Excel 2013

University of Mosul

College of Nursing **Second year**

Microsoft Excel 2013: Is a spreadsheet program that allows you to store, organize, and analyze information. They are also used for scientific calculations, data manipulation and for producing graphs. Files produced in Excel 2013 have the file extension ".xlsx".

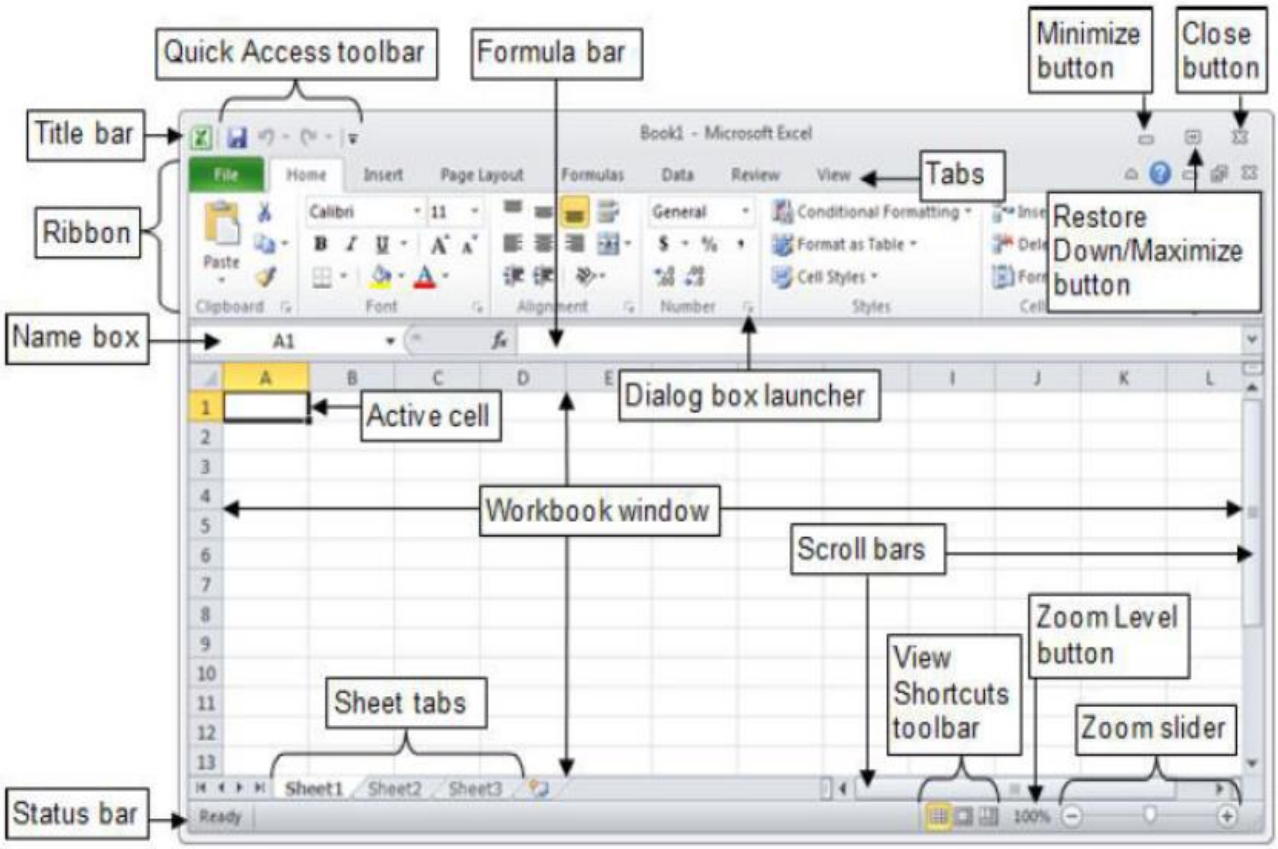
Starting Excel 2013:

Start >> All Programs >> Microsoft Office 2013 >> Excel 2013. The Excel 2013 program screen appears.

The Excel Interface:

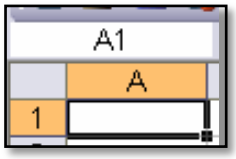
Excel files are called workbooks, and they can contain multiple worksheets.
A Workbook: automatically shows in the workspace when you open Microsoft Excel 2013. Each workbook contains three worksheets.

A worksheet: Excel worksheet is a grid of cells arranged into vertical columns and horizontal rows. Columns are identified by letters and rows are identified by numbers. Excel contains 16384 columns and 1048576 rows.



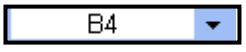
Excel 2013 Interface

Cell: The place where a row and column meet. A cell is referred to by its address, which is the column letter followed by the row number, e.g. A1, B5, Q37.Text, numbers, date and mathematical formulas can be entered into cells.



