

# Essential Fundamentals of EXCEL 2010

*Bravo! Employee Summer Institute 2011*

# Essential Fundamentals of EXCEL 2010

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## What is Excel?

Microsoft Excel is a spreadsheet program which allows one to enter numerical values or data into the rows or columns of a spreadsheet, and to use these numerical entries for such things as calculations, graphs, and statistical analysis. Excel is a **spreadsheet program** that allows you to store, organize, and analyze information. .

## The Ribbon

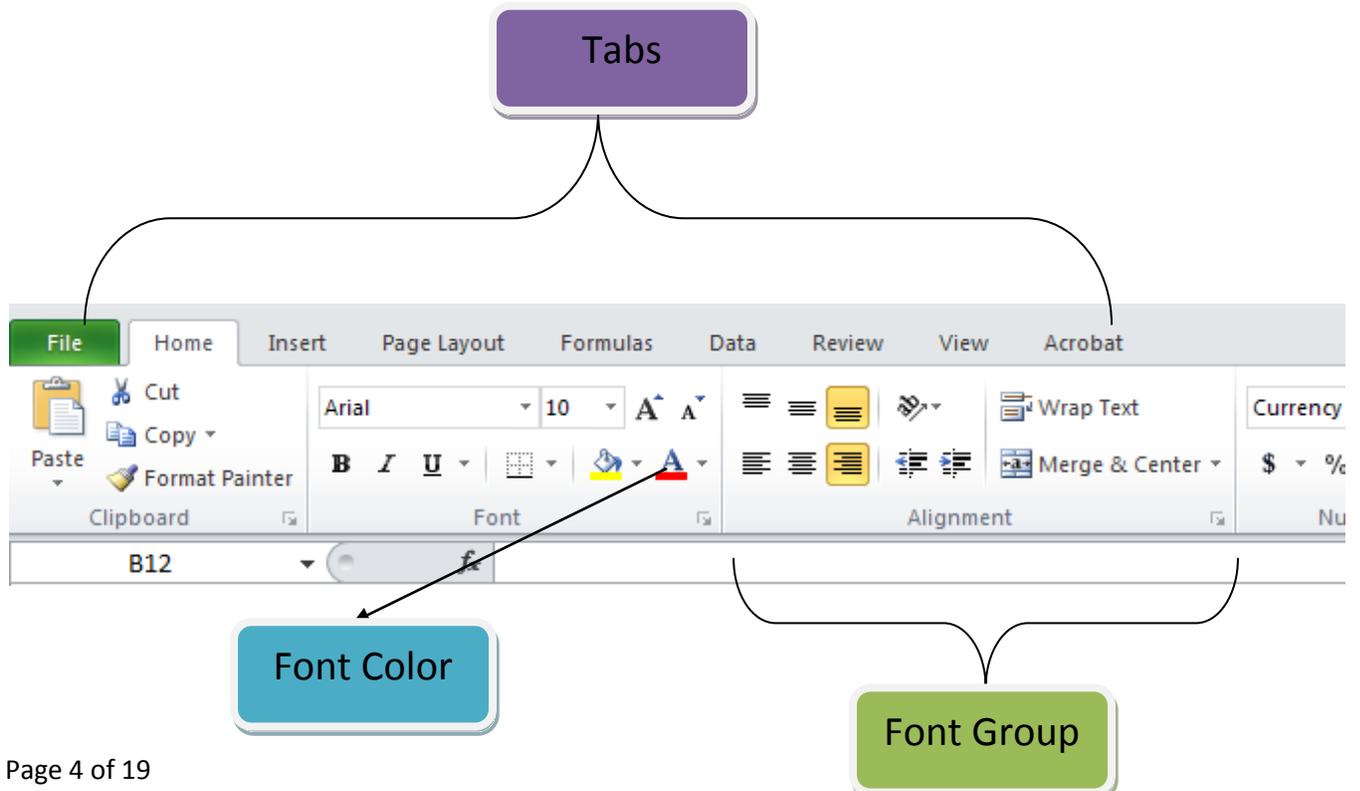
A panel that contains the command buttons and icons, organized into a set of tabs. For example: Home tab, Insert tab, Page Layout tab etc. The entire block that stretches from the upper-left side to the upper-right side of the application is called the Ribbon. The Ribbon is a unique interface component that comprises several task-specific commands grouped under various commands. The Ribbon provides the ability to identify desired functions and to perform both simple and advanced operations without having to navigate extensively.

### Advantages of using the Ribbon

The Ribbon makes the features of Excel easily accessible. The distinct presentation of the commands on the Ribbon greatly enhances your navigation of the application. Additionally, the Microsoft Office Excel Help button available on the Ribbon provides instant access to Excel's help system, allowing you to easily search for information and guidance.

