

COMPLETE
COURSE GUIDE

Microsoft Excel 2010



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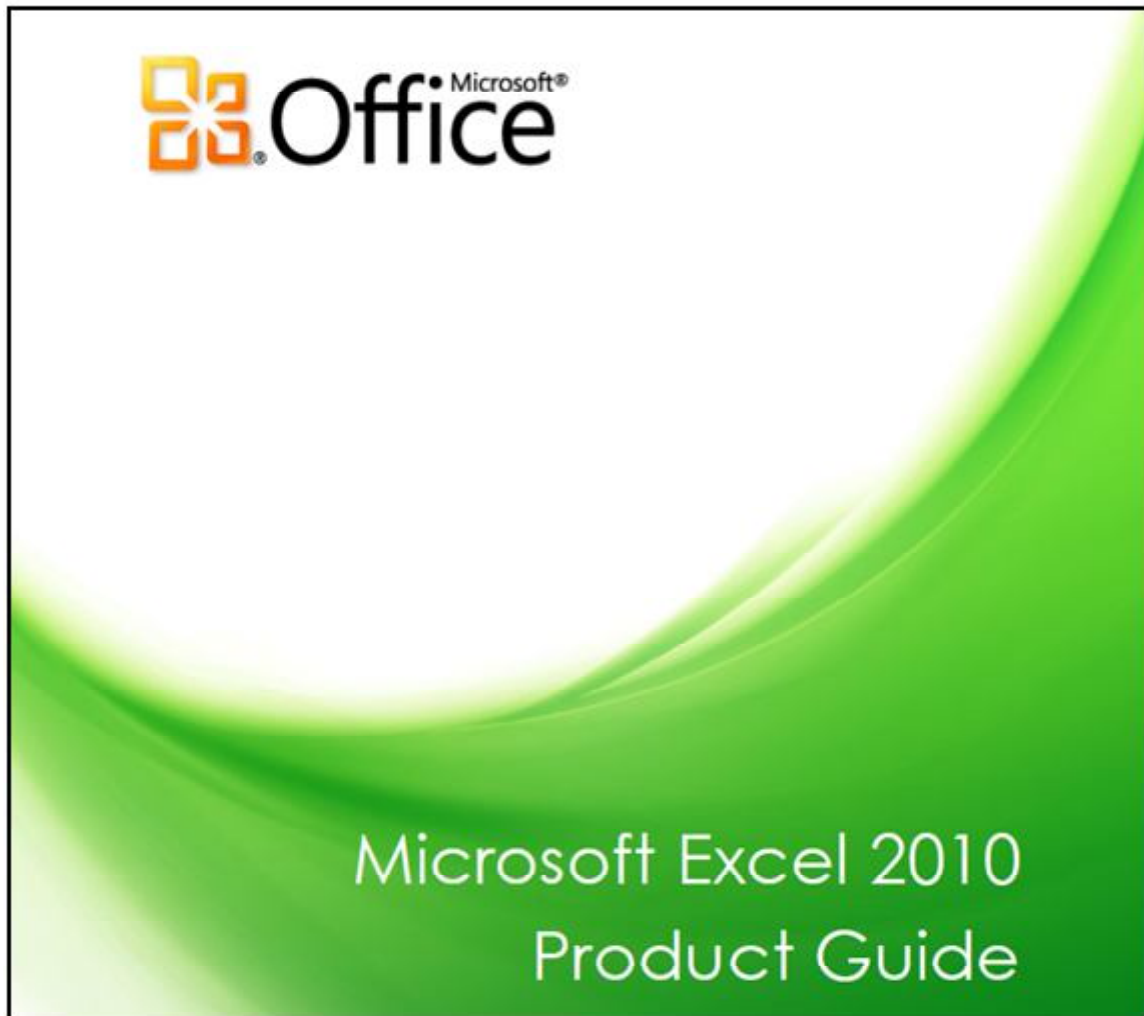
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Microsoft Excel 2010

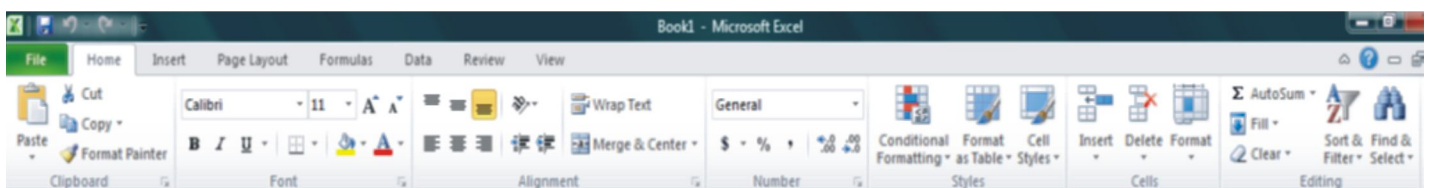
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Microsoft Excel 2010



Excel is a spreadsheet program in the Microsoft Office system. You can use Excel to create and format workbooks (a collection of spreadsheets) in order to analyze data and make more informed business decisions. Specifically, you can use Excel to track data, build models for analyzing data, write formulas to perform calculations on that data, pivot the data in numerous ways, and present data in a variety of professional looking charts.

Home Tab



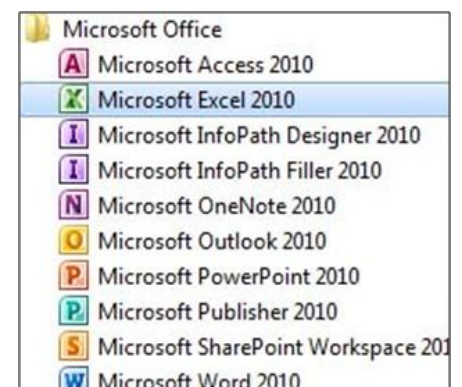
Getting Started

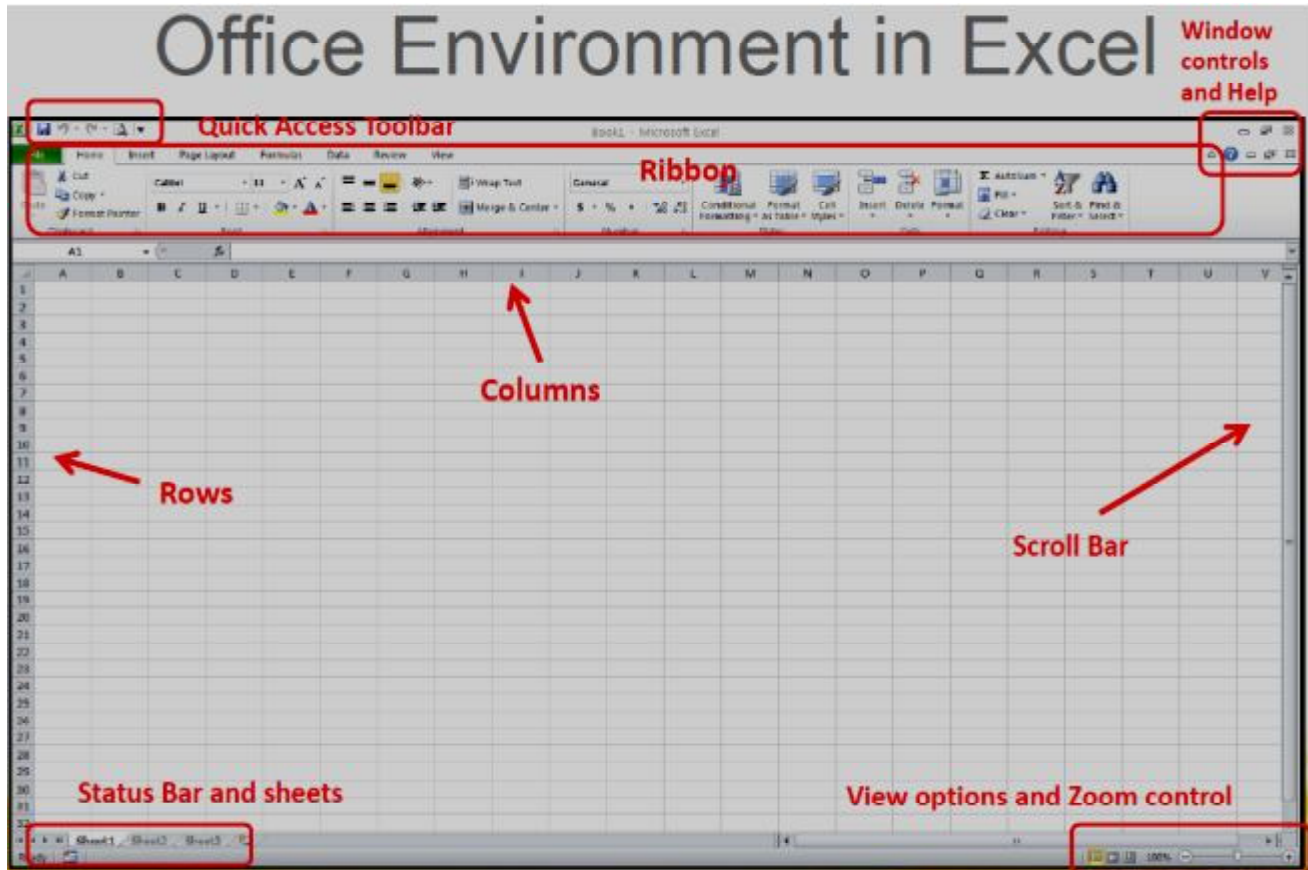
Now that you have an understanding of where things are located, let's look at the steps needed to create an Excel document.

Opening Outlook

You may have a shortcut to Word on your desktop, if so double click the icon and Word will open. If not follow the steps below:

1. Click on the Start button
2. Highlight Programs
3. Highlight Microsoft Office
4. Click on Microsoft Excel 2010





Excel 2010 information

- Available Columns: A through XFD - 16,384 columns
- Available Rows: 1 through 1,048,576
- **There are over 17 billion cells in each worksheet!!!!**
- A cell is the intersection of a column letter and a row number. The cell address can be found in the Name Box just above column A.

Workbooks and Worksheets

- Each Excel file is a Workbook containing one or more Worksheets
 - Default setting provides you with three worksheets - you can add or remove as needed from there
 - Worksheets can also be reordered within the file and renamed - you can also copy or move a worksheet to another workbook (file)
 - Several sheets can be used for one project, containing it all in one file, or you can still use one file for each part of a project, depending on your needs.

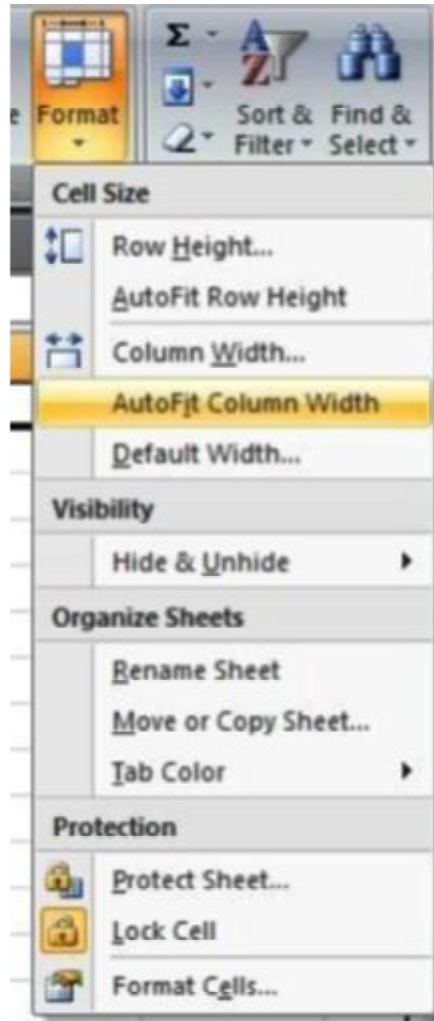
Column Sizing

On a worksheet, you can specify a column width of 0 (zero) to 255. This value represents the number of characters that can be displayed in a cell that is formatted with the standard font. The default column width is 8.43 characters. If the column width is set to 0, the column is hidden.