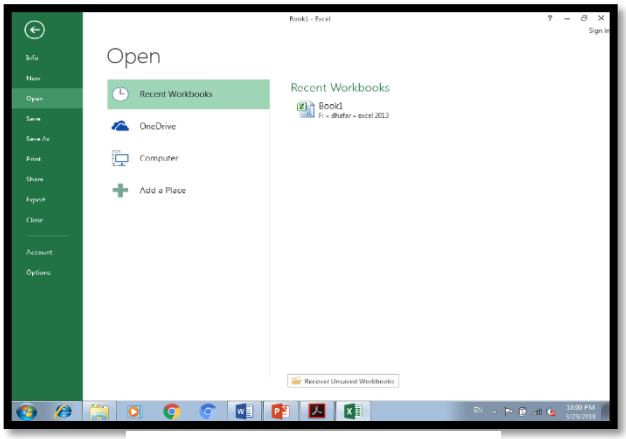
Note: the selected cell is called Active Cell

Name Box (active cell): Shows the address of the current selection or active cell.



Formula Bar: Displays information entered-or being entered as you type-in the current or active cell. The contents of a cell can also be edited in the Formula bar.

File tab: the menu contains the commands as Open, Save, Save as, Print, Close, Exit.



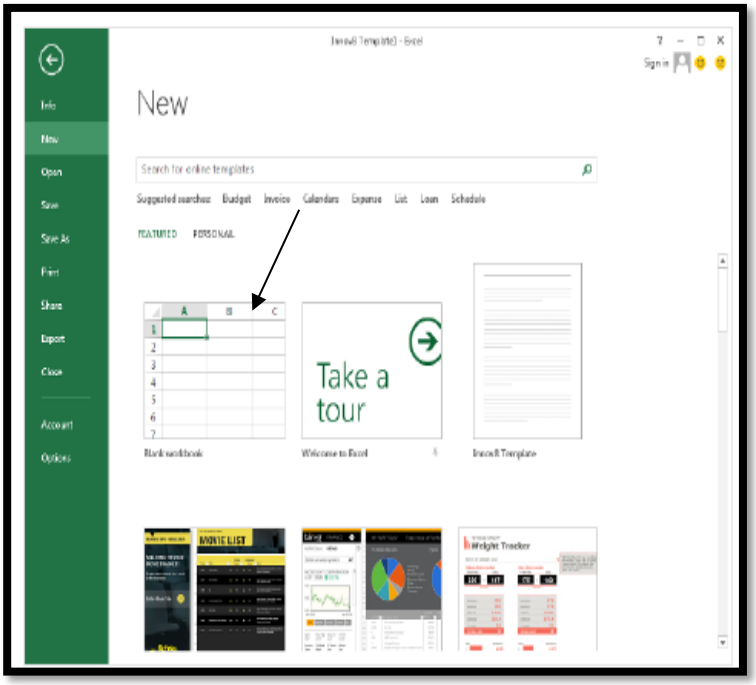
File tab

Create a new blank workbook:

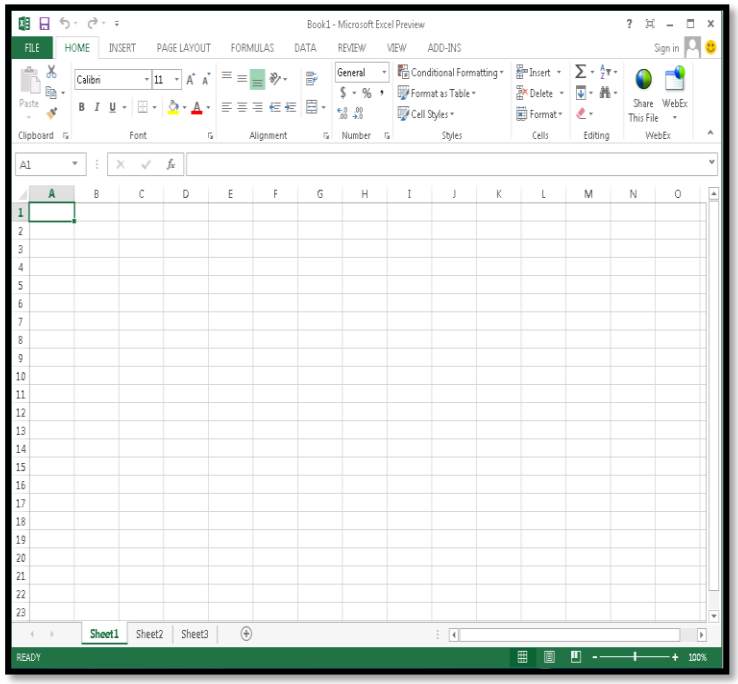
1.Click the File tab on the Ribbon and select New. The New tab of Backstage view appears as in figure (1)

2. Click Blank Workbook. The new blank workbook immediately appears, as in figure (2)

Other Ways to Create a Blank Workbook Press <Ctrl> + <N>.