### The Ribbon

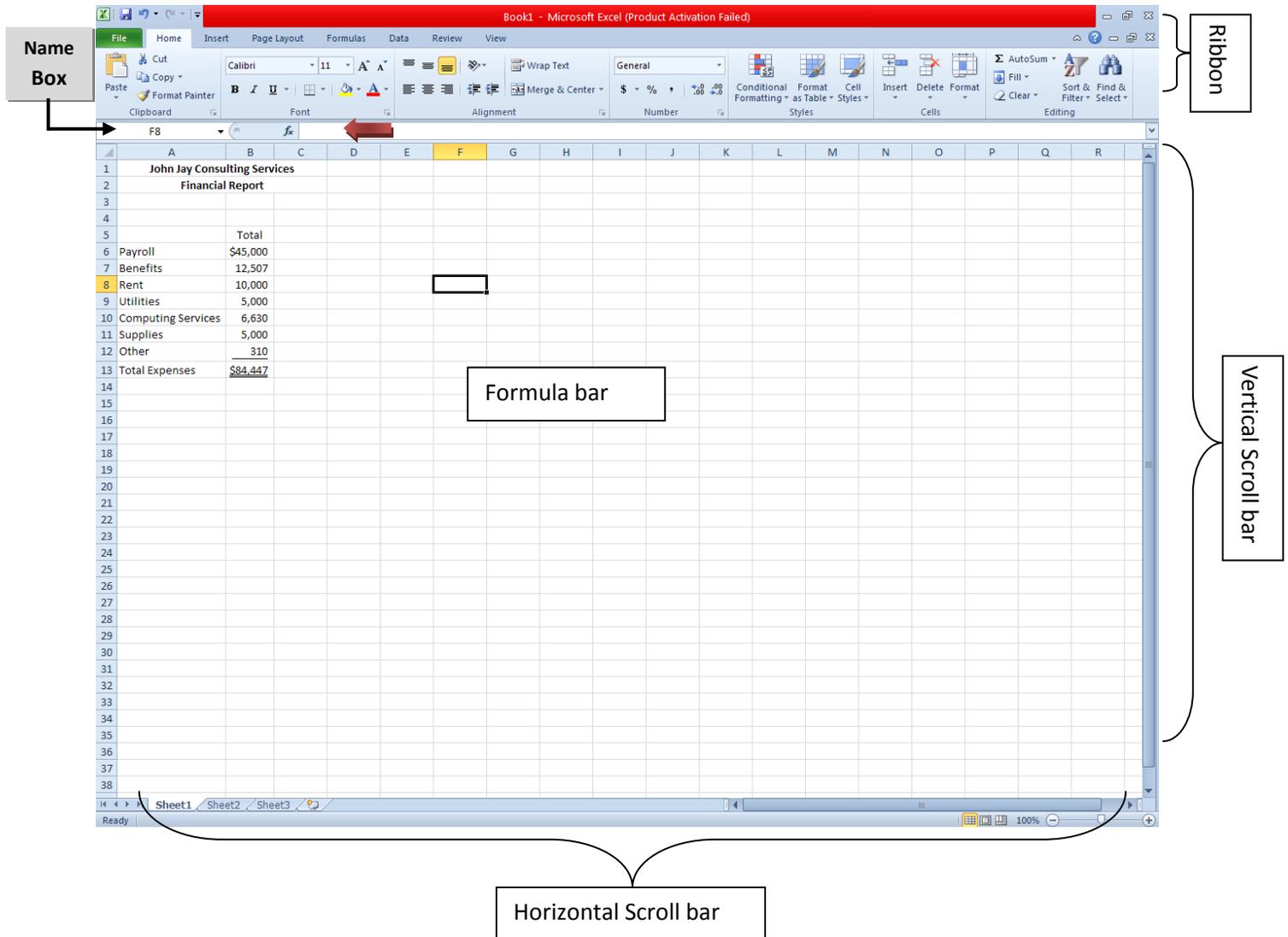
The Ribbon contains multiple tabs, each with several groups of commands. You can add your own tabs that contain your favorite commands.



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**Formula Bar:** A bar that contains the Name Box, the Formula Box and the Insert Function button. The Name Box displays the name of the currently selected cell in a spreadsheet. The Formula Box displays the contents of the currently selected cell in a spreadsheet and allows you to type the formula or function required. The Insert Function button displays the options to insert a function.

**Name box:** Identifies the cell that is currently selected (i.e. A1 means that your cursor is in Cell A1)



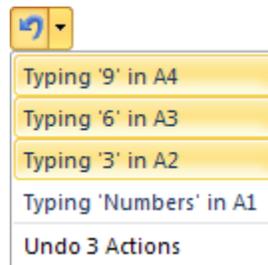
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## Undo/Redo

Undo feature, just in case you make a mistake. The Undo option is the left curved arrow, right at the top of your screen.



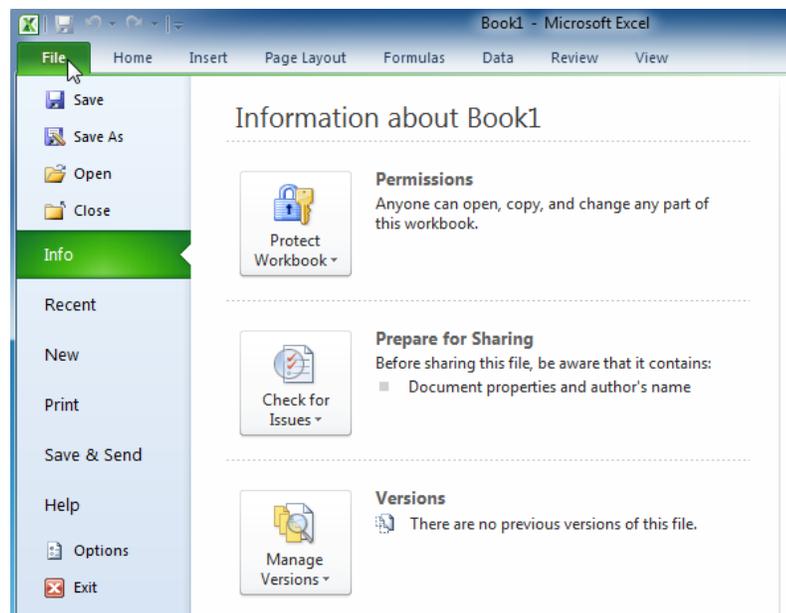
Click the left curved arrow to Undo something, and click the right curved arrow to redo it. The Undo arrow also a dropdown box. Click the small arrow next to Undo to see the following:



This list is for multiple Undo's. Move your mouse down the list and click to undo several steps at once.

