



Microsoft Excel 2010





What is Microsoft Excel?

Excel is a powerful spreadsheet program that allows users to organize data, complete calculations, make decision, graph data and develop professional-looking reports.



Excel file Extension is .xlsx



- Click on the **Start** button, and then click **All Programs**.
- Click on **Microsoft Office** and click on **Microsoft Excel 2010**.





Main Menu

Office Environment in Excel

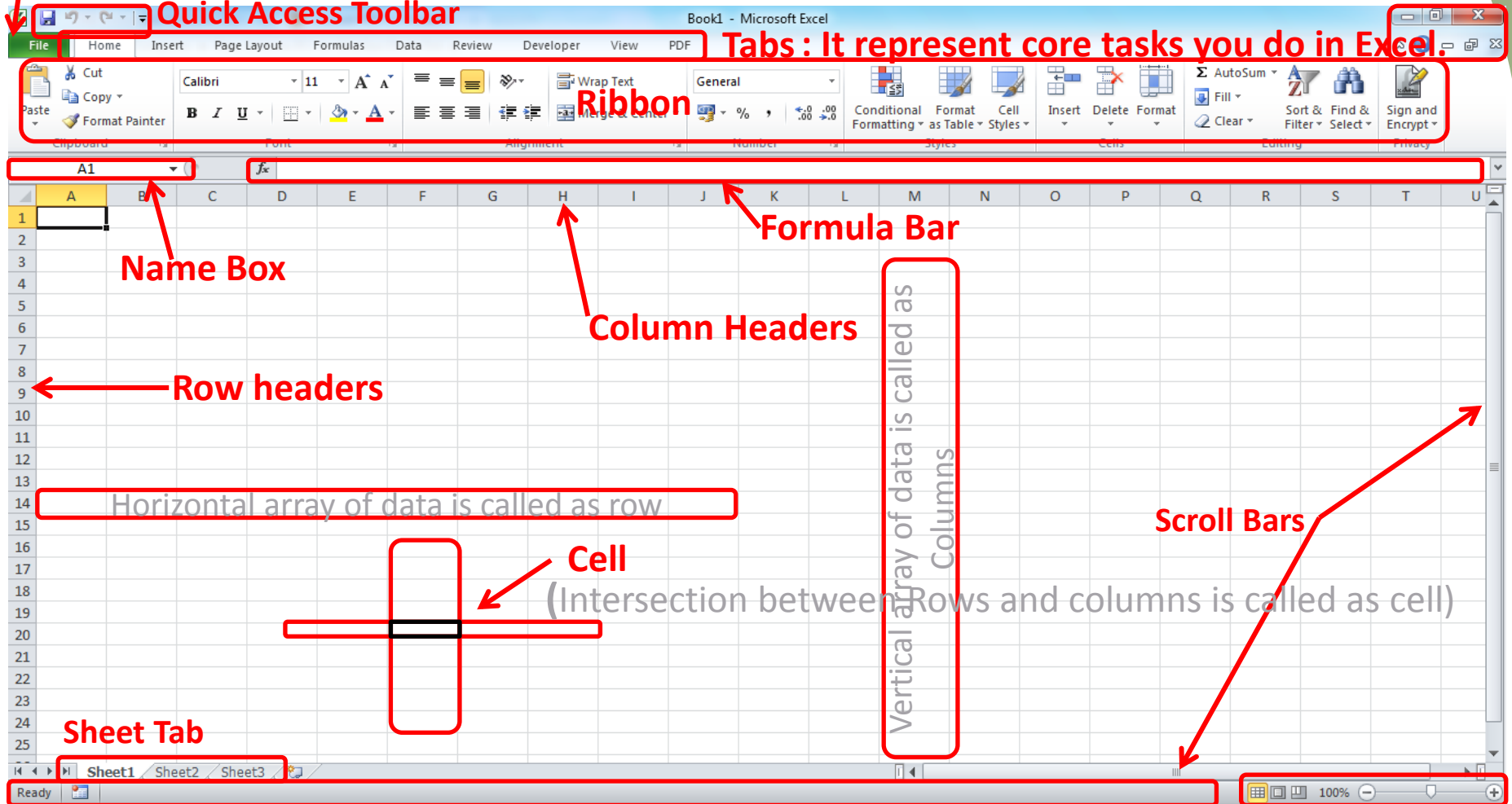
Window controls and help

Quick Access Toolbar

Book1 - Microsoft Excel

Tabs: It represent core tasks you do in Excel.