To quickly change column size:

1. Double click on the line between the column you want to size and the next column (You may do the same for rows)

	A	B	C	D	E
1	Rank	Sex	First Name	Last Name	Salary
2	Associate Pr	F	Oprah	Winfrey	#####
3	Associate Pr	F	Gwen	Stefani	#####
4	Associate Pr	M	Micheal	Jordan	#####
5	Associate Pr	M	Bill	Cosby	#####
6	Associate Pr	F	Megan	Mullally	#####
7	Associate Pr	M	Sean	Conery	#####
8	Associate Pr	F	Lisa M.	Presley	#####
9	Associate Pr	M	Tim	Allen	#####
10	Associate Pr	M	David	Arquette	#####
11	Associate Pr	M	Alec	Baldwin	#####
12	Associate Pr	M	Nicholas	Cage	#####
13	Professor	M	P	Diddy	#####
14	Professor	F	Sandra	Bullock	#####
15	Professor	M	Matt	Damon	#####
16	Professor	M	Jeff	Goldblum	#####
17	Professor	M	Sean	Hayes	#####
18	Professor	M	Eric	McCormack	#####
19	Professor	F	Julia	Roberts	#####
20	Professor	M	Marc	Anthony	#####
21	Professor	M	Tim	McGraw	#####
22	Professor	F	Faith	Hill	#####
23	Professor	F	Colin	Hanks	#####

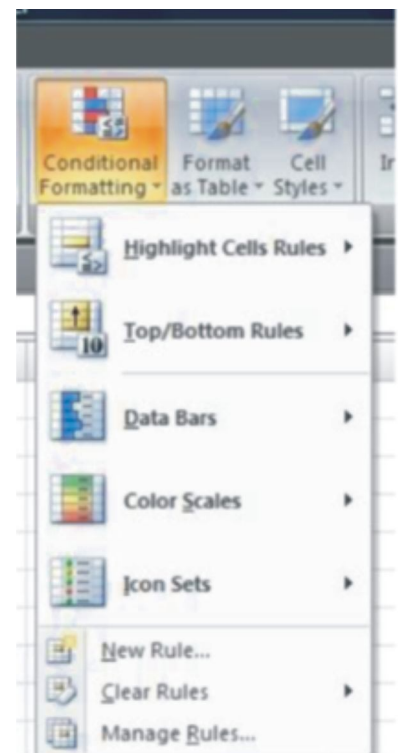


OR

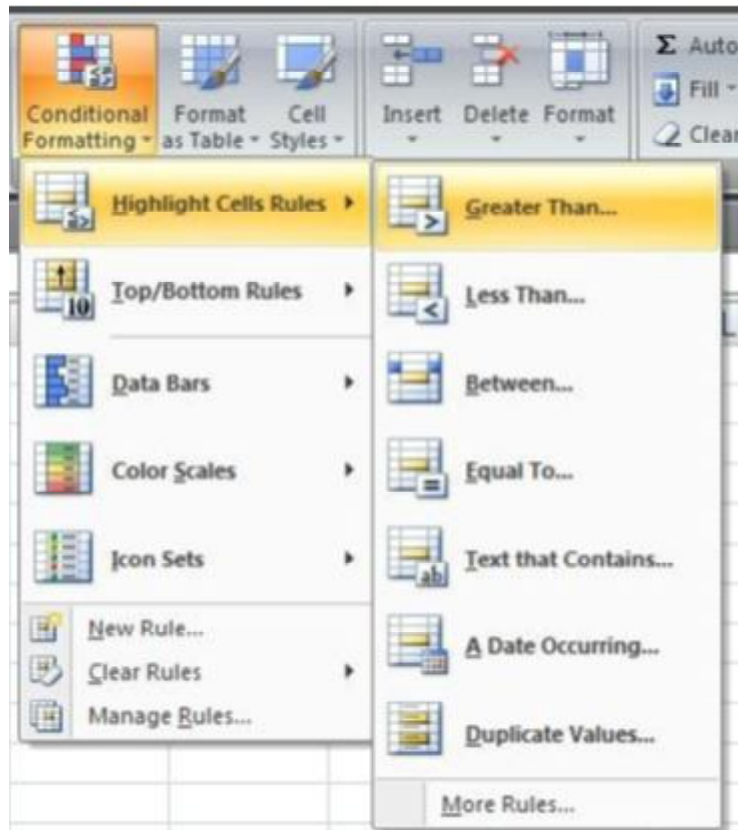
1. Select the column or row you want to format
2. On the Home tab select the down arrow under Format in the Cells group and click AutoFit Column Width

Conditional Formatting

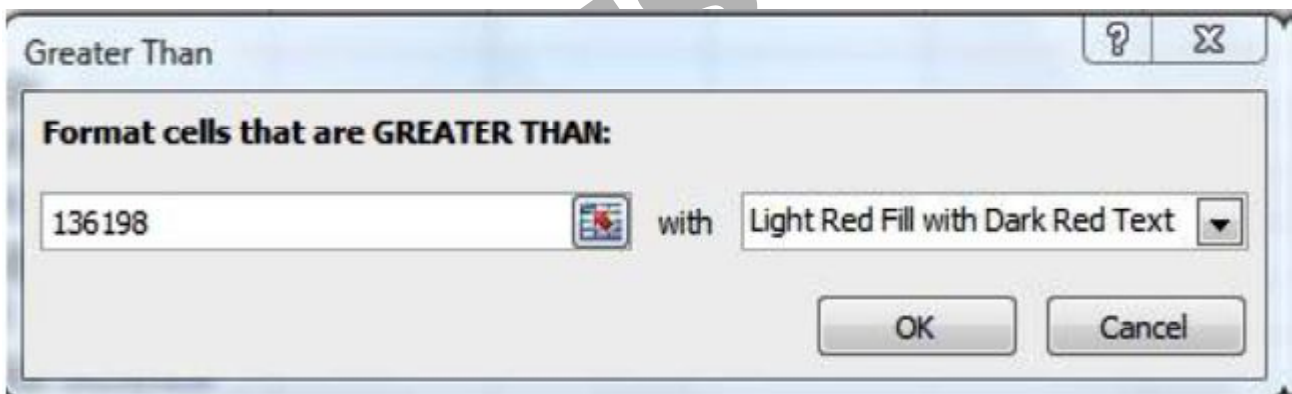
1. Select the cells where you want to apply the conditional formatting
2. On the Home tab, in the Styles group, select Conditional Formatting
3. Select the condition you want to use
4. Click Ok



Highlight Cells Rules: Highlights cells from terms you set.



Example: Greater Than



Top/Bottom Rules: formats your cells to what you specify if the values fall in the top 10, bottom 10, top 10% and bottom 10% of all values.

Data Bars, Color Scales and Icon Sets: Displays a colored bar graph, colored scale or icons relative to the data in the cells.

The screenshot shows the Excel 2010 ribbon with the 'Conditional Formatting' group selected. The 'Data Bars' option is highlighted, and a tooltip explains: 'Orange Data Bar: View a colored data bar in the cell. The length of the data bar represents the value in the cell. A longer bar represents a higher value.'

Last Name	Salary	Department
Winfrey	\$90,000.00	Communications
Stefani	\$56,222.00	Vocal
Jordan	\$89,000.00	Athletics
Cosby	\$56,000.00	Communications
Mullally	50,000.00	Drama
Conery	\$45,985.00	Mathematics
Presley	\$55,459.00	Art
Allen	\$85,000.00	Biology
Arquette	\$42,396.00	Marketing
Baldwin	\$50,000.00	Finance
Cage	\$49,995.00	Biology
Diddy	\$230,000.00	Vocal
Bullock	\$45,689.00	Political Science
Damon	\$124,578.00	Political Science
Goldblum	\$78,900.00	Physics
Hayes	102,000.00	Management
McCormac	89,995.00	Art
Roberts	\$93,500.00	Computer Science
Anthony	\$75,005.00	Chemistry
McGraw	\$89,956.00	Marketing
Hill	\$78,500.00	Drama
Dion	\$80,650.00	Art
McMahon	\$99,599.00	Physics
Moore	\$69,568.00	Computer Science
Redford	\$45,800.00	Athletics
Hayek	\$65,000.00	Drama
Asner	\$89,000.00	Communications
LeBlanc	\$78,565.00	Drama
Messing	126,300.00	Biology
Bergey	130,290.00	Marketing
Iverson	125,000.00	Management
Cruise	132,200.00	Communications
Applegate	\$132,598.00	Management
Avalon	\$120,300.00	Economics
Berry	\$110,300.00	Finance
Bleeth	\$112,550.00	Political Science

Color Scales

The screenshot shows the Excel 2010 ribbon with the 'Conditional Formatting' group selected. The 'Color Scales' option is highlighted, and a tooltip explains: 'Green - Yellow - Red Color Scale: Displays a two or three color gradient in a range of cells. The shade of the color represents the value in the cell.'

Salary	Department
\$90,000.00	Communications
\$56,222.00	Vocal
\$89,000.00	Athletics
\$56,000.00	Communications
50,000.00	Drama
\$45,985.00	Mathematics
\$55,459.00	Art
\$85,000.00	Biology
\$42,396.00	Marketing
\$50,000.00	Finance
\$49,995.00	Biology
\$230,000.00	Vocal
\$45,689.00	Political Science
\$124,578.00	Political Science
\$78,900.00	Physics
102,000.00	Management
89,995.00	Art
\$93,500.00	Computer Science
\$75,005.00	Chemistry
\$89,956.00	Marketing

\$78,500.00	Drama
\$80,650.00	Art
\$99,599.00	Physics
\$69,568.00	Computer Science
\$45,800.00	Athletics
\$65,000.00	Drama
\$89,000.00	Communications
\$78,565.00	Drama
126,300.00	Biology
130,290.00	Marketing
125,000.00	Management
132,200.00	Communications
\$132,598.00	Management
\$120,300.00	Economics
\$110,300.00	Finance
\$112,550.00	Political Science

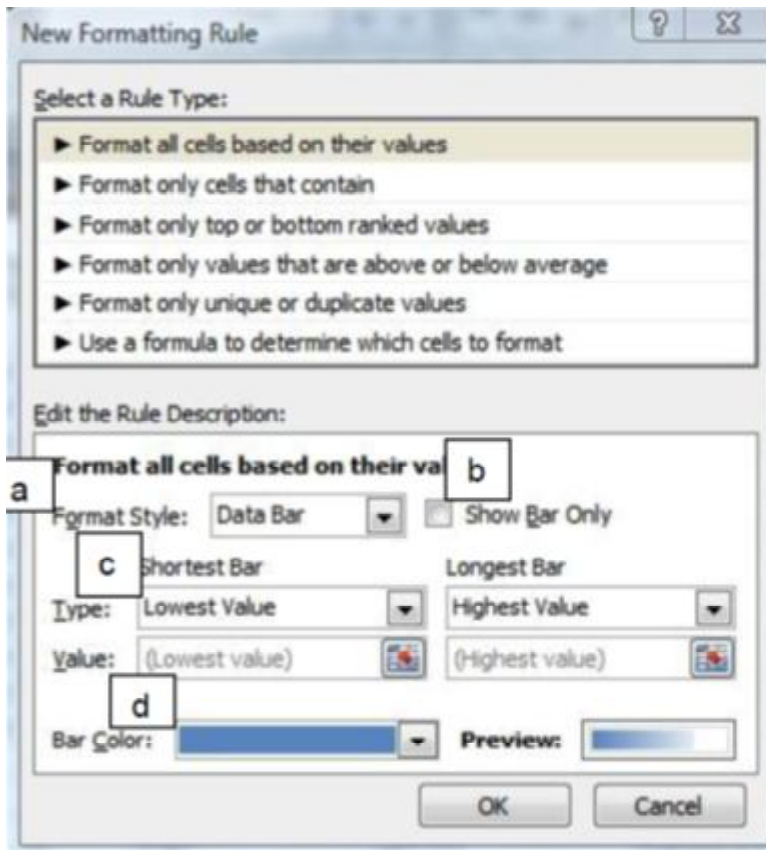
The screenshot shows the Excel 2010 ribbon with the 'Conditional Formatting' menu open. The 'Icon Sets' option is highlighted. The 'Icon Sets' task pane is also open, showing a grid of various icon sets. A callout box labeled 'Icon Sets' points to the 'Icon Sets' option in the ribbon menu.