## To Get to Backstage View:

On the Ribbon, click the File tab.



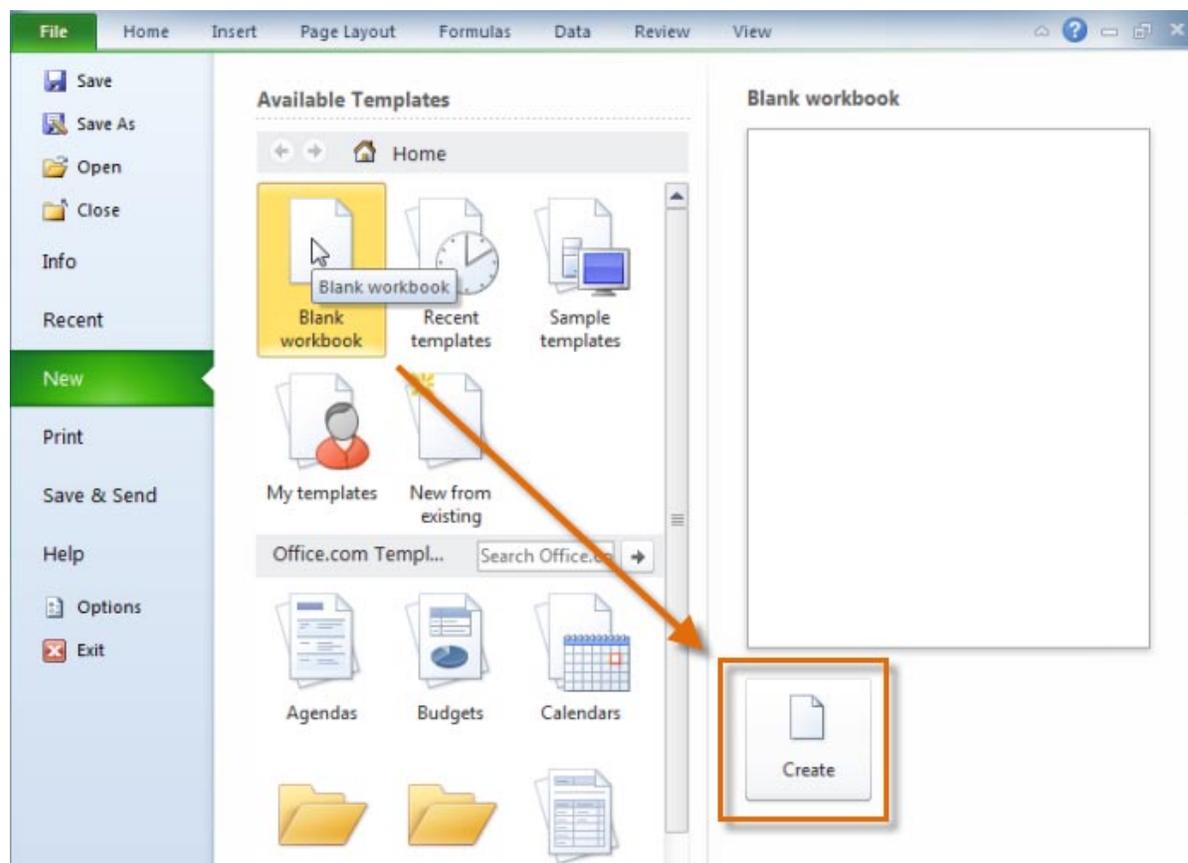
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## Creating and Opening Workbooks

Excel files are called **workbooks**. Each workbook holds one or more **worksheets** (also known as "spreadsheets").

To Create a New, Blank Workbook:

1. Click the **File** tab. This takes you to **Backstage view**.
2. Select **New**.
3. Select **Blank workbook** under **Available Templates**. It will be highlighted by default.
4. Click **Create**. A new, blank workbook appears in the Excel window.