Ribbon



Name Box

Formula Bar

Column Headers

Row headers

Horizontal array of data is called as row

Vertical array of data is called as Columns

Cell

(Intersection between Rows and columns is called as cell)

Scroll Bars

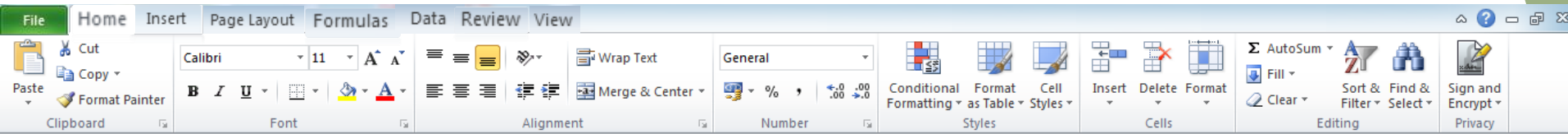
Sheet Tab

Status Bar

View options and Zoom control



Excel 2010 Tabs

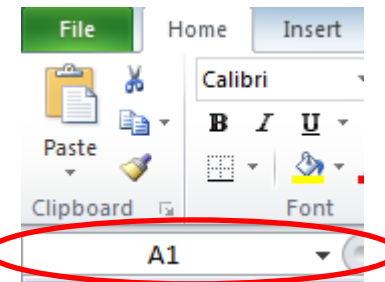


- **File** - Managing files
- **Home** - Common tools
- **Insert** - Insert objects
- **Page Layout** - Printing
- **Formulas** – Functions in categories
- **Data** - Working with data
- **Review** - Spelling, Protecting, Sharing
- **View** - How Excel appears on screen
(Does not affect printing)



Excel 2010 information

- ❖ Available Columns:
A - XFD → 16,384 columns
- ❖ Available Rows:
1 - 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.
- ❖ There are more than 334 formulas divided in 11 category.





Complex formulas defined

- Simple formulas have **one** mathematical operation. **Complex formulas** involve **more than one** mathematical operation.
- **Simple formula:** $=2+2$
Complex formula: $=2+2*8$
- To calculate complex formulas correctly, you must perform certain operations before others. This is defined in the **order of operations**.



The order of operations

- The order of mathematical operations is important. If you enter a formula that contains several operations, Excel knows to work those operations in a specific order. The **order of operations** is:
 - Operations enclosed in parenthesis
 - Exponential calculations (to the power of)
 - Multiplication and division, whichever comes first
 - Addition and subtraction, whichever comes first
- Its referred as PEMDAS
- To remember this is
 - **Please Excuse My Dear Aunt Sally** (P.E.M.D.A.S).



The order of operations

Example :1

Using this order, let's see how the formula $20/(8-4)*8-2$ is calculated in the following breakdown:

$$20/(8-4)*8-2$$



Perform the operations in parentheses first: $8-4=4$

Formula becomes

$$20/4*8-2$$



Because the division comes before the multiplication, divide $20/4=5$

Formula becomes

$$5*8-2$$



Next the multiplication takes place before the subtraction: $5*8=40$

Formula becomes

$$40-2$$



Finally, $40-2=38$

The final answer is 38



The order of operations

<u>P</u> lease	<u>E</u> xcuse	<u>M</u> y <u>D</u> ear	<u>A</u> unt <u>S</u> ally
<u>P</u> arentheses	<u>E</u> xponents	<u>M</u> ultiply or <u>D</u> ivide	<u>A</u> dd or <u>S</u> ubtract
Operations inside of parentheses () are done first	Exponential calculations are second , like 5^{3rd}	Multiplication and Division are done third	Addition and subtraction are done last



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 (Insert sheet : shift F11)
 - ❖ 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.