Icon Sets

Conditional Formatting Rules

Creating a New Rule

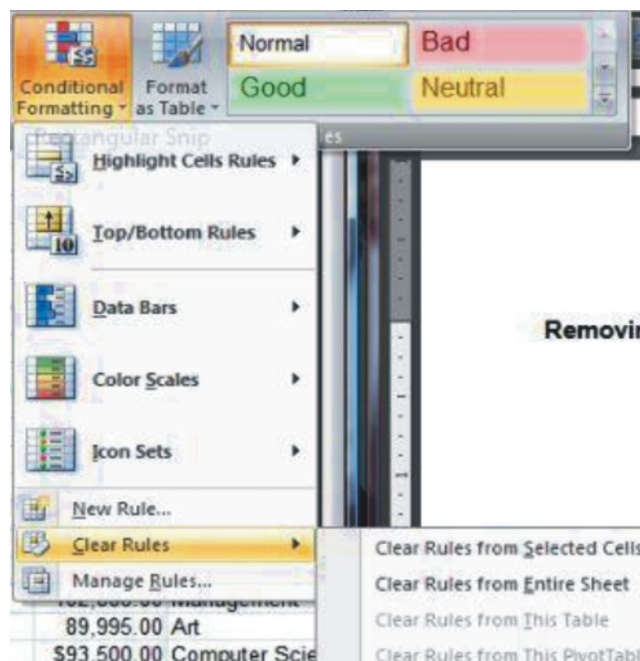
1. Under Conditional Formatting, select New Rule
2. Select a rule type from the top of the box
3. Edit the rule in the bottom of the box
 - a. Change the format of the condition
 - b. Select if you want to display the bar (only available with the Data Bar option)
 - c. Change the type of information you want to use
 - d. Change the color of the bar



The second half of the box will change depending on the Rule Type.

T≡

Clearing rules

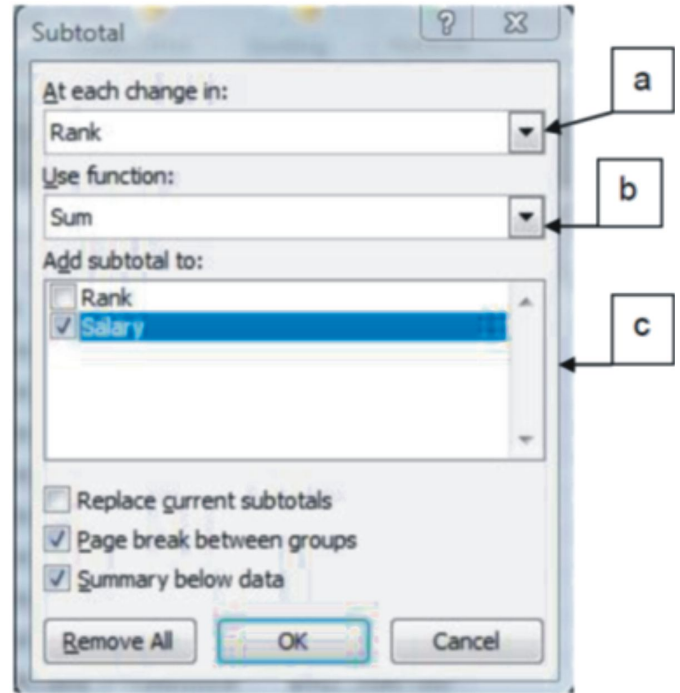


1. Click Conditional Formatting
2. Click Clear Rules and select which of the rules should be cleared

Subtotal

Total several rows of related data automatically

1. Highlight the data you want to subtotal
2. Select the Data tab, and in the Outline group > click Subtotal
3. The Subtotal box will appear, make the appropriate changes > Click Ok
 - a. Select where the subtotal change will occur
 - b. Select what function to use
 - c. Select the field for the subtotal



Example: In the example I've created a subtotal for salaries for each change in rank.

	A	B	C	D	E	F	G
1	Rank	Salary					
2	Associate Professor	\$90,000.00					
3	Associate Professor	\$56,222.00					
4	Associate Professor	\$89,000.00					
5	Associate Professor	\$56,000.00					
6	Associate Professor	50,000.00					
7	Associate Professor	\$45,985.00					
8	Associate Professor	\$55,459.00					
9	Associate Professor	\$85,000.00					
10	Associate Professor	\$42,396.00					
11	Associate Professor	\$50,000.00					
12	Associate Professor	\$49,995.00					
13	Doctor	\$45,800.00					
14	Doctor	\$65,000.00					
15	Doctor	\$89,000.00					
16	Doctor	\$78,565.00					
17	Doctor	126,300.00					
18	Doctor	130,290.00					
19	Doctor	125,000.00					
20	Doctor	132,200.00					
21	Doctor	\$132,598.00					
22	Doctor	\$120,300.00					
23	Doctor	\$110,300.00					
24	Doctor	\$112,550.00					
25	Doctor	\$142,450.00					
26	Doctor	\$190,560.00					
27	Doctor	\$175,000.00					
28	Professor	\$230,000.00					
29	Professor	\$45,689.00					
30	Professor	\$124,578.00					
31	Professor	\$78,900.00					
32	Professor	102,000.00					
33	Professor	89,995.00					
34	Professor	\$93,500.00					
35	Professor	\$75,005.00					
36	Professor	\$89,956.00					
37	Professor	\$78,500.00					
38	Professor	\$80,850.00					

	A	B
1	Rank	Salary
2	Associate Professor	\$90,000.00
3	Associate Professor	\$56,222.00
4	Associate Professor	\$89,000.00
5	Associate Professor	\$56,000.00
6	Associate Professor	50,000.00
7	Associate Professor	\$45,985.00
8	Associate Professor	\$55,459.00
9	Associate Professor	\$85,000.00
10	Associate Professor	\$42,396.00
11	Associate Professor	\$50,000.00
12	Associate Professor	\$49,995.00
13	Associate Professor Total	\$670,057.00
14	Doctor	\$45,800.00
15	Doctor	\$65,000.00
16	Doctor	\$89,000.00
17	Doctor	\$78,565.00
18	Doctor	126,300.00
19	Doctor	130,290.00
20	Doctor	125,000.00
21	Doctor	132,200.00
22	Doctor	\$132,598.00
23	Doctor	\$120,300.00
24	Doctor	\$110,300.00
25	Doctor	\$112,550.00
26	Doctor	\$142,450.00
27	Doctor	\$190,560.00
28	Doctor	\$175,000.00
29	Doctor Total	\$1,775,913.00
30	Professor	\$230,000.00
31	Professor	\$45,689.00
32	Professor	\$124,578.00
33	Professor	\$78,900.00
34	Professor	102,000.00
35	Professor	89,995.00
36	Professor	\$93,500.00
37	Professor	\$75,005.00

Graphics

Click the Insert Tab - Select an option in the Illustrations Group

- Picture: Select a picture from a file
- Clip Art: Select to insert graphic clips
- Shapes: Select readymade shapes
- Smart Art: Select to insert a graphic that helps to communicate information

Clip Art

1. Type in your search criteria in the **Search for** box.
2. Select the image you would like to use in your spreadsheet form the preview window.

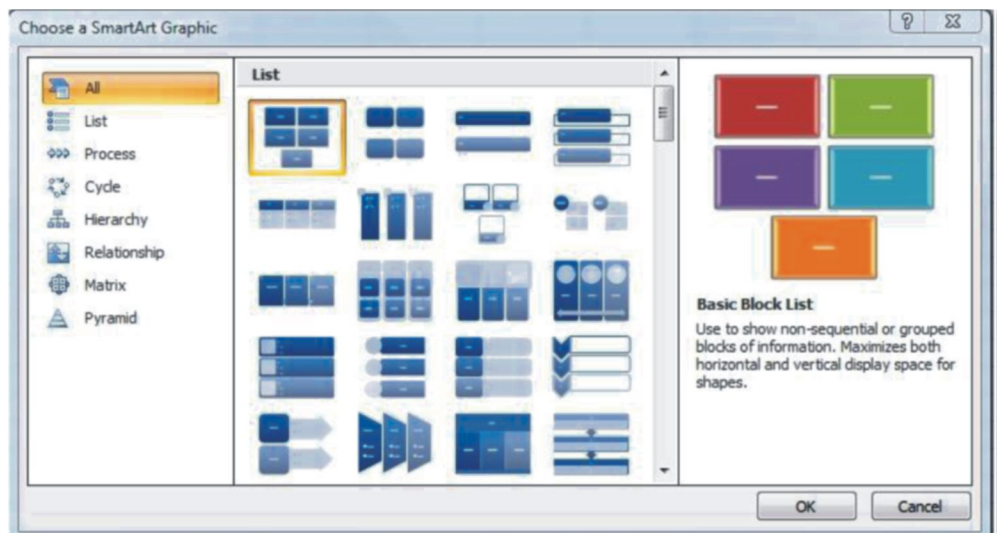


Shapes

1. Click Shapes
2. Select the wanted shape
3. Draw the object on the spreadsheet
 - *Hint:* Click and drag with your mouse

Smart Art

1. Click SmartArt
2. Select the type of SmartArt graphic you would like to use.
3. Click Ok & 4. Fill in the text fields on the Smart Art.



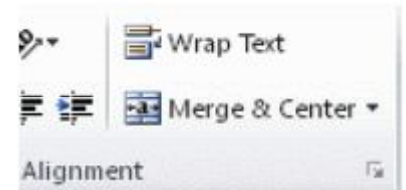
Formatting Spreadsheets

To further enhance your spreadsheet you can format a number of elements such as text, numbers, coloring, and table styles. Spreadsheets can become professional documents used for company meetings or can even be published.

Wrap Text

You can display multiple lines of text inside a cell by wrapping the text. Wrapping text in a cell does not affect other cells.

1. Click the cell in which you want to wrap the text.
2. On the **Home** tab, in the **Alignment** group, click **Wrap Text**.
3. The text in your cell will be wrapped.

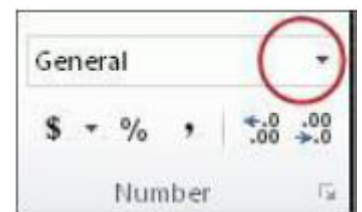


Note : If the text is a long word, the characters won't wrap (the word won't be split); instead, you can widen the column or decrease the font size to see all the text. If all the text is not visible after you wrap the text, you might have to adjust the height of the row. On the **Home** tab, in the **Cells** group, click **Format**, and then under **Cell Size** click **AutoFit Row**.

Format Numbers

In Excel, the format of a cell is separate from the data that is stored in the cell. This display difference can have a significant effect when the data is numeric. For example, numbers in cells will default as rounded numbers, date and time may not appear as anticipated. After you type numbers in a cell, you can change the format in which they are displayed to ensure the numbers in your spreadsheet are displayed as you intended.

1. Click the cell(s) that contains the numbers that you want to format.
2. On the **Home** tab, in the **Number** group, click the arrow next to the **Number Format** box, and then click the format that you want.



Cell Borders

By using predefined border styles, you can quickly add a border around cells or ranges of cells. If predefined cell borders do not meet your needs, you can create a custom border.

Note : Cell borders that you apply appear on printed pages. If you do not use cell borders but want worksheet gridline borders for all cells to be visible on printed pages, you can display the gridlines.