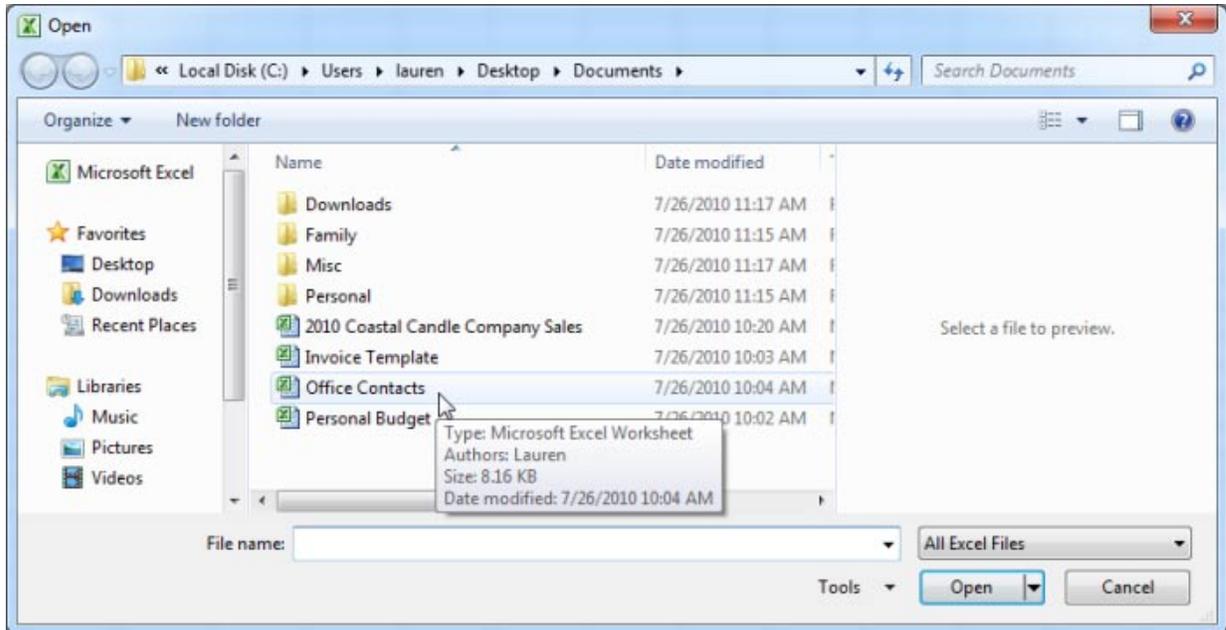
### *Creating a new workbook*

To save time, you can create your document from a **template**, which you can select under Available Templates..

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## To Open an Existing Workbook:

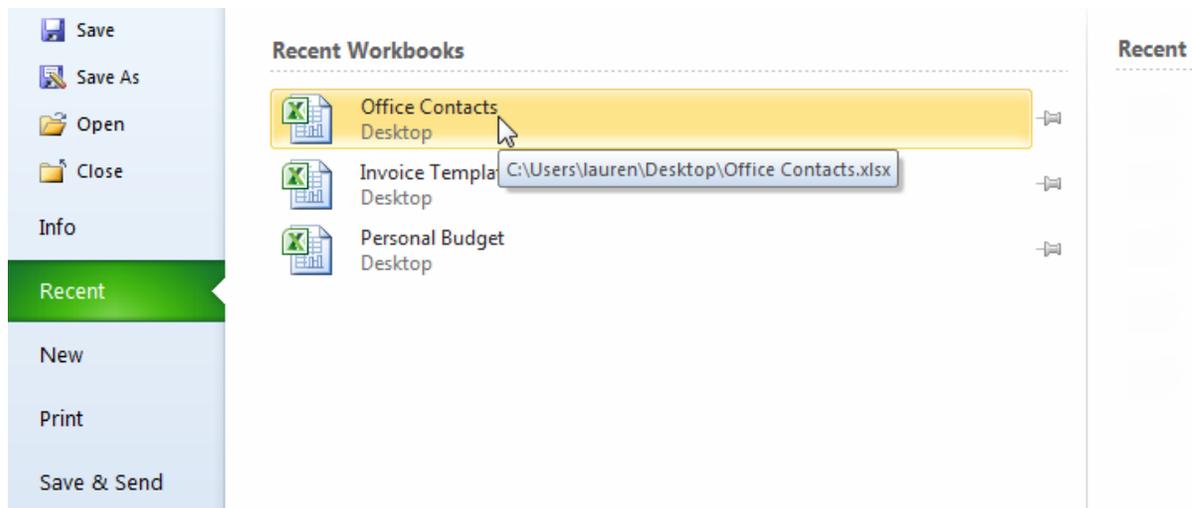
1. Click the **File** tab. This takes you to **Backstage view**.
2. Select **Open**. The Open dialog box appears.



### *Opening a workbook*

3. Select your desired workbook and then click **Open**.

If you have opened the existing workbook recently, it may be easier to choose **Recent** from the **File tab** instead of **Open** to search for your workbook.



### *Opening a recent workbook*

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## Introduction to Cells and Cell Content

Cells are the basic building blocks of a worksheet. Cells can contain a variety of content such as **text**, **formatting attributes**, **formulas**, and **functions**.

## Using the Keyboard to Navigate

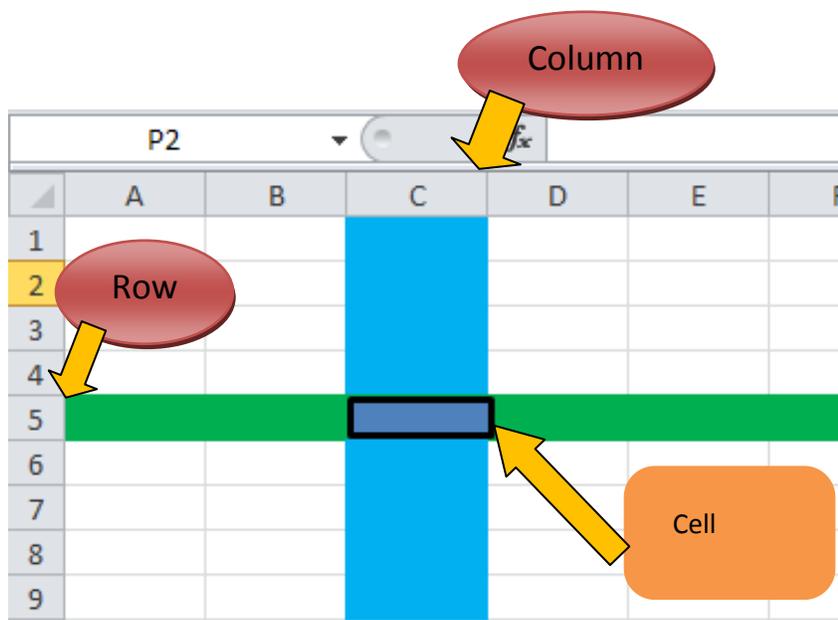
You can also use the keyboard to navigate to a specific cell, range of cells, or to the end of ranges in a worksheet.