Rows and Columns

Following actions can be done on rows and columns:

1. Insert / Delete (ctrl shift + + / ctrl -)
2. Hide / Unhide :Rows - (ctrl 9/ ctrl shift 9) Columns – (ctrl 0 / ctrl shift 0)
3. Adjust Column Width / Row Height
4. Fill Colour
5. Border



Spreadsheet Terminology

Workbooks are like notebooks containing a collection of worksheets.

Worksheets individual sheets organized into a rectangular grid of vertical columns and horizontal rows within a workbook .

Sheet Tabs display the sheet name at the bottom of a workbook.

Cell the intersection of a row and column, is a basic unit of a worksheet in which you enter data.

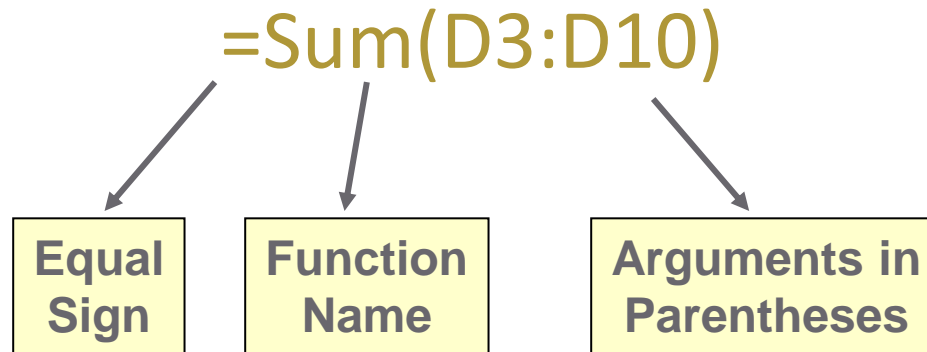
Range is a series of 2 or more adjacent cells.

Gridlines the horizontal and vertical lines on a worksheet.



Functions-Prewritten Formulas

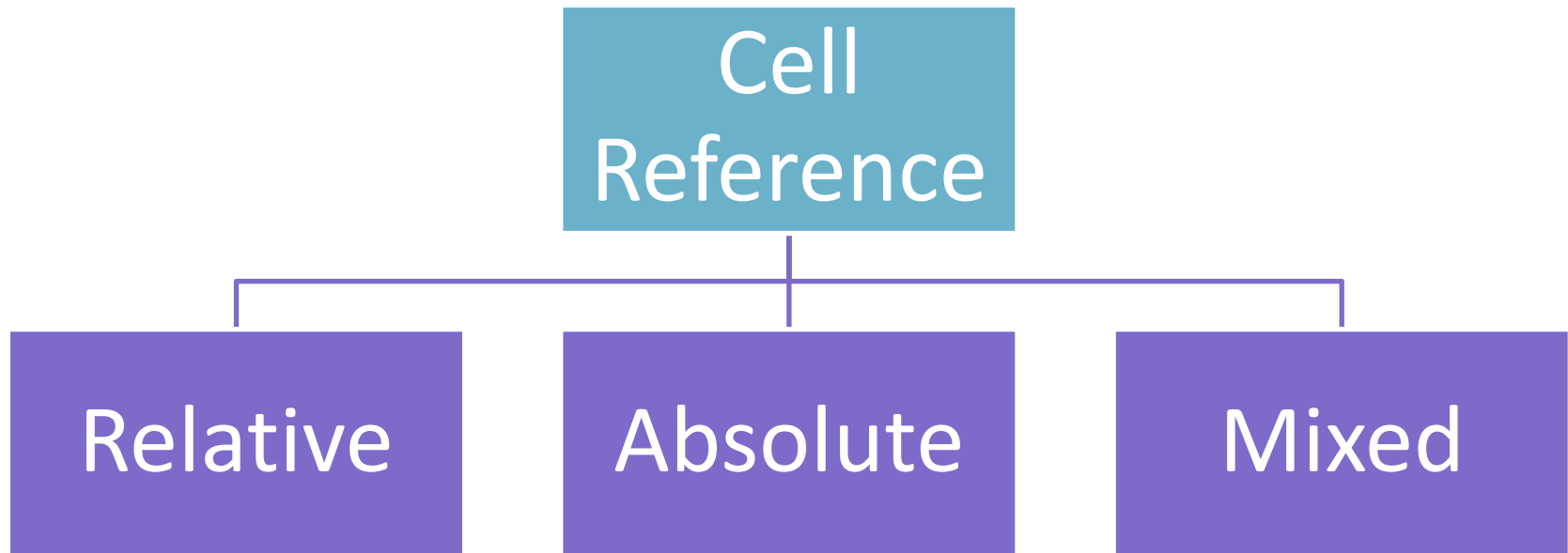
- A **Function** takes a value or values, computes a statistic, and returns a result to a cell.
- All functions start with an equal sign, and include **Arguments** in parentheses after the function name.