Apply Cell Borders

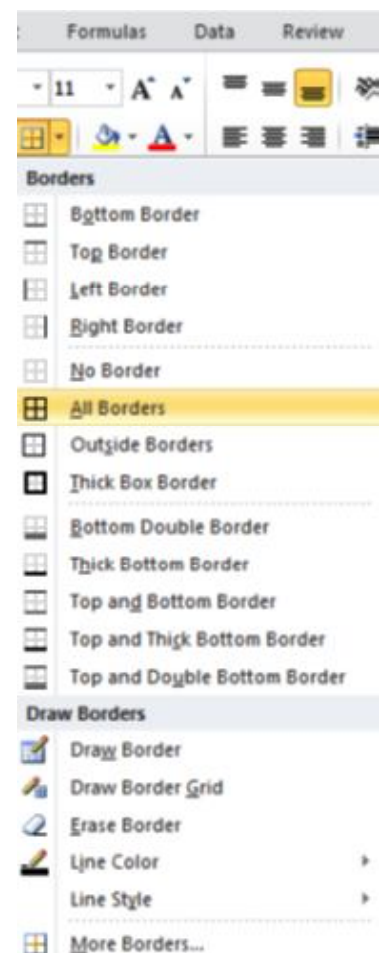
1. On a worksheet, select the cell or range of cells that you want to add a border to, change the border style on, or remove a border from.
2. Go to the **Home** tab, in the **Font** group
3. Click the arrow next to **Borders**
4. Click on the border style you would like
5. The border will be applied to the cell or cell range

Note : To apply a custom border style, click **More Borders**. In the **Format Cells** dialog box, on the **Border** tab, under **Line** and **Color**, click the line style and color that you want.

Remove Cell Borders

1. Go to the **Home** tab, in the **Font** group
2. Click the arrow next to **Borders**
3. Click **No Border**.

Note : The **Borders** button displays the most recently used border style. You can click the **Borders** button (not the arrow) to apply that style.



Cell Styles

You can create a cell style that includes a custom border, colors and accounting formatting.

1. On the **Home** tab, in the **Styles** group, click **Cell Styles**.
2. Select the different cell style option you would like applied to your spreadsheet.



Note : If you would like to apply a cell fill and a cell border, select the cell fill color first the ensure both formats are applied.

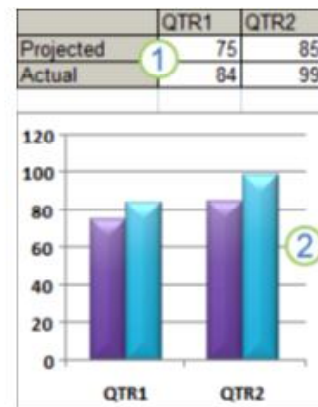
Charts in Excel

Microsoft Excel no longer provides the chart wizard. Instead, you can create a basic chart by clicking the chart type that you want on the Insert tab in the Charts group. Charts are used to display series of numeric data in a graphical format to make it easier to understand large quantities of data and the relationship between different series of data.

To create a chart in Excel, you start by entering the numeric data for the chart on a worksheet. Then you can plot that data into a chart by selecting the chart type that you want to use on the Insert tab, in the Charts group. Worksheet data Chart created from worksheet data.

A chart has many elements. Some of these elements are displayed by default; others can be added as needed. You can change the display of the chart elements by moving them to other locations in the chart, resizing them, or by changing the format. You can also remove chart elements that you do not want to display.

1. The **chart area** is the entire chart and all its Elements.
2. The **plot area** is the area of the chart bounded by the axes.
3. The **data points** are individual values plotted in a chart represented by bars, columns, lines, or pies.
4. The **horizontal** (category) and **vertical** (value) **axis** along which the data is plotted in the chart.
5. The **legend** identifies the patterns or colors that are assigned to the data series or categories in the chart.
6. A **chart and axis title** are descriptive text that for the axis or chart.
7. A **data label** provides additional information about a data marker that you can use to identify the details of a data point in a data series.



Create a Chart

1. On the worksheet, arrange the data that you want to plot in a chart. The data can be arranged in rows or columns - Excel automatically determines the best way to plot the data in the chart.
2. Select the cells that contain the data that you want to use for the chart.

Note : If the cells that you want to plot in a chart are not in a continuous range, you can select nonadjacent cells or ranges as long as the selection forms a rectangle. You can also hide the rows or columns that you do not want to plot in the chart.

3. Go to the **Insert** tab, in the **Charts**.
4. Click the chart type, and then click a chart subtype from the drop menu that will appear.
5. Click anywhere in the embedded chart to activate it. When you click on the chart, **Chart Tools** will be displayed which includes the **Design**, **Layout**, and **Format** tabs.



6. The chart will automatically be embedded in the worksheet. A chart name will automatically be assigned.

Move Chart to New Sheet

1. On the **Design** tab, in the **Location** group, click **Move Chart**.
2. Under **Choose where you want the chart to be placed**, click on the **New sheet** bubble .
3. Type a chart name in the **New sheet** box.

Change Chart Style

1. Click anywhere in the chart.
2. On the **Design** tab, in the **Chart Styles** group, click the chart style that you want to use. To see all predefined chart styles.

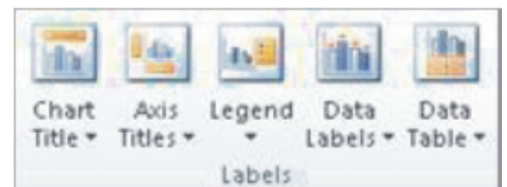


Chart or Axis Titles

To make a chart easier to understand, you can add titles, such as chart and axis titles.

To add a chart title:

1. Click anywhere in the chart.
2. On the **Layout** tab, in the **Labels** group, click **Chart Title**.
3. Click Centered Overlay Title or Above Chart.
4. In the **Chart Title** text box that appears in the chart, type the text that you want.
5. To remove a chart title, click **Chart Title**, and then click **None**.



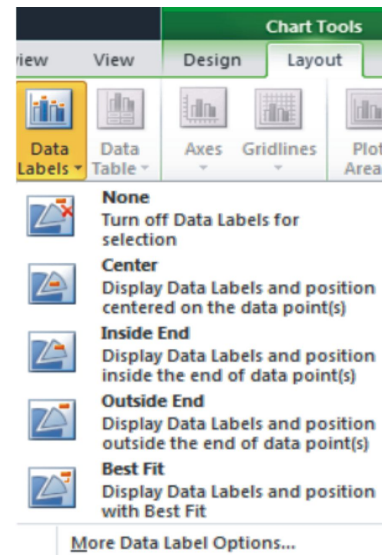
To add axis titles:

1. Click anywhere in the chart.
2. On the **Layout** tab, in the **Labels** group, click **Axis Titles**.
3. Do one or more of the following:
 - a. To add a title to a primary horizontal (category) axis, click **Primary Horizontal Axis Title**, and then click the option that you want.
 - b. To add a title to primary vertical (value) axis, click **Primary Vertical Axis Title**, and then click the option that you want.
4. In the Axis Title text box that appears in the chart, type the text that you want.
5. To remove an axis title, click **Axis Title**, click the type of axis title to remove, and then click **None**.

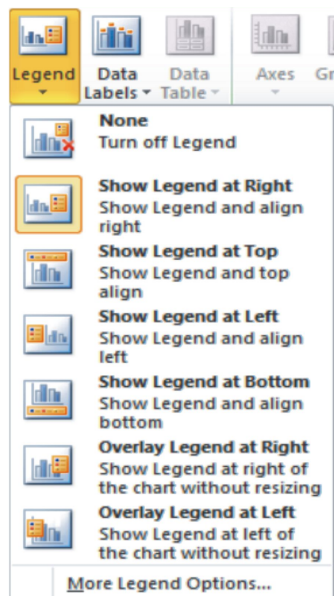
Data Labels

1. On a chart, do one of the following:
 - a. Click on the **chart area** to add a data label to all data points of all data series
 - b. Click in the **data series** to add a data label to all data points of a data series

- c. Click on a specific **data point** to add a data label to a single data point in a data series
2. On the **Layout** tab, in the **Labels** group, click **Data Labels**, and then click the display option that you want.
3. Text boxes will appear in the area of your chart based on your selection.
4. Click on the text box to modify the text.
5. To remove data labels, click **Data Labels**, and then click **None**.



Legend



When you create a chart, the legend appears, but you can hide the legend or change its location after you create the chart.

1. Click the chart in which you want to show or hide a legend.
2. On the **Layout** tab, in the **Labels** group, click **Legend**.
3. Do one of the following:
 - a. To hide the legend, click **None**.
 - b. To display a legend, click the display option that you want.
 - c. For additional options, click **More Legend Options**, and then select the display option that you want.

Formulas in Excel

Formulas are equations that perform calculations on values in your worksheet. A formula always starts with an equal sign (=). An example of a simple is =5+2*3 that multiplies two numbers and then adds a number to the result. Microsoft Office Excel follows the standard order of mathematical operations. In the preceding example, the multiplication operation (2*3) is performed first, and then 5 is added to its result.

You can also create a formula by using a function which is a prewritten formula that takes a value, performs an operation and returns a value. For example, the formulas=SUM(A1:A2) and SUM(A1,A2) both use the SUM function to add the values in cells A1 and A2.

Depending on the type of formula that you create, a formula can contain any or all of the following parts.

Functions - A function, such as **PI()** or **SUM()**, starts with an **equal sign (=)**.

Cell references - You can refer to data in worksheet cells by including cell references in the formula. For example, the cell reference **A2** returns the value of that cell or uses that value in the calculation.

Constants - You can also enter constants, such as numbers (such as 2) or text values, directly into a formula.

Operators - Operators are the symbols that are used to specify the type of calculation that you want the formula to perform.

Create Simple Formulas

1. Click the cell in which you want to enter the formula.
2. Type = (equal sign).
3. Enter the formula by typing the constants and operators that you want to use in the calculation.

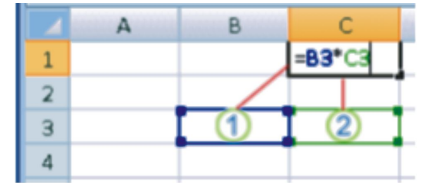
Create a Formula with Cell References

The first cell reference is B3, the color is blue, and the cell range has a blue border with square corners. The second cell reference is C3, the color is green, and the cell range has a green border with square corners.

EXAMPLE FORMULA	WHAT IT DOES
=5+2	Adds 5 and 2
=5-2	Subtracts 2 from 5
=5^2	Raises 5 to the 2nd power

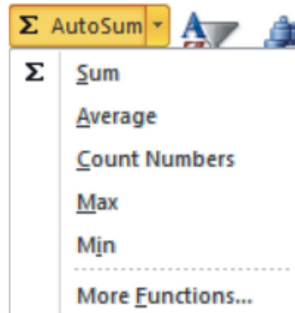
To create your formula:

1. Click the cell in which you want to enter the formula.
2. In the **formula bar**, at the top of the Excel window that you use, type = (equal sign).
3. Click on the 1st cell you want in the formula.
4. Enter an Operator such as +, or *.
5. Click on the next cell you want in the formula. Continue steps 3 - 5 until the formula is complete
6. Hit the **ENTER** key on your keyboard.



EXAMPLE FORMULA	WHAT IT DOES
=A1+A2	Adds the values in cells A1 and A2
=A1-A2	Subtracts the value in cell A2 from the value in A1
=A1/A2	Divides the value in cell A1 by the value in A2
=A1*A2	Multiplies the value in cell A1 times the value in A2
=A1^A2	Raises the value in cell A1 to the exponential value specified in A2

Use Auto Sum



To summarize values quickly, you can also use AutoSum.