Figure(1)



Figure(2)

Excel 2013

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College of Nursing **Second year**

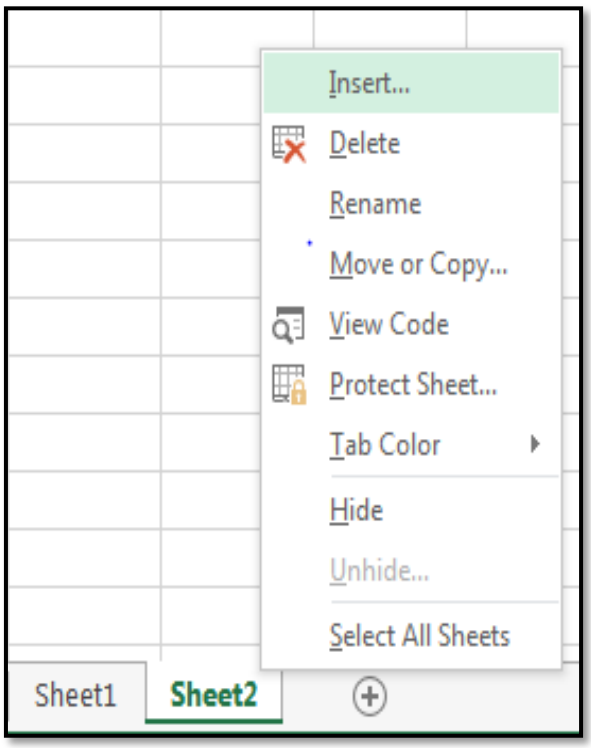
Adding a Worksheet

Click on the **New sheet icon** beside sheet name.

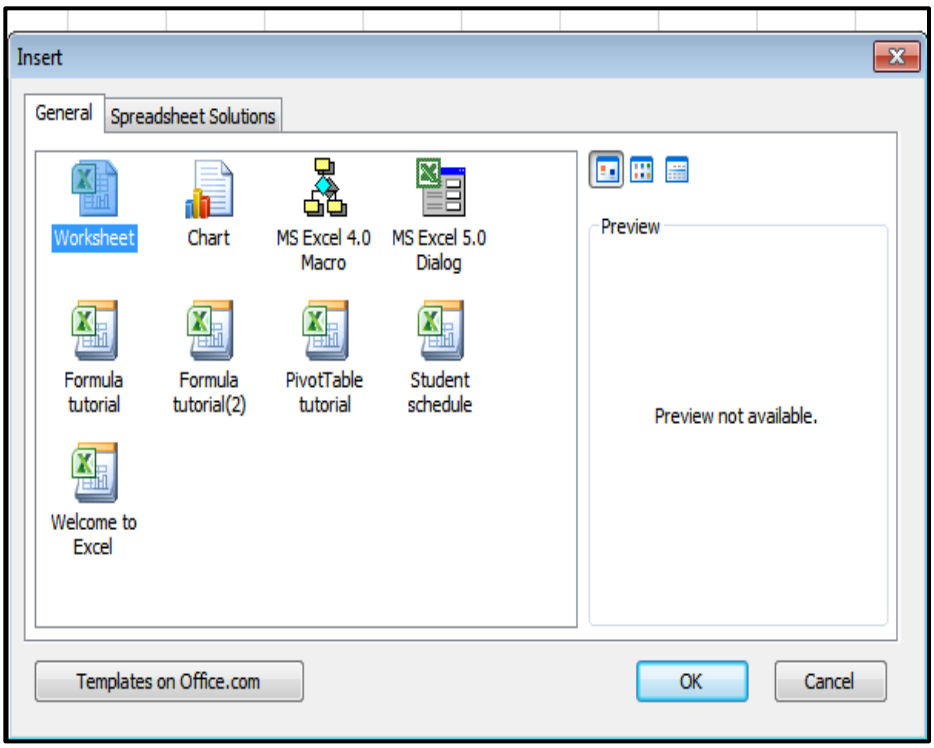
OR

1. Right-Click on a worksheet tab as in fig.(1)
2. Select Insert
3. Select Worksheet as in fig.(2) then click Ok.

New sheet



Figure(1)