Cell References

- Usage of cell address in formula is referred as cell referencing





Relative ,Absolute and Mixed Cell Referencing

- **Relative cell reference** : It is when we drag the cell and the address changes accordingly in the formula.

E.g. C4 – C5 - C6 etc.

- **Absolute cell reference**: It is used when we want the value to be constant while we drag the formula.




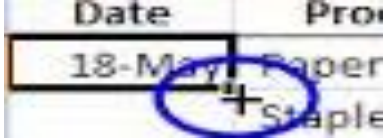



E.g. \$C\$4

- **Mixed Cell Reference**: It is the combination of absolute and relative cell reference in a formula

E.g. – C\$4 and \$C4

Mouse Pointers in Excel



	Used for selecting cells
	The I-beam - indicates that you may type text in this area.
	The fill handle - used for copying formula or extending a data series. 
	Used to select a whole row/column when positioned on the row number or column letter.
	Appears at the border of the column letters. Drag to widen or narrow the width of a column.
	Appears at the border between the row numbers. Drag to increase or decrease the height of a row.

Error Values in Excel



Error Value	Meaning	Causes
#DIV/0	Division by zero	The division operation in your formula refers to a cell that contains the value 0 or is <i>blank</i> .
#N/A	No value available	Technically, this is not an error value but a special value that you can manually enter into a cell to indicate that you don't yet have a necessary value.
#NAME?	Excel doesn't recognize a name	This error value appears when you incorrectly type the range name, refer to a deleted range name, or forget to put quotation marks around a text string in a formula.
#NULL!	You specified an intersection of two cell ranges whose cells don't actually intersect	Because a space indicates an intersection, this error will occur if you insert a space instead of a comma (the union operator) between ranges used in function arguments.
#NUM!	Problem with a number in the formula	This error can be caused by an invalid argument in an Excel function or a formula that produces a number too large or too small to be represented in the worksheet.
#REF!	Invalid cell reference	This error occurs when you delete a cell referred to in the formula or if you paste cells over the ones referred to in the formula.
#VALUE!	Wrong type of argument in a function or wrong type of operator	This error is most often the result of specifying a mathematical operation with one or more cells that contain text.



Backstage View

The File menu in Excel 2010 opens what is known as Backstage view. This is where you can manage your files (open, save, print, find info, etc.) and set program options (formerly accessed through Tool/Options).



Creating a new Workbook

- ❖ When you start Excel, you'll see a new blank workbook (Book1). You can begin typing in that workbook or choose to create a new workbook.
- ❖ To create a new workbook, go to File/New then click Create (under Blank workbook on right side of screen)