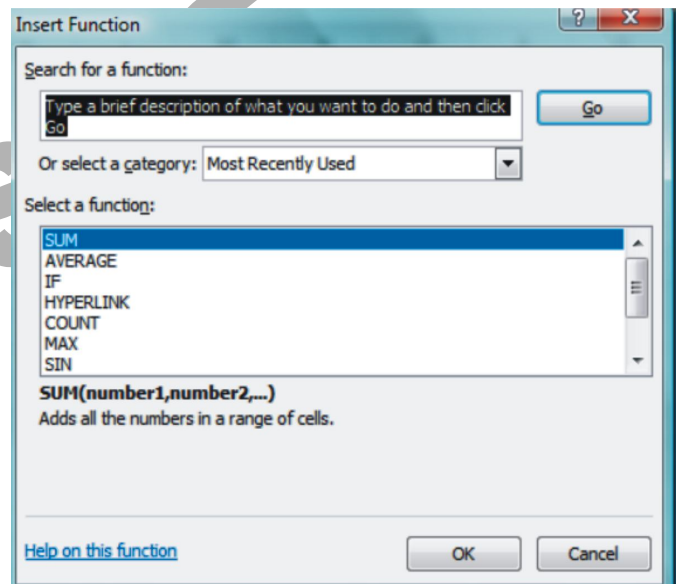
1. Select the cell where you would like your formulas solution to appear.
2. Go to the **Home** tab, in the **Editing** group,
3. Click **AutoSum**, to sum your numbers or click the arrow next to **AutoSum** to select a function that you want to apply.

Create a Formula with Function

1. Click the cell in which you want to enter the formula.
2. Click **Insert Function** on the formula bar. Excel inserts the equal sign (=) for you.
3. Select the function that you want to use.

Note : If you're not sure which function to use, type a question that describes what you want to do in the **Search for a function** box (for example, "add numbers" returns the **SUM** function), or browse from the categories in the **Or Select a category** box.

4. Enter the arguments.
5. After you complete the formula, press **ENTER** .



Example of Various Excel's Functions

Excel's Text Functions

Function	Description
BAHTTEXT(<i>number</i>)	Converts number to baht text.
CHAR(<i>number</i>)	Returns the character that corresponds to the ANSI code given by <i>number</i> .
CLEAN(<i>text</i>)	Removes all nonprintable characters from <i>text</i> .
CODE(<i>text</i>)	Returns the ANSI code for the first character in <i>text</i> .
CONCATENATE(<i>text1</i> [, <i>text2</i>],...)	Joins the specified strings into a single string.
DOLLAR(<i>number</i> [, <i>decimals</i>])	Converts <i>number</i> to a string that uses the Currency format.
EXACT(<i>text1</i> , <i>text2</i>)	Compares two strings to see whether they are identical.
FIND(<i>find</i> , <i>within</i> [, <i>s tart</i>])	Returns the character position of the text <i>find</i> within the text <i>within</i> . FIND() is case sensitive.
FIXED(<i>number</i> [, <i>decimals</i>][, <i>no_commas</i>])	Converts <i>number</i> to a string that uses the Number format.

LEFT(<i>text</i> [, <i>number</i>])	Returns the leftmost <i>number</i> characters from <i>text</i> .
LEN(<i>text</i>)	Returns the length of <i>text</i> .
LOWER(<i>text</i>)	Converts <i>text</i> to lowercase.
MID(<i>text</i> , <i>start</i> , <i>number</i>)	Returns <i>number</i> characters from <i>text</i> starting at <i>start</i> .
PROPER(<i>text</i>)	Converts <i>text</i> to proper case (first letter of each word is capitalized).
REPLACE(<i>old</i> , <i>start</i> , <i>chars</i> , <i>new</i>)	Replaces the <i>old</i> string with the <i>new</i> string.
REPT(<i>text</i> , <i>number</i>)	Repeats the <i>text</i> string <i>number</i> times.
RIGHT(<i>text</i> [, <i>number</i>])	Returns the rightmost <i>number</i> characters
SEARCH(<i>find</i> , <i>within</i> [, <i>start_num</i>])	Returns the character position of the text <i>find</i> within the text <i>within</i> . SEARCH() is not case sensitive.
SUBSTITUTE(<i>text</i> , <i>old</i> , <i>new</i> [, <i>num</i>])	In <i>text</i> , substitutes the new string for the old string <i>num</i> times.
T(<i>value</i>)	Converts <i>value</i> to text.
TEXT(<i>value</i> , <i>format</i>)	Formats <i>value</i> and converts it to text.
TRIM(<i>text</i>)	Removes excess spaces from <i>text</i> .
UPPER(<i>text</i>)	Converts <i>text</i> to uppercase.
VALUE(<i>text</i>)	Converts <i>text</i> to a number.

Excel's Date Functions

Function	Description
DATE(<i>year</i> , <i>month</i> , <i>day</i>)	Returns the serial number of a date, in which year is a number from 1900 to 2078, <i>month</i> is a number representing the month of the year, and <i>day</i> is a number representing the day of the month
DATEDIF(<i>start_date</i> , <i>end_date</i> [, <i>unit</i>])	Returns the difference between <i>start_date</i> and <i>end_date</i> , based on the specified <i>unit</i>
DATEVALUE(<i>date_text</i>)	Converts a date from text to a serial number
DAY(<i>serial_number</i>)	Extracts the day component from the date given by <i>serial_number</i>
DAYS360(<i>start_date</i> , <i>end_date</i> [, <i>method</i>])	Returns the number of days between <i>start_date</i> and <i>end_date</i> , based on a 360-day year
EDATE(<i>start_date</i> , <i>months</i>)	Returns the serial number of a date that is the specified number of <i>months</i> before or after <i>start_date</i>
EOMONTH(<i>start_date</i> , <i>months</i>)	Returns the serial number of the last day of the month that is the specified number of <i>months</i> before or after <i>start_date</i>
MONTH(<i>serial_number</i>)	Extracts the month component from the date given by <i>serial_number</i> (January = 1)
NETWORKDAYS(<i>start_date</i> , <i>end_date</i> [, <i>holidays</i>])	Returns the number of working days between <i>start_date</i> and <i>end_date</i> ; does not include weekends and any dates specified by <i>holidays</i>
TODAY()	Returns the serial number of the current date
WEEKDAY(<i>serial_number</i>)	Converts a serial number to a day of the week (Sunday = 1)
WEEKNUM(<i>serial_number</i> [, <i>return_type</i>])	Returns a number that corresponds to where the week that includes <i>serial_number</i> falls numerically during the year

WORKDAY(<i>start_date</i> , <i>days</i> [, <i>holidays</i>])	Returns the serial number of the day that is <i>days</i> working days from <i>start_date</i> ; weekends and <i>holidays</i> are excluded
YEAR(<i>serial_number</i>)	Extracts the year component from the date given by <i>serial_number</i>
YEARFRAC(<i>start_date</i> , <i>end_date</i> , <i>basis</i>)	Converts the number of days between <i>start_date</i> and <i>end_date</i> into a fraction of a year

Excel's Time Functions

Excel's Time Functions	
Function	Description
HOUR(<i>serial_number</i>)	Extracts the hour component from the time given by <i>serial_number</i>
MINUTE(<i>serial_number</i>)	Extracts the minute component from the time given by <i>serial_number</i>
NOW()	Returns the serial number of the current date and time
SECOND(<i>serial_number</i>)	Extracts the seconds component from the time given by <i>serial_number</i>
TIME(<i>hour</i> , <i>minute</i> , <i>second</i>)	Returns the serial number of a time, in which <i>hour</i> is a number between 0 and 23, and <i>minute</i> and <i>second</i> are numbers between 0 and 59
TIMEVALUE(<i>time_text</i>)	Converts a time from text to a serial number

Excel's Math Functions

Function	Description
ABS(<i>number</i>)	Returns the absolute value of <i>number</i>
CEILING(<i>number</i> , <i>significance</i>)	Rounds <i>number</i> up to the nearest integer
COMBIN(<i>number</i> , <i>number_chosen</i>)	Returns the number of possible ways that <i>number</i> objects can be combined in groups of <i>number_chosen</i>
EVEN(<i>number</i>)	Rounds <i>number</i> up to the nearest even integer
EXP(<i>number</i>)	Returns <i>e</i> raised to the power of <i>number</i>
FACT(<i>number</i>)	Returns the factorial of <i>number</i>
FLOOR(<i>number</i> , <i>significance</i>)	Rounds <i>number</i> down to the nearest integer
GCD(<i>number1</i> [, <i>number2</i> , ...])	Returns the greatest common divisor of the specified numbers
INT(<i>number</i>)	Rounds <i>number</i> down to the nearest integer
LCM(<i>number1</i> [, <i>number2</i> , ...])	Returns the least common multiple of the specified numbers
LN(<i>number</i>)	Returns the natural logarithm of <i>number</i>
LOG(<i>number</i> [, <i>base</i>])	Returns the logarithm of <i>number</i> in the specified <i>base</i>
LOG10(<i>number</i>)	Returns the base-10 logarithm of <i>number</i>
MDETERM(<i>array</i>)	Returns the matrix determinant of <i>array</i>
MINVERSE(<i>array</i>)	Returns the matrix inverse of <i>array</i>
MMULT(<i>array1</i> , <i>array2</i>)	Returns the matrix product of <i>array1</i> and <i>array2</i>
MOD(<i>number</i> , <i>divisor</i>)	Returns the remainder of <i>number</i> after dividing by <i>divisor</i>
MROUND(<i>number</i> , <i>multiple</i>)	Rounds <i>number</i> to the desired <i>multiple</i>
MULTINOMIAL(<i>number1</i> [, <i>number2</i>])	Returns the multinomial of the specified numbers
ODD(<i>number</i>)	Rounds <i>number</i> up to the nearest odd integer

PI()	Returns the value pi
POWER(<i>number</i> , <i>power</i>)	Raises <i>number</i> to the specified power
PRODUCT(<i>number1</i> [, <i>number2</i> , ...])	Multiplies the specified numbers
QUOTIENT(<i>numerator</i> , <i>denominator</i>)	Returns the integer portion of the result obtained by dividing <i>numerator</i> by <i>denominator</i> . In other words, the remainder is discarded from the result.
RAND()	Returns a random number between 0 and 1
RANDBETWEEN(<i>bottom</i> , <i>top</i>)	Returns a random number between <i>bottom</i> and <i>top</i>
ROMAN(<i>number</i> [, <i>form</i>])	Converts the Arabic <i>number</i> to its Roman numeral equivalent(as text)
ROUND(<i>number</i> , <i>num_digits</i>)	Rounds <i>number</i> to a specified number of digits
ROUNDDOWN(<i>number</i> , <i>num_digits</i>)	Rounds <i>number</i> down, toward 0
ROUNDUP(<i>number</i> , <i>num_digits</i>)	Rounds <i>number</i> up, away from 0
SERIESSUM(<i>x</i> , <i>n</i> , <i>m</i> , <i>coefficients</i>)	Returns the sum of a power series
SIGN(<i>number</i>)	Returns the sign of <i>number</i> (1 = positive, 0 = zero, -1 = negative)
SQRT(<i>number</i>)	Returns the positive square root of <i>number</i>
SQRTPI(<i>number</i>)	Returns the positive square root of the result of the expression <i>number</i> * Pi
SUBTOTAL(<i>function_num</i> , <i>ref1</i> [, <i>ref2</i> , ...])	Returns a subtotal from a list
SUM(<i>number1</i> [, <i>number2</i> , ...])	Adds the arguments
SUMIF(<i>range</i> , <i>criteria</i> [, <i>sum_range</i>])	Adds only those cells in <i>range</i> that meet the <i>criteria</i>
SUMPRODUCT(<i>array1</i> , <i>array2</i> [, <i>array3</i> , ...])	Multiplies the corresponding elements in the specified arrays and then sums the resulting products
SUMSQ(<i>number1</i> [, <i>number2</i> , ...])	Returns the sum of the squares of the arguments
SUMX2MY2(<i>array_x</i> , <i>array_y</i>)	Squares the elements in the specified arrays and then sums the differences between the corresponding squares
SUMX2PY2(<i>array_x</i> , <i>array_y</i>)	Squares the elements in the specified arrays and then sums the corresponding squares
SUMXMY2(<i>array_x</i> , <i>array_y</i>)	Squares the differences between the corresponding elements in the specified arrays and then sums the squares
TRUNC(<i>number</i> [, <i>num_digits</i>])	Truncates <i>number</i> to an integer