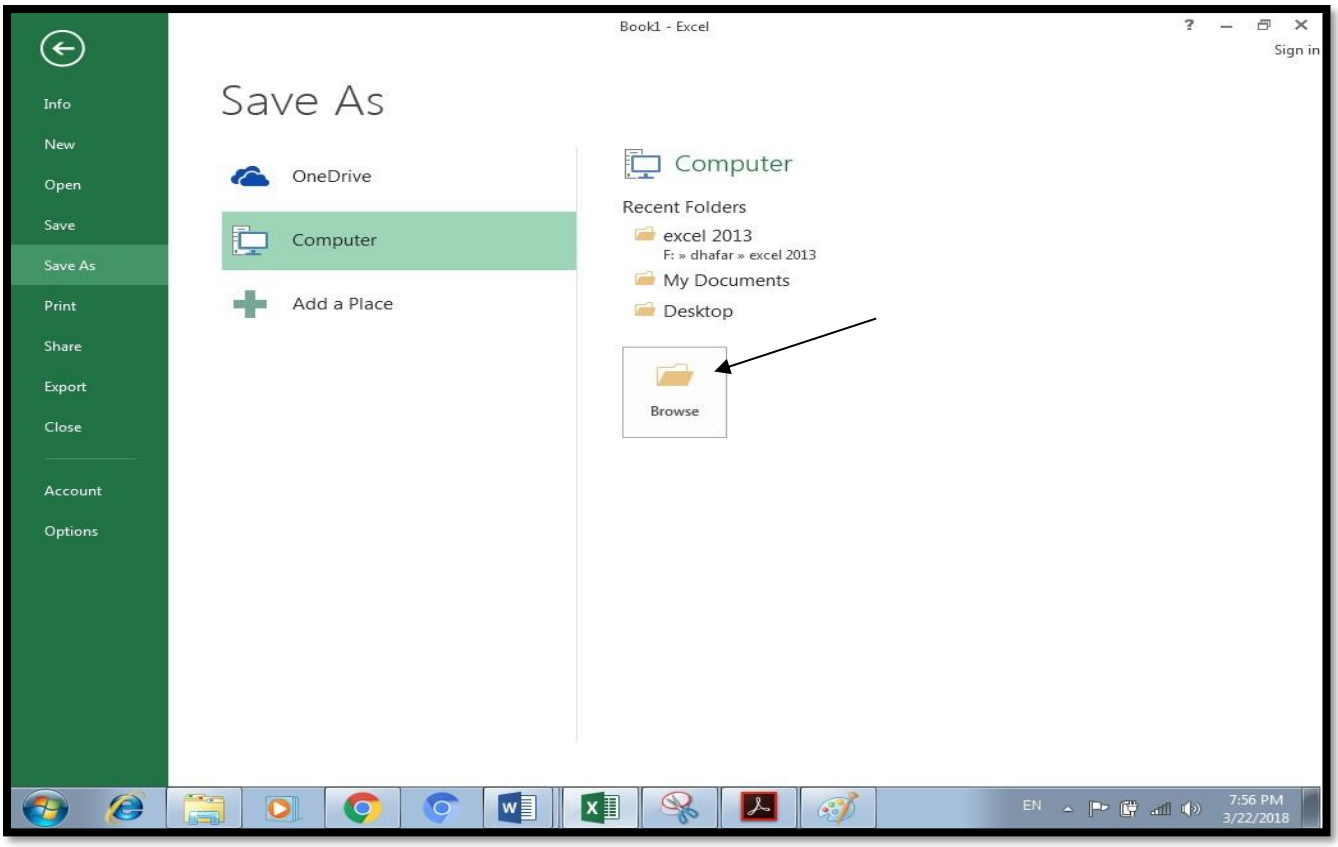


Figure(2)

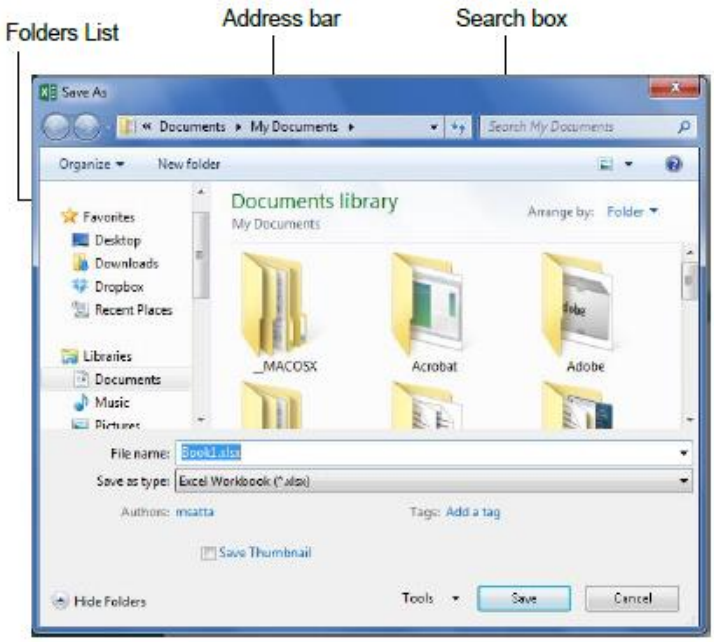
Saving a Workbook(Save a new workbook)

1.Click the **File tab** and select **Save**. **Other Ways** to Save: Press <Ctrl> + <S>.

2.The save tab of Backstage view appears. Select a place to save an Excel workbook in by clicking the Browse icon as in the following figure.



3. The Save As dialog box will appear.
4. Select a location for the file to be saved
5. Provide a unique name in the “File name:”
6. Click Save.



Save as Command:

When you want save the workbook **in other place**, **other name** or **other name and place** do following:

Open the original workbook.

