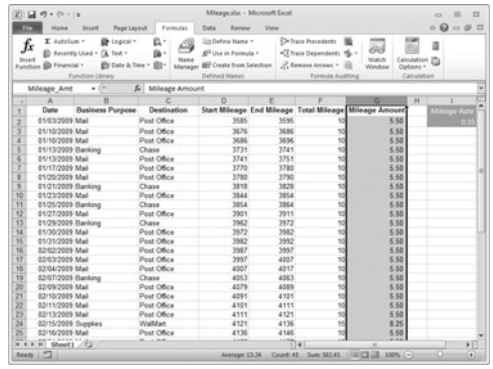


Figure 8.59 Select the cell or range to be named. (In this example, column G is selected.)

Figure 8.60 Enter a name for the selected cell or range in the name box.

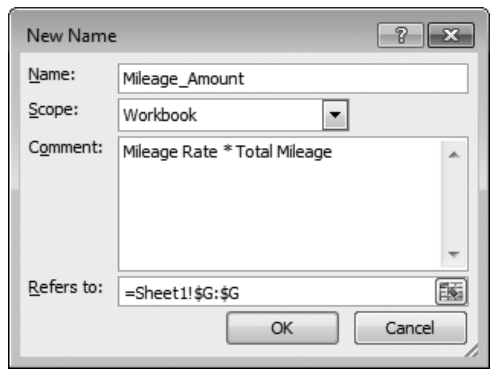


Figure 8.61 Creating a name in the New Name dialog box allows you to set a scope for the name (worksheet or workbook), add an optional comment, and edit the cell or range reference.

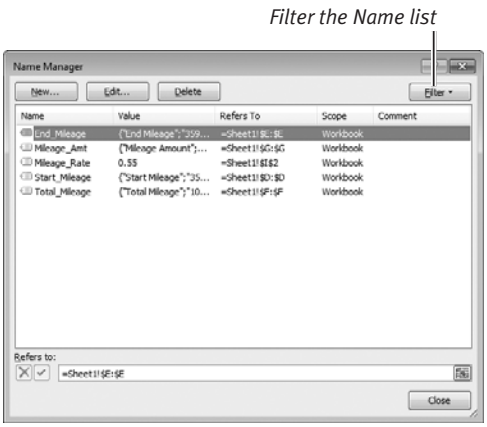


Figure 8.62 You can create, rename, edit, and delete names in the Name Manager dialog box.

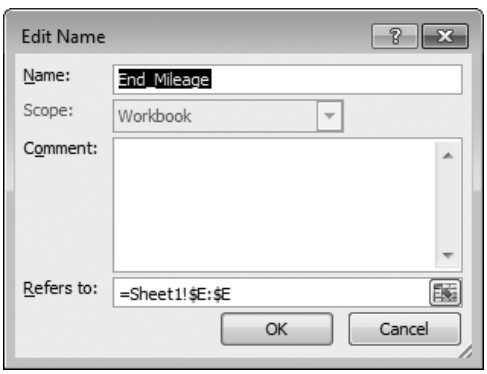


Figure 8.63 Use the Edit Name dialog box to rename a name, add a comment, or change the address or range to which the name refers.

✔ Tip

- To limit the names listed in the Name Manager dialog box to defined names, table names, names scoped to the worksheet or the workbook, or ones with or without errors, click the Filter button and choose an option from the drop-down menu (Figure 8.62).

✔ Tips

- In previous versions of Excel and in other spreadsheets, a name was often referred to as a *range name* or *named range*.
- If Excel can associate a row or column label with the selected range, it will propose the label as the name in the New Name dialog box.
- Every created name has a *scope*; it can be a specific worksheet or all worksheets in the current workbook. When a name is created in the name box, its scope is automatically set to the workbook. If you create the name in the New Name dialog box (see Figure 8.61), you can set either as the scope.
- Tables can also be named. In fact, when you create a table, a default name is assigned to it, based on the number of tables already in the worksheet (`Table1`, `Table2`, and so on).

To rename, delete, or modify a name:

1. On the Formulas tab, click the Name Manager icon in the Defined Names group. The Name Manager dialog box appears (**Figure 8.62**).
2. Select a name from the Name list, and click one of these buttons:
   - **Delete.** Delete the name. To confirm the deletion, click OK in the dialog box that appears.
   - **Edit.** Change the name, add a comment (or edit the current comment), or change the cell or range to which the name refers (**Figure 8.63**). Click OK to close the dialog box, saving your changes.
3. Click Close to dismiss the Name Manager dialog box.

Password-Protecting Workbooks

Excel provides a variety of tools for protecting data. One that you are likely to use is that of adding *password protection* to a workbook (requiring a password to open and/or modify its contents).