Excel's Trigonometric Functions

Function	Description
ACOS(<i>number</i>)	Returns a value in radians between 0 and pi that represents the arccosine of <i>number</i> (which must be between -1 and 1)
ACOSH(<i>number</i>)	Returns a value in radians that represents the inverse hyperbolic cosine of <i>number</i> (which must be greater than or equal to 1)
ASIN(<i>number</i>)	Returns a value in radians between -pi/2 and pi/2 that represents the arcsine of <i>number</i> (which must be between -1 and 1)
ASINH(<i>number</i>)	Returns a value in radians that represents the inverse hyperbolic sine of <i>number</i>
ATAN(<i>number</i>)	Returns a value in radians between -pi/2 and pi/2 that represents the arctangent of <i>number</i>

ATAN2(<i>x_num</i> , <i>y_num</i>)	Returns a value in radians between (but not including) $-\pi$ and π that represents the arctangent of the coordinates given by <i>x_num</i> and <i>y_num</i>
ATANH(<i>number</i>)	Returns a value in radians that represents the inverse hyperbolic tangent of <i>number</i> (which must be between -1 and 1)
COS(<i>number</i>)	Returns a value in radians that represents the cosine of <i>number</i>
COSH(<i>number</i>)	Returns a value in radians that represents the hyperbolic cosine of <i>number</i>
DEGREES(<i>angle</i>)	Converts <i>angle</i> from radians to degrees
RADIANS(<i>angle</i>)	Converts <i>angle</i> from degrees to radians
SIN(<i>number</i>)	Returns a value in radians that represents the sine of <i>number</i>
SINH(<i>number</i>)	Returns a value in radians that represents the hyperbolic sine of <i>number</i>
TAN(<i>number</i>)	Returns a value in radians that represents the tangent of <i>number</i>
TANH(<i>number</i>)	Returns a value in radians that represents the hyperbolic tangent of <i>number</i>

Excel's Statistical Functions

Excel's Statistical Functions	
Function	Description
AVERAGE(<i>number1</i> [, <i>number2</i> ,...])	Returns the average
AVERAGEIF(<i>range</i> [, <i>criteria</i>])	Returns the average for those cells in range that satisfy the criteria
AVERAGEIFS(<i>range</i> [, <i>criteria 1</i> ,...])	Returns the average for those cells in range that satisfy multiple criteria
CORREL(<i>array1</i> , <i>array2</i>)	Returns the correlation coefficient
COUNT(<i>value1</i> [, <i>value2</i> ,...])	Counts the numbers in the argument list
COUNTA(<i>value1</i> [, <i>value2</i> ,...])	Counts the values in the argument list
COVARIANCE.P(<i>array1</i> , <i>array2</i>)	Returns the population covariance, which is the average of the products of deviations for each data point pair
COVARIANCE.S(<i>array1</i> , <i>array2</i>)	Returns the sample covariance
COVAR(<i>array1</i> , <i>array2</i>)	The legacy version of the covariance calculation; use this function if you need to maintain compatibility with Excel2007 and earlier
FORECAST(<i>x</i> , <i>known_y's</i> , <i>known_x's</i>)	Returns a forecast value for <i>x</i> based on a linear regression of the arrays <i>known_y's</i> and <i>known_x's</i>
FREQUENCY(<i>data_array</i> , <i>bins_array</i>)	Returns a frequency distribution
FTEST(<i>array1</i> , <i>array2</i>)	Returns an F-test result, the one-tailed probability that the variances in the two sets aren't significantly different
GROWTH(<i>known_y's</i> [, <i>known_x's</i>])	Returns values along an exponential trend <i>new_x's</i> , <i>const</i>)
INTERCEPT(<i>known_y's</i> , <i>known_x's</i>)	Returns the y-intercept of the linear regression trendline generated by the <i>known_y's</i> and <i>known_x's</i>

KURT(<i>number1</i> [, <i>number2</i> ,...])	Returns the kurtosis of a frequency distribution
LARGE(<i>array</i> , <i>k</i>)	Returns the <i>k</i> th largest value in <i>array</i>
LINEST(<i>known_y's</i> [, <i>known_x's</i> , <i>const</i> , <i>stats</i>])	Uses the least squares method to calculate a straight-line regression fit through the <i>known_y's</i> and <i>known_x's</i>
LOGEST(<i>known_y's</i> [, <i>known_x's</i> , <i>const</i> , <i>stats</i>])	Uses the least squares method to calculate an exponential regression fit through the <i>known_y's</i> and <i>known_x's</i>
MAX(<i>number1</i> [, <i>number2</i> ,...])	Returns the maximum value
MEDIAN(<i>number1</i> [, <i>number2</i> ,...])	Returns the median value
MIN(<i>number1</i> [, <i>number2</i> ,...])	Returns the minimum value
MODE.MULT(<i>number1</i> [, <i>number2</i> ,...])	Returns an array of the most common values
MODE.SNGL(<i>number1</i> [, <i>number2</i> ,...])	Returns the most common value
MODE(<i>number1</i> [, <i>number2</i> ,...])	The legacy version of the mode calculation; use this function if you need to maintain compatibility with Excel 2007 and earlier
PERCENTILE.EXC(<i>array</i> , <i>k</i>)	Returns the <i>k</i> th percentile of the values in <i>array</i> , where <i>k</i> is between 0 and 1, exclusive
PERCENTILE(<i>array</i> , <i>k</i>)	The legacy version of the percentile calculation; use this function if you need to maintain compatibility with Excel2007 and earlier
RANK.AVG(<i>number</i> , <i>ref</i> [, <i>order</i>])	Returns the rank of a number in a list, or the average rank if more than one value has the same rank
RANK.EQ(<i>number</i> , <i>ref</i> [, <i>order</i>])	Returns the rank of a number in a list, or the first rank if more than one value has the same rank
RANK(<i>number</i> , <i>ref</i> [, <i>order</i>])	The legacy version of the rank calculation; use this function if you need to maintain compatibility with Excel 2007 and earlier
RSQ(<i>known_y's</i> , <i>known_x's</i>)	Returns the coefficient of determination that indicates how much of the variance in the <i>known_y's</i> is due to the <i>known_x's</i>
SKEW(<i>number1</i> [, <i>number2</i> ,...])	Returns the skewness of a frequency distribution
SLOPE(<i>known_y's</i> , <i>known_x's</i>)	Returns the slope of the linear regression trend generated by the <i>known_y's</i> and <i>known_x's</i>
SMALL(<i>array</i> , <i>k</i>)	Returns the <i>k</i> th smallest value in <i>array</i>
STDEV.P(<i>number1</i> [, <i>number2</i> ,...])	Returns the standard deviation based on an entire population
STDEV.S(<i>number1</i> [, <i>number2</i> ,...])	Returns the standard deviation based on a sample
STDEV(<i>number1</i> [, <i>number2</i> ,...])	The legacy version of the standard deviation calculation; use this function if you need to maintain compatibility with Excel 2007 and earlier
TREND(<i>known_y's</i> [, <i>known_x's</i> , <i>new_x's</i> , <i>const</i>])	Returns values along a linear trend
TTEST(<i>array1</i> , <i>array2</i> , <i>tails</i> , <i>type</i>)	Returns the probability associated with a student's
VAR.P(<i>number1</i> [, <i>number2</i> ,...])	Returns the variance based on an entire population
VAR.S(<i>number1</i> [, <i>number2</i> ,...])	Returns the variance based on a sample
VAR(<i>number1</i> [, <i>number2</i> ,...])	The legacy version of the variance calculation; use this function if you need to maintain compatibility with Excel2007 and earlier
ZTEST(<i>array</i> , <i>x</i> [, <i>sigma</i>])	Returns the P-value of a two-sample z-test for means with known variances

Excel's Logical Functions

Function	Description
AND(<i>logical1</i> [, <i>logical2</i>],...)	Returns TRUE if all the arguments are true.
FALSE()	Returns FALSE .
IF(<i>logical_test</i> , <i>value_if_true</i> [, <i>value_if_false</i>])	Performs a logical test and returns a value based on the result.
IFERROR(<i>value</i> , <i>value_if_error</i>)	Returns <i>value_if_error</i> if <i>value</i> is an error.
NOT(<i>logical</i>)	Reverses the logical value of the argument.
OR(<i>logical1</i> [, <i>logical2</i>],...)	Returns TRUE if any argument is true.
TRUE()	Returns TRUE .

Excel's Lookup Functions

Function	Description
CHOOSE(<i>num</i> , <i>value1</i> [, <i>value2</i> , ...])	Uses <i>num</i> to select one of the list of arguments given by <i>value1</i> , <i>value2</i> , and so on
GETPIVOTDATA(<i>data</i> , <i>table</i> , <i>field1</i> , <i>item1</i> ,...)	Extracts data from a PivotTable
HLOOKUP(<i>value</i> , <i>table</i> , <i>row</i> [, <i>range</i>])	Searches for <i>value</i> in <i>table</i> and returns the value in the specified <i>row</i>
INDEX(<i>ref</i> , <i>row</i> [, <i>col</i>] [, <i>area</i>])	Looks in <i>ref</i> and returns the value of the cell at the intersection of <i>row</i> and, optionally, <i>col</i>
LOOKUP(<i>lookup_value</i> , <i>array</i>)	Looks up a value in a range or array (this function has been replaced by the HLOOKUP() and VLOOKUP() functions)
MATCH(<i>value</i> , <i>range</i> [, <i>match_type</i>])	Searches <i>range</i> for <i>value</i> and, if found, returns the relative position of <i>value</i> in <i>range</i>
RTD(<i>progID</i> , <i>server</i> , <i>topic1</i> [, <i>topic2</i> , ...])	Retrieves data in real time from an automation server (not covered in this book)
VLOOKUP(<i>value</i> , <i>table</i> , <i>col</i> [, <i>range</i>])	Searches for <i>value</i> in <i>table</i> and returns the value in the specified <i>col</i>

Excel's Information Functions

Function	Description
CELL(<i>info_type</i> [, <i>reference</i>])	Returns information about various cell attributes, including formatting, contents, and location
ERROR.TYPE(<i>error_val</i>)	Returns a number corresponding to an error type
INFO(<i>type_text</i>)	Returns information about the operating system and environment
ISBLANK(<i>value</i>)	Returns TRUE if the <i>value</i> is blank
ISERR(<i>value</i>)	Returns TRUE if the <i>value</i> is any error value except # NA
ISERROR(<i>value</i>)	Returns TRUE if the <i>value</i> is any error value
ISEVEN(<i>number</i>)	Returns TRUE if the <i>number</i> is even
ISLOGICAL(<i>value</i>)	Returns TRUE if the <i>value</i> is a logical value
ISNA(<i>value</i>)	Returns TRUE if the <i>value</i> is the # NA error value
ISNONTEXT(<i>value</i>)	Returns TRUE if the <i>value</i> is not text
ISNUMBER(<i>value</i>)	Returns TRUE if the <i>value</i> is a number
ISODD(<i>number</i>)	Returns TRUE if the <i>number</i> is odd
ISREF(<i>value</i>)	Returns TRUE if the <i>value</i> is a reference
ISTEXT(<i>value</i>)	Returns TRUE if the <i>value</i> is text

N(<i>value</i>)	Returns the <i>value</i> converted to a number (a serial number if <i>value</i> is a date, 1 if <i>value</i> is TRUE, 0 if <i>value</i> is any other nonnumeric; note that N() exists only for compatibility with other spreadsheets and is rarely used in Excel)
NA()	Returns the error value #NA
TYPE(<i>value</i>)	Returns a number that indicates the data type of the <i>value</i> : 1 for a number, 2 for text, 4 for a logical value, 8 for a formula, 16 for an error, or 64 for an array

Excel's Table Functions

Excel's Table Functions	
Function	Description
DAVERAGE()	Returns the average of the matching records in a specified field
DCOUNT()	Returns the count of the matching records
DCOUNTA()	Returns the count of the nonblank matching records
DGET()	Returns the value of a specified field for a single matching record
DMAX()	Returns the maximum value of a specified field for the matching records
DMIN()	Returns the minimum value of a specified field for the matching records
DPRODUCT()	Returns the product of the values of a specified field for the matching records
DSTDEV()	Returns the estimated standard deviation of the values in a specified field if the matching records are a sample of the population
DSTDEVP()	Returns the standard deviation of the values of a specified field if the matching records are the entire population
DSUM()	Returns the sum of the values of a specified field for the matching records
DVAR()	Returns the estimated variance of the values of a specified field if the matching records are a sample of the population
DVARP()	Returns the variance of the values of a specified field if the matching records are the entire population

Delete a Formula

When you delete a formula, the resulting values of the formula is also deleted. However, you can instead remove the formula only and leave the resulting value of the formula displayed in the cell.