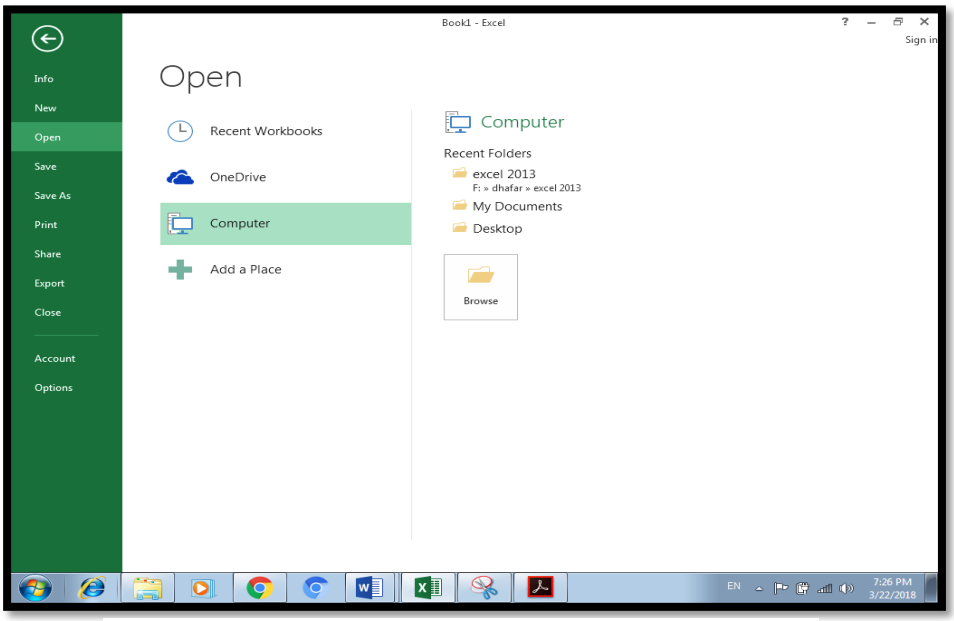
Select **Save as** in **File tab**. The save as dialog box appears. Choose other drive in which to save your file or other a name for the file in file name box and select save.

Opening a Workbook

To retrieve a workbook you saved for revision by:

Choose **File tab**. Select **open**, the open dialog box will appear. Choose the drive in which the file stored. Press on the name for the file and select **open**.

Other Ways to Open a Workbook: Press **<Ctrl> + <O>**.



The Open tab

Closing the Current workbook

To close the current workbook only by:

Select **Close** in **File tab.**

Closing Microsoft Excel Program

Select the icon in title bar.

If a Microsoft Office dialog box appears displaying a "*Do you want to save…*?" message Click **Save** to save, **Don't Save** or **Cancel** to close the dialog box.

To Insert Content:

1. Click on a cell to select it.
2. Enter content into the selected cell using your keyboard. The content appears in the **cell** and in the **formula bar**. You also can enter or edit cell content from the formula bar**.**

Note: You can edit the contents of a cell by selecting the cell and then correcting the entry by double click on cell. The arrow keys will move the cursor to adjacent cells in any direction as well.

Excel 2013

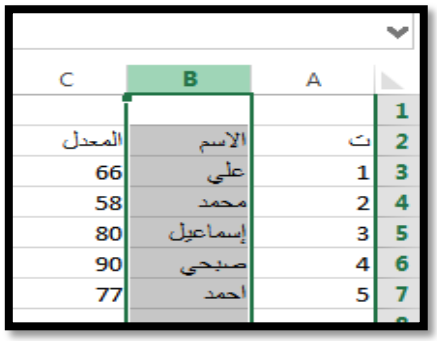
University of Mosul

College of Nursing **Second year**

Selecting Columns or Rows

-Selecting an Entire Column:

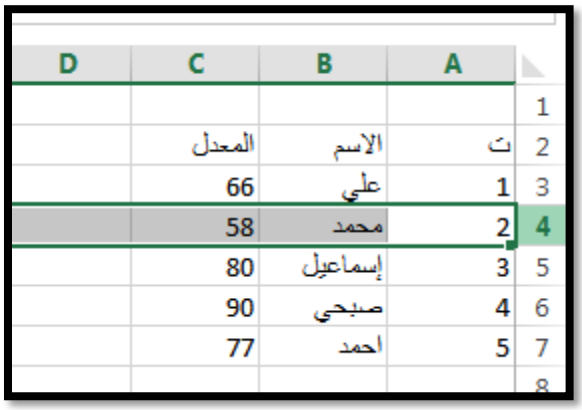
Click the column letter at the top of the spreadsheet window.



C	B	A	
			1
المعدل	الاسم	ت	2
66	علي	1	3
58	محمد	2	4
80	إسماعيل	3	5
90	صبحي	4	6
77	احمد	5	7

Selecting an Entire Row:

Click the row number on the left side of the spreadsheet window.

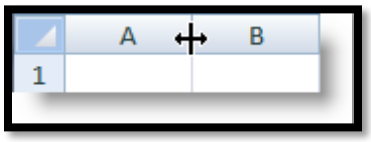


D	C	B	A	
				1
	المعدل	الاسم	ت	2
	66	علي	1	3
	58	محمد	2	4
	80	إسماعيل	3	5
	90	صبحي	4	6
	77	احمد	5	7
				8

- To select complete sheet by press on the box (square) in the top right corner.

Changing Column Width

1. Move the mouse pointer to the right of the column you want to widen, or narrow, so that it rests on the black column border. At this point, the mouse changes shape to a two-headed horizontal arrow.