To Move the Active Cell	Do This
One cell at a time to the left, right, up, or down.	Press the corresponding arrow keys.
To column A of the current row.	Press <b>Home</b> .
Down or up by one screen's worth of rows.	Press <b>Page Down</b> or <b>Page Up</b> .
To the right, one cell at a time.	Press <b>Tab</b> .
To the left, one cell at a time.	Press <b>Shift+Tab</b> .
To cell A1 in the active worksheet.	Press <b>Ctrl+Home</b> .
One screen to the left or right, respectively.	Press <b>Alt+Page Up</b> to go left. Press <b>Alt+Page Down</b> to go right.

## The Cell

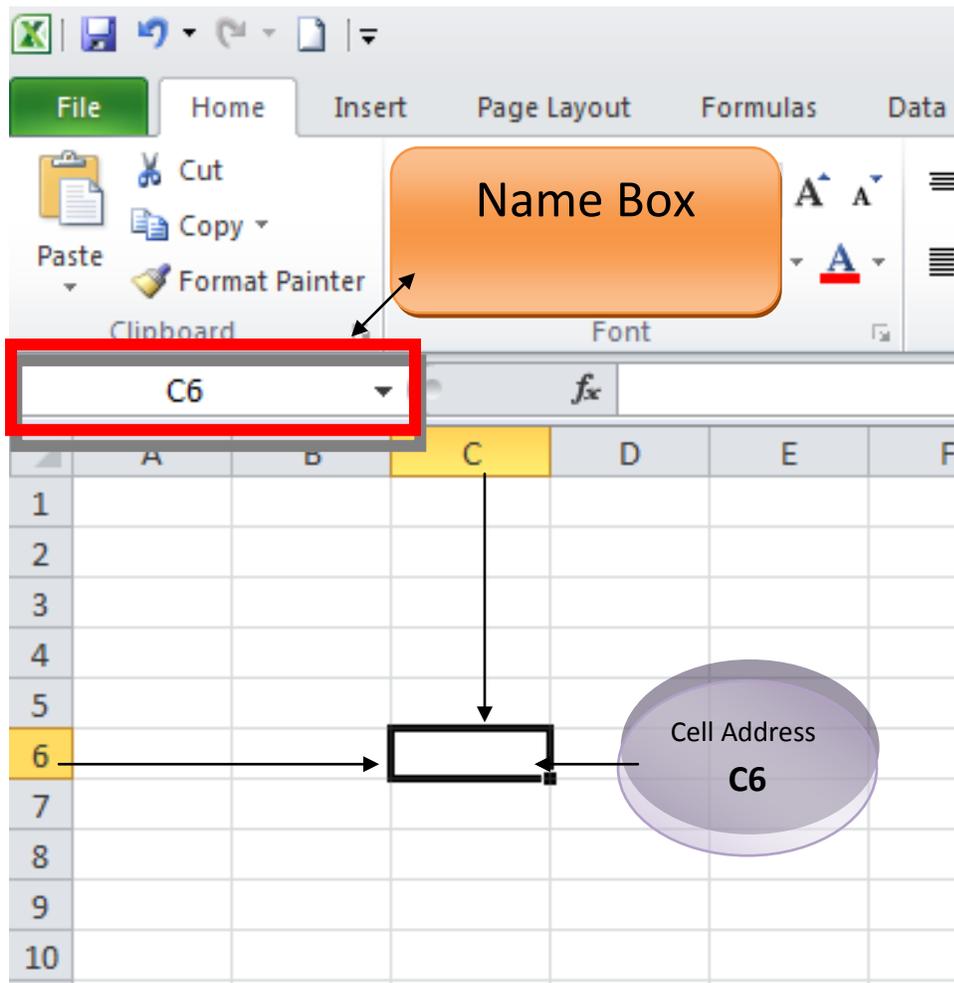
Each rectangle in a worksheet is called a **cell**. A cell is the intersection of a **row** and a **column**.

Each cell has a name, or a **cell address** based on which **column and row** it intersects. The **cell address** of a selected cell appears in the **Name box**. Here you can see that **C5** is selected.



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Row 5, Column C



## To Select a Cell

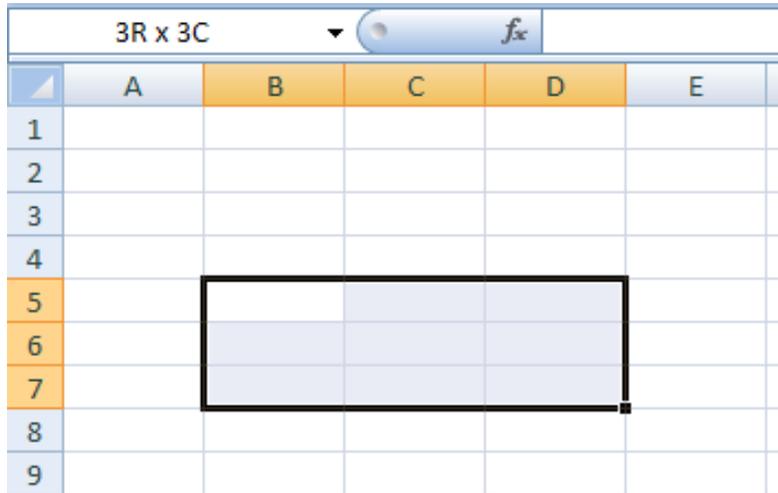
1. **Click on a cell**  to select it. When a cell is selected you will notice that the **borders** of the cell appear bold and the **column heading** and **row heading** of the cell are highlighted.
2. Release your mouse. The cell will stay selected until you click on another cell in the worksheet.

You can also navigate through your worksheet and select a cell by using the **arrow keys** on your keyboard.