To delete formulas along with their resulting values, do the following:

1. Select the cell or range of cells that contains the formula.
2. Press DELETE.

To delete formulas without removing their resulting values, do the following:

1. Select the cell or range of cells that contains the formula.
2. On the **Home** tab, in the **Clipboard** group, click **Copy**.
3. On the **Home** tab, in the **Clipboard** group, click the arrow below **Paste**, and then click **Paste Values**.

Hide Rows or Columns

1. Select the rows or columns that you want to hide.
2. On the **Home** tab, in the **Cells** group, click **Format**.
3. Under **Visibility**, point to **Hide & Unhide**, and then click **Hide Rows** or **Hide Columns**.

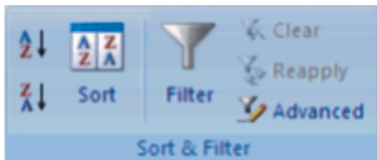
Note : You can also right-click a row or column (or a selection of multiple rows or columns), and then click Hide.

Unhide Rows or Columns

1. Select the rows, columns or entire sheet to unhide.
2. On the **Home** tab, in the **Cells** group, click **Format**.
3. Under **Visibility**, point to **Hide & Unhide**, and then click **Unhide Rows** or **Unhide Columns**.

TIP : You can also right-click the selection of visible rows and columns surrounding the hidden rows and columns, and then click **Unhide**.

Sort Data in Single Column



1. Select a column of data in a range of cells
2. On the **Data** tab, in the **Sort & Filter** group, do one of the following:

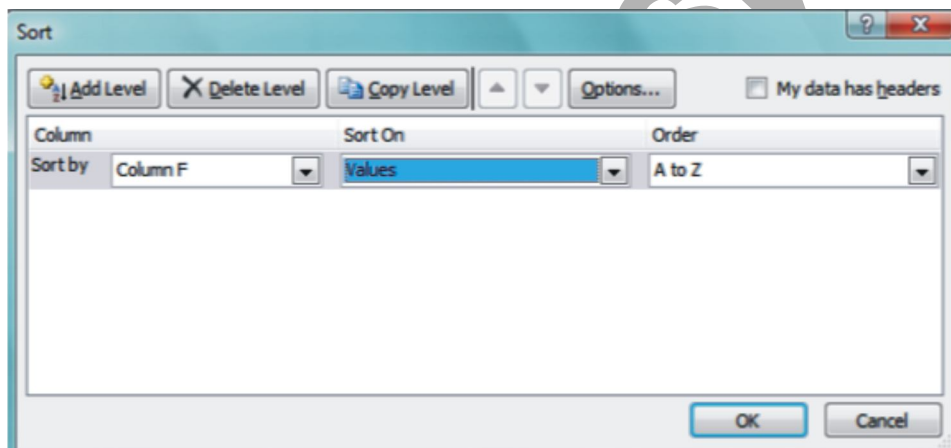
- To sort in ascending or smallest to largest order, click **Sort A to Z**.
- To sort in descending or largest to smallest order, click **Sort Z to A**.

3. To reapply a sort after you change the data, click a cell in the range or table and then, on the **Data** tab, in the **Sort & Filter** group, click **Reapply**.

Sort Data in Multiple Columns or Rows

You may want to sort by more than one column or row when you have data that you want to group by the same value in one column or row, and then sort another column or row within that group of equal values.

1. Select a range of cells with two or more columns of data.



2. On the **Data** tab, in the **Sort & Filter** group, click **Sort**.
3. The **Sort** dialog box will appear.
4. Under **Column**, in the **Sort by** box, select the first column that you want to sort.
5. Under **Sort On**, select the type of sort. To sort by text, number, or date and time, select **Values**. To sort by format, select **Cell Color**, **Font Color**, or **Cell Icon**.
6. Under **Order**, select how you want to sort. For text values, select **A to Z** or **Z to A**. For number values, select **Smallest to Largest** or **Largest to Smallest**. For date or time values, select **Oldest to Newest** or **Newest to Oldest**. To sort based on a custom list, select **Custom List**.
7. To add another column to sort by, click **Add Level**, and then repeat steps four through six.
8. To copy a column to sort by, select the entry and then click **Copy Level**.
9. To delete a column to sort by, select the entry and then click **Delete Level**.
10. To change the order in which the columns are sorted, select an entry and then click the **Up** or **Down** arrow to change the order.
11. To reapply a sort after you change the data, click a cell in the range or table and then, on the **Data** tab, in the **Sort & Filter** group, click **Reapply**.

Freezing Rows or Columns

When you need to keep the top row or left column in view as you work with a large amount of data, you can Freeze it so it's always visible on the screen (note - this does not affect printing).

1. Go to View/Freeze Panes
2. Select either Freeze Top Row (freezes row 1) or Freeze First Column (freezes column A)

To unfreeze, select Unfreeze Panes

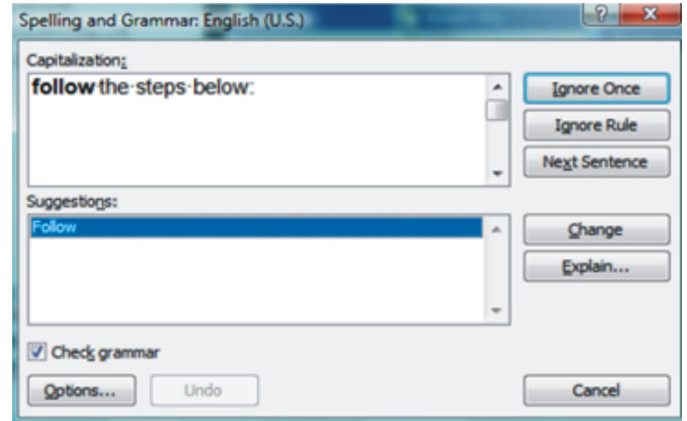
Finalizing a Spreadsheet

To complete your spreadsheet there are a few steps to take to ensure your document is finalized.

Using the "Spell Check" Feature

Excel does not have the same spell check feature as Word and PowerPoint. To complete a Spelling and Grammar check, you need to use the Spelling and Grammar feature.

1. Click on the **Review** tab.
2. Click on the **Spelling & Grammar** command (a blue check mark with ABC above it).
3. A **Spelling and Grammar** box will appear, correct any Spelling or Grammar issue with the help of the box.



Save a Spreadsheet

To save a document in the format used by Excel 2010 and Excel 2007, do the following:

1. Click the **File** tab.
2. Click **Save As**.
3. In the **File name** box, enter a name for your document.
4. Click **Save**.

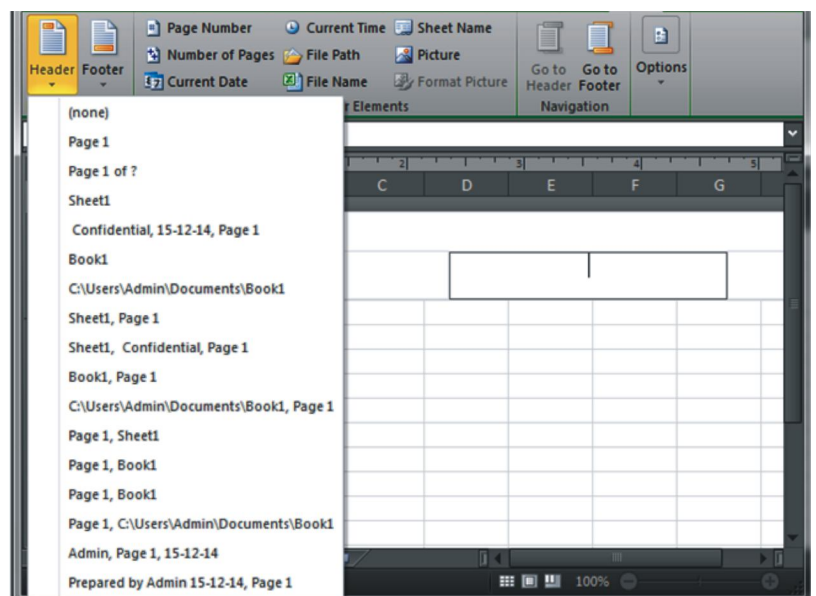
To save a document so that it is compatible with Excel 2003 or earlier, do the following:

1. Click the **File** tab.
2. Click **Save As**.
3. In the **Save as type** list, click **Excel 97-2003 Document**. This changes the file format to **.xls**.
4. In the **File name** box, type a name for the document.
5. Click **Save**.

Headers and Footers

A header is a section that appears at the top of every printed page; footer is a section that appears at the bottom of every printed page. To create a header or footer in Excel, you display the Insert tab and then, in the Text group, click Header & Footer to display the Header & Footer Tools Design contextual tab.

When you display your workbook's headers and footers, Excel displays the workbook in Page Layout view. Page Layout view shows you exactly how your workbook will look when printed, while still enabling you to edit your file, a capability not provided by Print Preview. You can also switch to Page Layout view by displaying the View tab and then, in the Workbook Views group, clicking Page



Layout. Excel divides its headers and footers into left, middle, and right sections. When you point to an editable header or footer section, Excel highlights the section to indicate that clicking the left mouse button will open that header or footer section for editing.

Print Preview

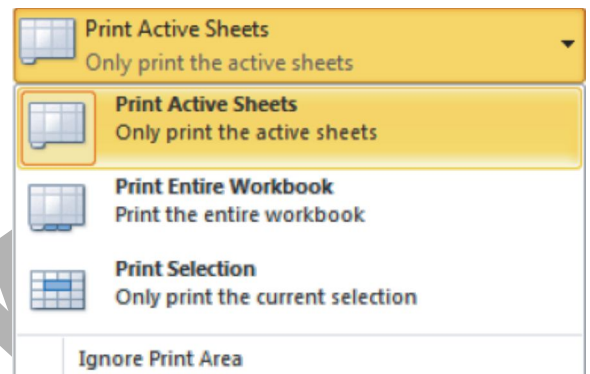
Print Preview automatically displays when you click on the **Print** tab. Whenever you make a change to a print-related setting, the preview is automatically updated.

1. Click the **File** tab, and then click **Print**. To go back to your document, click the **File** tab.
2. A preview of your document automatically appears. To view each page, click the arrows below the preview.

Print a Worksheet

1. Click the worksheet or select the worksheets that you want to print.
2. Click **File**.
3. Click **Print**.
4. Once you are on the Print screen you can select printing options:


- To change the printer, click the drop-down box under Printer, and select the printer that you want.
- To make page setup changes, including changing page orientation, paper size, and page margins, select the options that you want under Settings.
- To scale the entire worksheet to fit on a single printed page, under Settings, click the option that you want in the scale options drop-down box.
- To print the specific information, select Print Active Sheets or Print Entire Workbook



5. Click Print.

Help

If you need additional assistance when completing your document you can use the help feature.

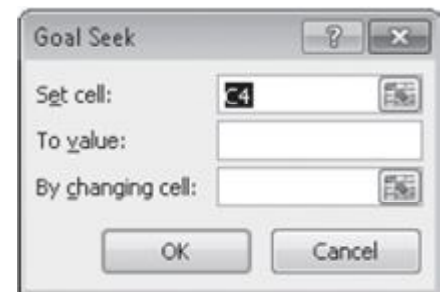
1. Click on the blue circle with the white question mark  command
2. A **Help** box will appear.
3. Click in the **Search Help** textbox and type what you need help with
4. Click the magnifying glass next to the text box and the possible solutions will appear.