2. Clicking and dragging the mouse to the left will decrease the column width; dragging it to the right will increase the column size. Or double click on column border.

- To select several objects anywhere in a window (not contiguous), hold down the **Ctrl** key while you click on them in turn.
- To cancel a selection using mouse, click any where in the book screen outside the selection cell.

Note: In Status bar appeared the word (Ready), this means ready to enter the date, when you enter the date changed the word (Ready) to (Enter).

To show or hide Formula bar by:

Click on **View** tab, select **Show/ hide** → then click on **Formula Bar**.

Change the Direction of a Sheet

To change the direction of a sheet, click on **Page Layout** → then click .

Data Type

There are four kinds of data as text, numbers, date and formulas.

Changing Row Height

1- Move the mouse pointer to the bottom of the row that you wish to make taller or shorter so that it rests on the black row border. Again, as in the previous example,the mouse will change to a two-headed arrow, this one vertical

2- Clicking and dragging the mouse down will increase the row height, and moving it up will decrease it

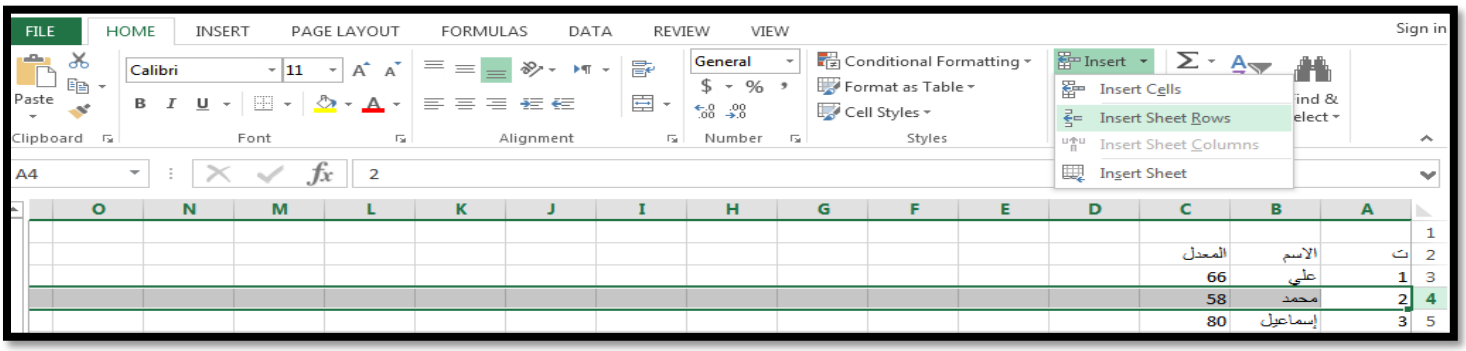
Inserting Column/Row

-Inserting row:

1- Click a cell in the row below where you want the new row to be inserted.

2- Click on the **Home** tab. In the **Cells** group, click the arrow next to **Insert**.

3- Click **Insert Sheet Rows.** The new row will appear before the selected row(as in the following figure)

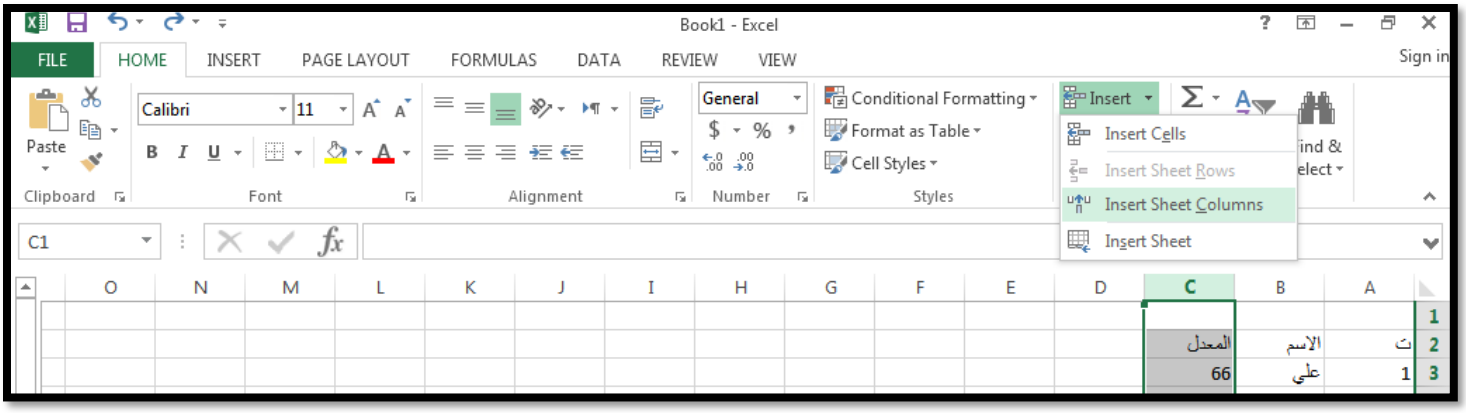


-Inserting column:

1- Click a cell in the column to the right of where you want the new column to be inserted.