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## To Select Multiple Cells

1. Click and drag your mouse until all of the adjoining cells you want are highlighted.



Selecting multiple cells - 3 Rows by 3 Columns

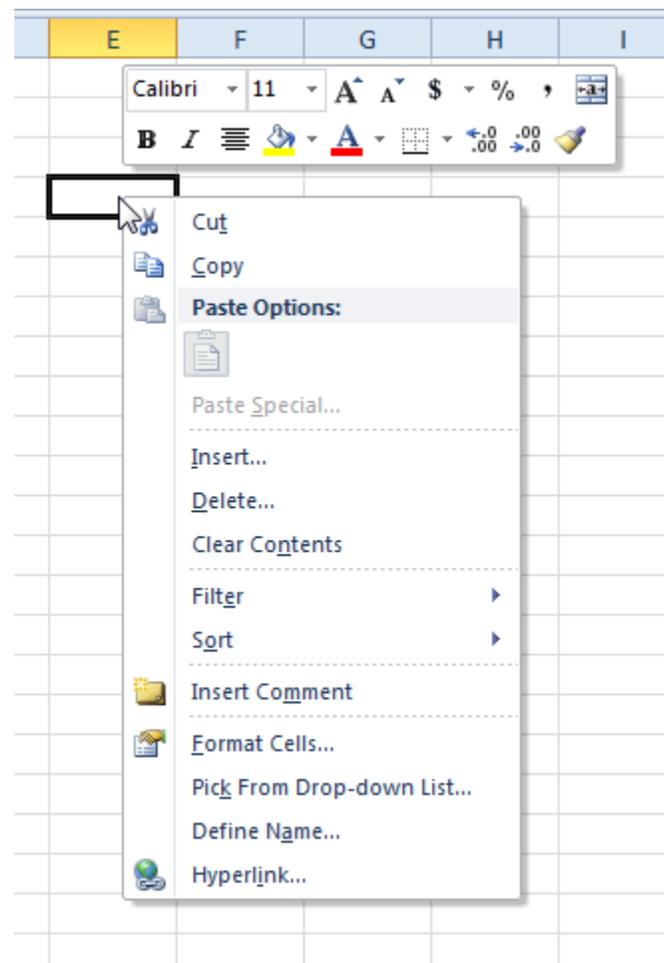
2. Release your mouse. The cells will stay selected until you click on another cell in the worksheet

## To Access Formatting Commands by Right-Clicking

Select the cells you want to format.

**Right-click** on the selected cells. A **dialog box** will appear where you can easily access many commands that are on the ribbon.

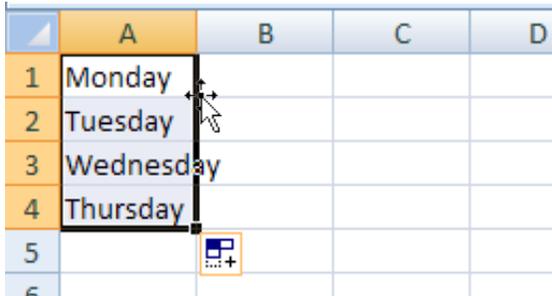
Right-clicking a selected cell



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## To Drag and Drop Cells:

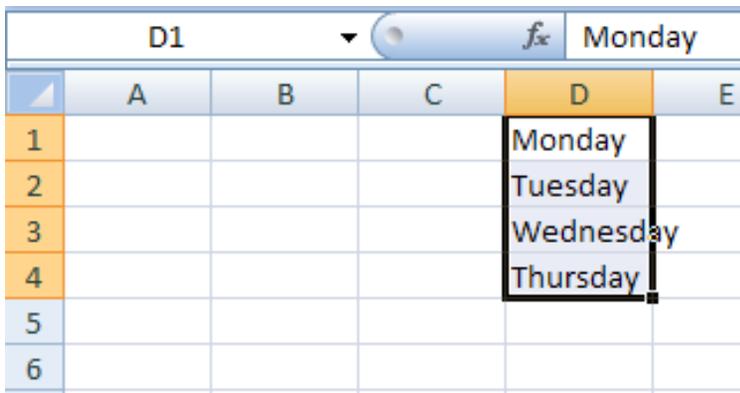
1. Select the cells that you wish to move.
2. Position your mouse on one of the outside edges of the selected cells. The mouse changes from a white cross  to a black cross with 4 arrows .



	A	B	C	D
1	Monday			
2	Tuesday			
3	Wednesday			
4	Thursday			
5				
6				

Positioning the mouse to drag and drop cells

3. Click and drag the cells to the new location.
4. Release your mouse and the cells will be dropped there.



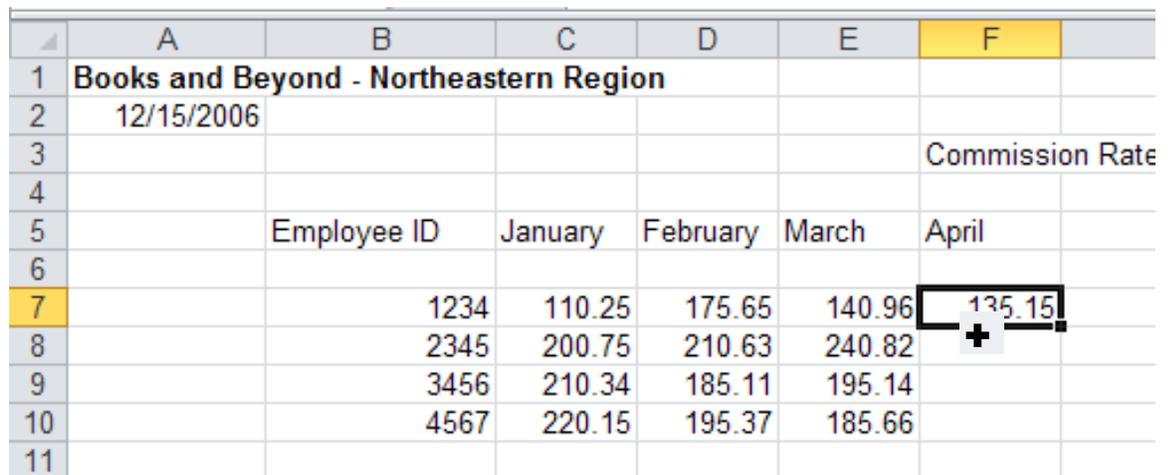
	A	B	C	D	E
1				Monday	
2				Tuesday	
3				Wednesday	
4				Thursday	
5					
6					

Dropped cells

## To Use the Fill Handle to Fill Cells:

Select the cell or cells containing the content you want to use. You can fill cell content either vertically or horizontally.