Goal Seek

To use Goal Seek, you display the Data tab and then, in the Data Tools group, click What-If-Analysis. On the menu that is displayed, click Goal Seek to open the Goal Seek dialog box.

In the dialog box, you identify the cell with the target value; in this example, it is cell C4, which has the percentage of costs accounted for by the Labor category. The To Value field has the target value (.2, which is equivalent to 20 percent), and the By Changing Cell field identifies the cell with the value Excel should change to generate the target value of 20 percent in cell C4. In this example, the cell to be changed is C3. Clicking OK tells Excel to find a solution for the goal you set. When Excel finishes its work, the new values appear in the designated cells, and the Goal Seek Status dialog box opens.

Goal Seek finds the closest solution it can without exceeding the target value. In this case, the closest percentage it could find was 19.97 percent. In this exercise, you'll use Goal



	Labor	Transportation	Taxes	Facilities	Total
Cost	\$13,224,031.93	\$83,000,000.00	\$ 7,000,000.00	\$ 15,000,000.00	\$ 107,224,031.93
Share	19.97%	45.92%	9.18%	24.93%	

Goal Seek Status

Goal Seeking with Cell C4
found a solution.

Target value: 0.2
Current value: 19.97%

OK Cancel

Seek to determine how much you need to decrease transportation costs so those costs make up no more than 40 percent of Consolidated Messenger's operating costs.

1. On the **Data** tab, in the **Data Tools** group, click **What-If Analysis** and then, in the list, click **Goal Seek**.

The Goal Seek dialog box opens.

2. In the **Set cell** field, type **D4**.
3. In the **To value** field, type **.4**.
4. In the **By changing cell** field, type **D3**.
5. Click **OK**.

Excel displays the solution in both the worksheet and the Goal Seek Status dialog box.

Cost	Labor	Transportation	Taxes	Facilities	Total
Share	\$ 18,000,302.00	\$ 29,336,849.65	\$ 7,000,000.00	\$ 15,000,000.00	\$ 73,337,231.65
	24.54%	40.00%	9.54%	25.91%	

Goal Seek Status

Goal Seeking with Cell D4
Found a solution.

Target value: 0.4
Current value: 40.00%

OK Cancel

6. Click **Cancel**.

Excel closes the Goal Seek Status dialog box without saving the new worksheet values.

Solver

Goal Seek is a great tool for finding out how much you need to change a single input value to generate a desired result from a formula, but it's of no help if you want to find the best mix of several input values. For example, marketing vice president Craig Dewar might want to advertise in four national magazines to drive customers to Consolidated Messenger's Web site, but he might not know the best mix of ads to reach the greatest number of readers. He asked the publishers for ad pricing and readership numbers, which he recorded in a spreadsheet, along with the minimum number of ads per publication (three) and the minimum number of times he wants the ad to be seen (10,000,000).

If you performed a complete installation when you installed Excel on your computer, you see the Solver button on the Data tab in the Analysis group. If not, you need to install the Solver Add-In. To do so, click the File tab, and then click Options. In the Excel Options dialog box, click Add-Ins to display the Add-Ins page. At the bottom of the dialog box, in the Manage list, click Excel Add-Ins, and then click Go to display the Add-Ins dialog box. Select the Solver Add-in check box and click OK to install Solver.

After the installation is complete, Solver appears on the Data tab, in the Analysis group. Clicking Solver displays the Solver Parameters dialog box.

Magazine	Cost per Ad	Readers	Number of Ads	Total Cost	Audience
Mag1	\$ 30,000.00	100,000	8	\$ 240,000.00	800,000
Mag2	\$ 40,000.00	400,000	8	\$ 320,000.00	3,200,000
Mag3	\$ 27,000.00	350,000	8	\$ 216,000.00	2,800,000
Mag4	\$ 80,000.00	200,000	10	\$ 800,000.00	2,000,000
Totals				\$ 1,576,000.00	8,800,000

Constraints	
Total Budget	\$ 3,000,000.00
Minimum Audience	10,000,000
Minimum Ads for Magazines 1 through 3	8
Minimum Ads for Magazine 4	10
Maximum Ads in Any Magazine	20

Solver Parameters

Set Objective:

To: Max Min Value Of:

By Changing Variable Cells:

Subject to the Constraints:

Make Unconstrained Variables Non-Negative

Select a Solving Method:

Solving Method
Select the GRG Nonlinear engine for Solver Problems that are smooth nonlinear. Select the LP Simplex engine for linear Solver Problems, and select the Evolutionary engine for Solver problems that are non-smooth.

The first step of setting up your Solver problem is to identify the cell that contains the summary formula you want to establish as your objective. To identify that cell, click in the Set Objective box, click the target cell in the worksheet, and then select the option representing whether you want to minimize the cell's value, maximize the cell's value, or make the cell take on a specific value. Next, you click in the By Changing Variable Cells box and select the cells Solver should vary to change the value in the objective cell. Finally, you can create constraints that will set the limits for the values Solver can use. To do so, click Add to open the Add Constraint dialog box.

You add constraints to the Solver problem by selecting the cells to which you want to apply the constraint, selecting the comparison operation (such as less than or equal to, greater than or equal to, or must be an integer), and clicking in the Constraint box to select the cell with the value of the constraint. You could also type a value in the Constraint box, but referring to a cell makes it possible for you to change the constraint later without opening Solver.

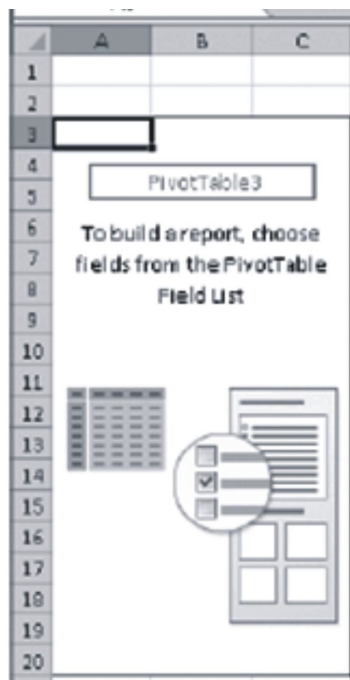
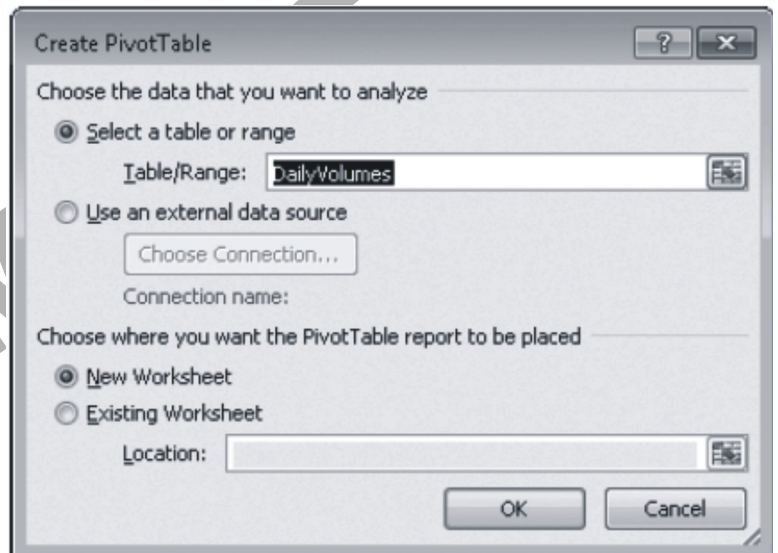
In this exercise, you'll use Solver to determine the best mix of ads given the following constraints:

- You want to maximize the number of people who see the ads.
- You must buy at least 8 ads in 3 magazines and at least 10 in the fourth.
- You can't buy part of an ad (that is, all numbers must be integers).
- You can buy no more than 20 ads in any one magazine.
- You must reach at least 10,000,000 people.
- Your ad budget is \$3,000,000.

PivotTables

With Excel worksheets you can gather and present important data, but the standard worksheet can't be changed from its original configuration easily. As an example, consider a worksheet that records monthly package volumes for each of nine distribution centers in the United States.

In this dialog box, you verify the data source for your PivotTable and whether you want to create a PivotTable on a new worksheet or an existing worksheet. After you click OK, Excel displays a new or existing worksheet and displays the PivotTable Field List task pane.



If the PivotTable Field List task pane isn't visible, you can display it by clicking any cell in the PivotTable to display the PivotTable Tools contextual tabs. On the Options contextual tab, in the Show/Hide group, click Field List.

To assign a field, or column of data, to an area of the PivotTable, drag the field header from the Choose Fields To Add To Report area at the top of the PivotTable Field List task pane to the Drag Fields Between Areas Below area at the bottom of the task pane. For example, if you drag the Volume field header to the Values area, the PivotTable displays the total of all entries in the Volume column.

Row Labels	Atlantic	Central	Midwest	Mountain West	North Central	Northeast	Northwest	Southeast
January	6042842	6006191	5729977	5872046	6288868	6370982	6108382	63967
February	3098663	2982222	3456904	2935951	3785068	3781469	4216668	48777
March	3210406	3167785	3846759	3265252	2929997	3725669	3640750	43872
April	3062529	2999248	3125231	3071049	2677853	3148289	292040	35834
May	3369808	3576763	3289768	3159233	3079267	3165070	3136144	35131
June	3269696	2973960	3935619	3069572	3040690	2996986	2649014	30696
July	3115294	3364482	2945492	3456376	3521947	3129821	3403395	31798
August	3237645	3191591	3441757	3371850	3166710	3217496	3400949	31692
September	3072723	2807222	3166599	2942925	2996901	3364149	3220056	29854
October	3261385	3362250	3333731	3182497	3129291	3346981	3789687	31367
November	6137174	6083906	6286556	6121929	6028826	6387815	6002983	62456
December	6279737	6546678	6399560	5880670	6099514	6462079	5768374	59816
Grand Total	47036182	47001715	46889767	46323490	46680590	48698285	48633950	5852160

To pivot a PivotTable, you drag a field header to a new position in the PivotTable Field List task pane. As you drag a field within the task pane, Excel displays a blue line in the interior of the target area so you know where the field will appear when you release the left mouse button. If your data set is large or if you based your PivotTable on a data collection on another computer, it might take some time for Excel to reorganize the PivotTable after a pivot. You can have Excel delay redrawing the PivotTable by selecting the Defer Layout Update check box in the lower-left corner of the PivotTable Field List task pane. When you're ready for Excel to display the reorganized PivotTable, click Update.

Macro

Instead of going through a lengthy series of steps to highlight the cells with the important information, you can create a macro, which is a recorded series of actions, to perform the steps for you. After you have created a macro, you can run, edit, or delete it as needed. In Excel, you run and edit macros by using the items available in the Macros group on the View tab. You can make your macros easier to access by creating new buttons on the Quick Access Toolbar, to which you can assign your macros.

Creating and Modifying Macros

The first step of creating a macro is to plan the process you want to automate. Computers today are quite fast, so adding an extra step that doesn't affect the outcome of a process doesn't slow you down noticeably, but leaving out a step means you will need to re-record your macro. After you plan your process, you can create a macro by clicking the View tab and then, in the Macros group, clicking the Macros arrow. In the list that appears, click Record Macro. When you do, the Record Macro dialog box opens.

After you type the name of your macro in the Macro Name box, click OK. You can now perform the actions you want Excel to repeat later; when you're done, in the Macros list, click Stop Recording to add your macro to the list of macros available in your workbook.

To modify an existing macro, you can simply delete the macro and re-record it. Or if you just need to make a quick change, you can open it in the Visual Basic Editor and add to or change the macro's instructions. To delete a macro, open the Macro dialog box, click the macro you want to delete, and then click Delete.

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2. Microsoft Excel 2010 Tutorial Created By: Amy Beauchemin, Source: office.microsoft.com
3. MS Excel 2010 Step by step by Curtis D. Frye
4. MrExcel LIBRARY by Paul McFedries
5. Microsoft® Excel 2010 Training Instructor: Debbie Minnerly