2- Click on the **Home** tab. In the **Cells** group, click the arrow next to **Insert**.

3- Click **Insert Sheet Columns.** The new column will appear before the selected column(as in the follwoing figur).



Merging cells

To Merge Cells:

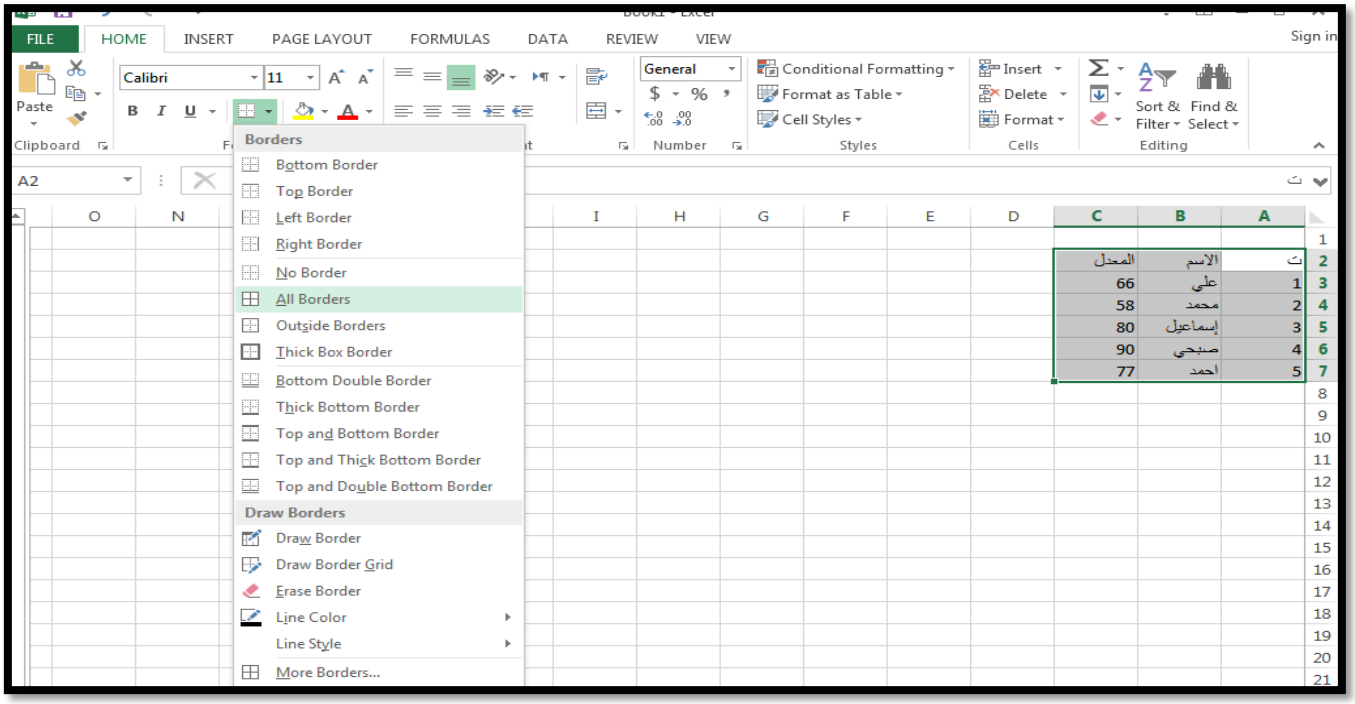
1- Select the cells that you want to merge. It can be cells in a column, row or both columns and rows.
2- Click on the **Home** tab. In the Alignment group, click **Merge and Center**.

Adding a border to cells

1- Select the range you want.

2- Click on the **Home**Tab.In the **Font** group,click the arrow next to **Borders**.

3- Select a border style.

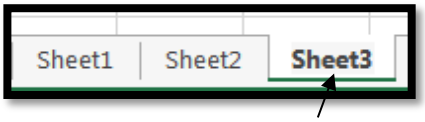


Excel 2013

Naming Worksheets:

To Name a Worksheet:

1- Double-click the sheet tab to select it. The text is highlighted by a black box.
2- Print a new name for the worksheet.
3- Press the Enter key.



Sheet tab

Or

Right click on sheet's name, select Rename and Print a new name.

Deleting Worksheets:

To delete sheet by:

Right click on sheet's name, select Delete.

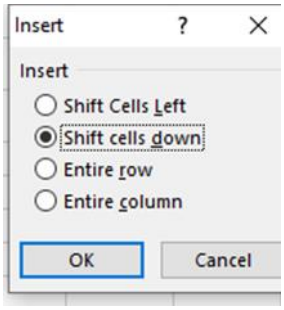
Tab color of Worksheets:

To insert color in current sheet by:

Right click on sheet's name, select Tab color.