Position your mouse over the fill handle so that the white cross  becomes a black cross .



	A	B	C	D	E	F
1	<b>Books and Beyond - Northeastern Region</b>					
2	12/15/2006					
3						Commission Rate
4						
5	Employee ID		January	February	March	April
6						
7		1234	110.25	175.65	140.96	135.15
8		2345	200.75	210.63	240.82	
9		3456	210.34	185.11	195.14	
10		4567	220.15	195.37	185.66	
11						

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Positioning the mouse to use the fill handle

Click and drag the fill handle until all the cells you want to fill are highlighted.

Release the mouse and your cells will be filled.

	F7		$f_x$	135.15			
	A	B	C	D	E	F	G
1	<b>Books and Beyond - Northeastern Region</b>						
2	12/15/2006						
3						Commission Rate:	
4							
5		Employee ID	January	February	March	April	
6							
7		1234	110.25	175.65	140.96	135.15	
8		2345	200.75	210.63	240.82	135.15	
9		3456	210.34	185.11	195.14	135.15	
10		4567	220.15	195.37	185.66	135.15	
11							

Filled cells

## Order of Operations

Please Excuse My Dear Aunt Sally

Excel calculates formulas based on the following order:

- Operations enclosed in parentheses
- Exponential calculations (to the power of)
- Multiplication and division, whichever comes first
- Addition and Subtraction, whichever comes first

$$=4/(20-18)*2^2$$



Perform the operation in parenthesis first:  $(20-18) = 2$

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$$=4/2*2^2$$



Next calculation - the exponents:  $2^2=4$

$$=4/2*4$$



Division comes before multiplication in this example, so divided:  $4/2=2$

$$=2*4$$



The last operation is multiplication:  $2*4=8$

### Three types of basic data

In a spreadsheet there are three basic types of data that can be entered:

Labels - (text with no numerical value)

Constants - (just a number -- constant value)

Formulas - (a mathematical equation used to calculate)

data types	examples	descriptions
LABEL	Name or Wage or Days	anything that is just text
CONSTANT	5 or 3.75 or -7.4	any number
FORMULA	=5+3 or =8*5+3	math equation

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\*ALL formulas MUST begin with an equal sign (=).

Operands Operator	Name	How to type the sign	Alternative
+	Addition	Hold down the shift key and press the Plus sign (+) located next to the backspace	Press the Plus sign (+) located on the Num Lock keypad section.
–	Subtraction	Press the dash (hyphen “-”) key located next to the number zero.	Press the Minus sign (-) located on the Num Lock keypad section.
*	Multiplication	Hold down the shift key and press the number 8 key – the asterisk (*)	Press the asterisk (*) key on the Num Lock keypad
/	Division	Press the forward slash (/) located under the question mark (?)	Press the forward slash (/) key on the Num Lock keypad

## Naming Groups of Data

When working with large amount of data, it is often useful to identify groups of cells that contain related data. Instead of specifying the cells individually every time you want to use the data they contain, you can define those cells as a *range*. Whenever you want to use the contents of that range in a calculation, you can simply use the name of the range instead of specifying each cell individually.

### To create a Name Range:

1. Select the cells you want to include in your range.
2. Click the **Formulas** tab in the Ribbon, and then, in the **Define Names** group, click **Define Name** to display the **New Name** dialog box.
3. In the **New Name** dialog box, type a name in the **Name** field, verify that the cells you selected appear in the **Refers to** field, and then click OK.

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You can also add a comment about the field in the Comment field and select whether you want to make the name available for formulas in the entire workbook or just on an individual worksheet.

Another way to create a name range is to select the cells you want in the range, click in the **Name Box** next to the Formula bar, and then type the name for the range. You can display the ranges available in a workbook by clicking the **Name Box** down arrow.

To manage the named ranges in a workbook, display the **Formulas** tab on the **Ribbon** and then, in the **Define Names** group, click the **Name Manager** to display the **Name Manager** dialog box.

When you click a named range, Excel 2010 displays the cells it encompasses in the **Refers to** field. Clicking the **Edit** button displays the **Edit Name** dialog box, which is a version of the **New Name** dialog box, enabling you to change a named range's definition. You can also get rid of a name by clicking it, clicking the **Delete** button, and then clicking **OK** in the confirmation dialog box that appears.

You can also use the names of any ranges you defined to supply values for a formula. For example, if the named range *NortheastLastDay* refers to cells C4:H4, you can calculate the average of cells C4:H4 with the formula `=AVERAGE(NortheastLastDay)`.

### If you want to delete a row or a column:

1. Right-click the row or column head and click **Delete**.
2. You can temporarily hide a number of rows or columns by selecting these rows or columns and then, on the **Home** tab, in the **Cells** group, clicking the **Format** button, pointing to **Hide & Unhide**, and then clicking either **Hide Rows** or **Hide Columns**. The rows or columns you selected disappear, but they aren't gone for good, as they would be if you used **Delete**. Instead they have been removed from display until you call them back.
3. To return the hidden rows to the display, on the **Home** tab, in the **Cells** group, click the **Format** button, point to **Hide & Unhide**, and then click either **Unhide Rows** or **Unhide Columns**.