To password-protect a workbook:

1. Click the File tab to go to the Backstage.
2. In the Info section of the Backstage, click the Protect Workbook icon and choose Encrypt with Password (**Figure 8.64**).
   The Encrypt Document dialog box appears (**Figure 8.65**).
3. Type a password and click OK.
   The Confirm Password dialog box opens.
4. Reenter the password and click OK.
   Note that letter case counts; that is, `Newt7`, `newt7`, and `NEWT7` are all different.

✔ Tip

- You can also set a password while saving a workbook with the Save As command. Open the Tools menu at the bottom of the Save As dialog box and choose General Options. In the General Options dialog box (**Figure 8.66**), *do one of the following:*
  - **Open protection.** To prevent unauthorized users from opening the workbook, enter a password in the Password to open box. Excel encrypts the workbook when saving it.
  - **Modify protection.** To prevent unauthorized users from modifying the workbook but still let them view it, enter a password in the Password to modify box. No encryption is added. Users who cannot supply the password will only be allowed to view the workbook.

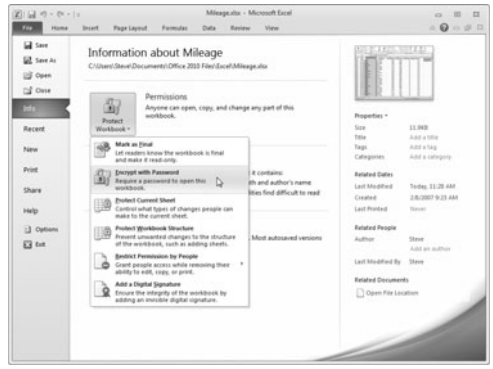


Figure 8.64 You can encrypt and password-protect the current workbook in the Backstage.

Figure 8.65 Type a password in the Encrypt Document dialog box and click OK.

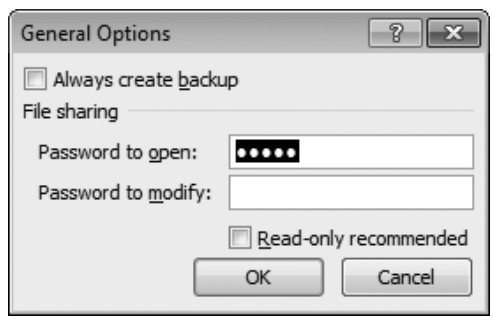


Figure 8.66 Enter a password in the appropriate text box and click OK.

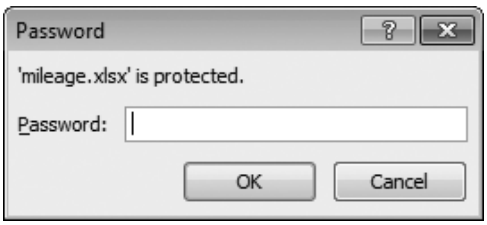


Figure 8.67 This dialog box appears when a password to open has been set for a workbook.

Figure 8.68 This dialog box appears when a password to modify has been set for a workbook.

To open a protected workbook:

1. Open the workbook file.
2. Depending on the type(s) of password protection associated with the file (see previous Tip), one of the following occurs:
   - **Open protection.** A Password dialog box appears (**Figure 8.67**). Enter the password and click OK. If the password is incorrect or Cancel is clicked, the workbook does not open.
   - **Modify protection.** A Password dialog box appears (**Figure 8.68**). Enter the password for permission to modify the workbook or click Read Only for permission to only view the workbook.

To remove or change a password:

1. Open the workbook by supplying the password. The following occurs:
   - **Open protection.** A Password dialog box appears (Figure 8.67). Enter the password and click OK. If the password is incorrect or Cancel is clicked, the workbook does not open.
   - **Modify protection.** A Password dialog box appears (Figure 8.68). Enter the password for permission to modify the workbook.
2. Click the File tab to go to the Backstage, and then click Save As.
3. Open the Tools drop-down menu at the bottom of the Save As dialog box and choose General Options.
4. In the General Options dialog box (see Figure 8.66), *do any of the following:*
   - To eliminate a password, delete it from the appropriate Password text box.
   - To change a password, delete the old password, type a new one, and then confirm the change.

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5. Click OK to close the General Options dialog box.
6. *Optional:* In the Save As dialog box, you can change the file's name and/or its location on disk.
7. Click Save.

   Any edits made to passwords, as well as password deletions, are recorded in the saved file. The edits and deletions will be in effect the next time you open the file.

✔ Tips

- Save an unprotected, archival copy of the workbook to CD or another type of removable media—just in case you forget the password(s).
- Use the Password to modify option when one or more users need to view a workbook but not change it. Restrict access to that password to those few users (or only yourself) who have permission to change the data.
- If you assign both types of password to a workbook, be sure to use two *different* passwords.