### The same way, you can insert individual cells into a worksheet.

1. To insert a cell, click the cell that is currently in the position where you want the new cell to appear.
2. On the **Home** tab, in the **Cells** group, click the **Insert** button down arrow and then click **Insert Cells** to display the **Insert** dialog box.  
In the **Insert** dialog box, you can choose whether to shift the cells surrounding the inserted cell down (if your data is arranged as a column) or to the right (if your data is arranged as a row). When you click **OK**, the new cell appears, and the content of affected cells shift down or to the right, as appropriate.

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3. In a similar way, if you want to delete a block of cells, select the cells, and on the **Home** tab, in the **Cells** group, click the **Delete** button down arrow and then click **Delete Cells** to display the **Delete** dialog box—complete with option buttons that enable you to choose how to shift the position of the cells around the deleted cells.

### If you want to move the data in a group of cells to another location in your worksheet:

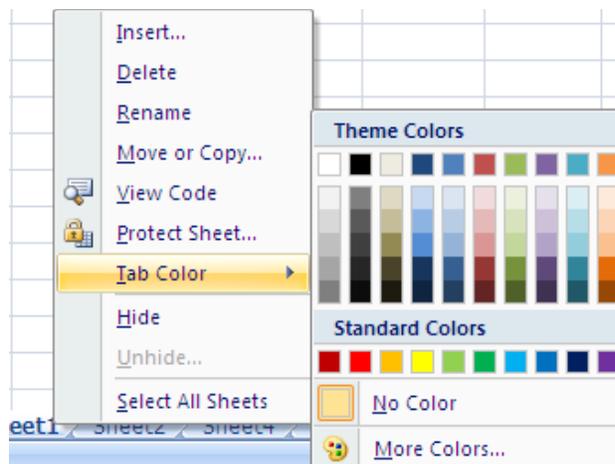
1. Select the cells you want to move and position your mouse pointer on the selection's border.
2. When the mouse pointer changes to a four-headed arrow, you can drag the selected cells to the desired location on the worksheet.

If the destination cells contain data, Excel 2010 displays a dialog box asking if you want to overwrite the destination cells' content. If you want to replace the existing values, click the OK button. If you don't want to overwrite the existing values, click the Cancel button and insert the required number of cells to accommodate the data you want to move.

### Color the Sheet tabs

Coloring worksheet tabs can make specific worksheets easier to locate within a large workbook.

Right click the appropriate **Sheet** tab, select **Tab Color**, and then select the desired color.



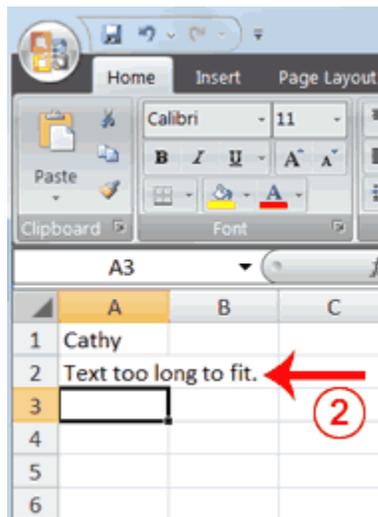
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## Wrap Text

When you type text that is too long to fit in the cell, the text overlaps the next cell. If you do not want it to overlap the next cell, you can wrap the text.

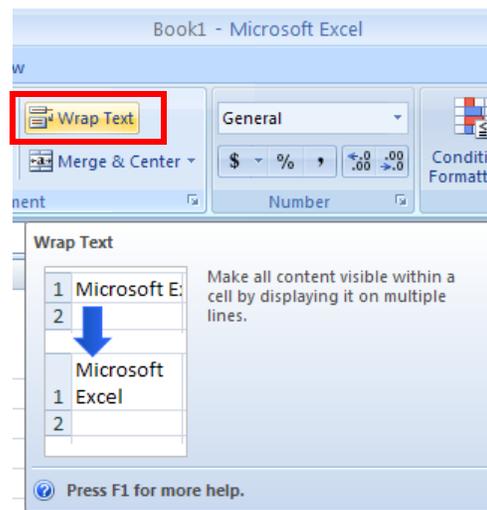
For example:

1. In cell A2.
2. Type **Text too long to fit.**
3. Press Enter.



4. Click on cell A2.
5. Choose the Home tab.
6. Click the Wrap Text button

Excel wraps the text in the cell.



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## Grouping/Ungrouping Sheets in Excel 2010

Grouping sheets in Excel refers to selection of several sheets within a workbook to work with them as a set. This feature helps the user save considerable time when the same information will be added to different worksheets in a workbook. By grouping the sheets together, the data would have to be typed only on one of the sheets to have them appear in the same locations on the other grouped sheets.

A group of sheets can be created in a workbook by simply selecting the desired sheets with the mouse. The title bar is changed to display the word "Group" when more than one sheet is selected.

Follow the steps below to select a group of worksheets:

1. Click on the tab of the first sheet to be selected.
- 2.



Figure 1: Ungrouped Sheets

3. Press and hold **Shift**.
4. Click on the last sheet tab to be included in the group.
5. You will notice that Sheet tabs will change color.



Figure 2: Grouped Sheets

To select non-adjacent or non-consecutive sheets, press and hold **Ctrl** while clicking on the desired sheet tabs.

To select all sheets in a workbook, click on any sheet tab using the alternate mouse button, and then choose Select All Sheets from the shortcut menu.