Insert a Cell

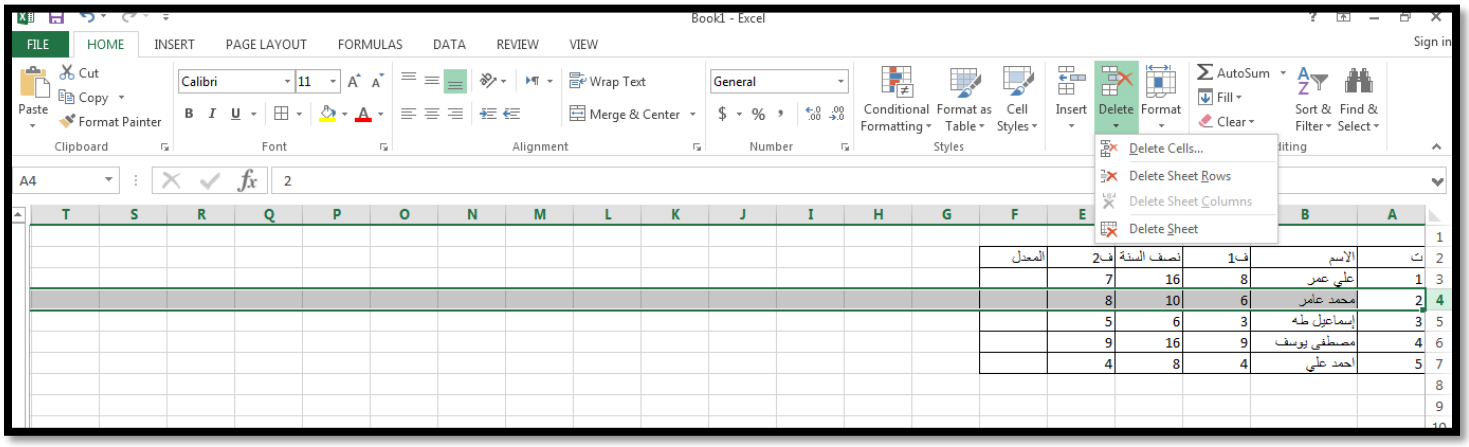
Put text pointer in position that you want, click on **Home** tab→ then click **Insert** → then click **Insert Cells**. Dialog box will appear.



Deleting Rows or Columns:

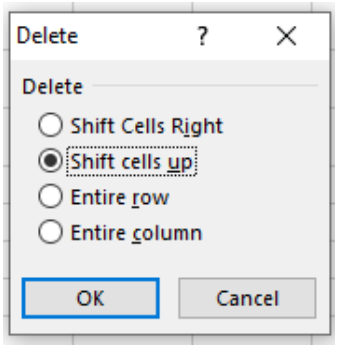
1- Select the Rows or columns that you want to delete.
2- Click **Home** tab. In the **Cell** group, click the arrow next to Delete and then do one of the following:
   - To delete selected rows, click **Delete Sheet Rows**.
   - To delete selected columns, click **Delete Sheet columns.**

or right click any of them, and select Delete from menu.



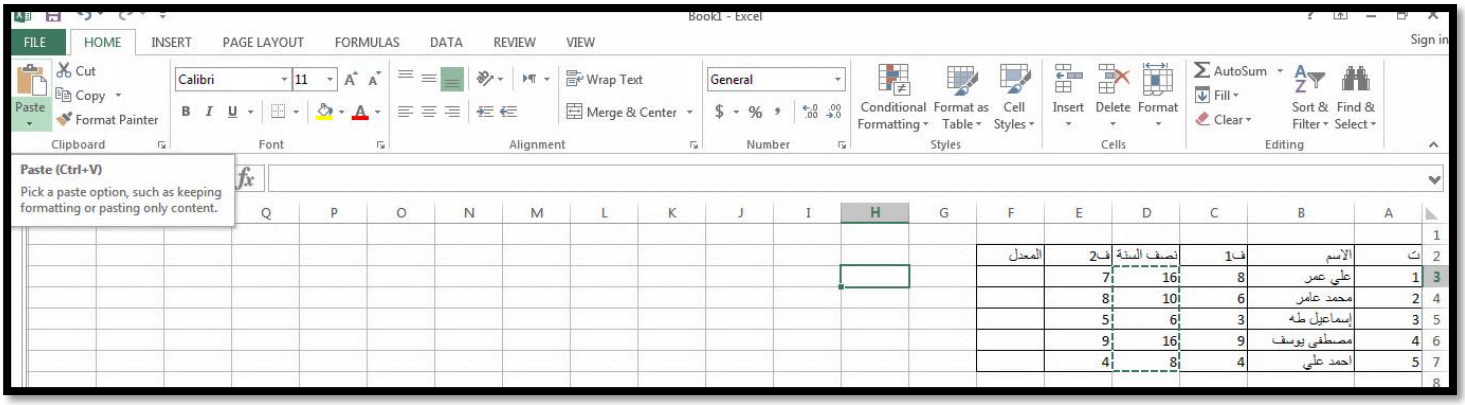
Delete a Cell

Put text pointer in position that you want, click on **Home** tab → then click **Delete Cells**. Dialog box will appear.



Copying Cells Contents:

1- Select the cells that you want to copy. Click on the **Home** tab. In the **Clipboard** group, choose **Copy**. A dotted line will appear around the selected cells.



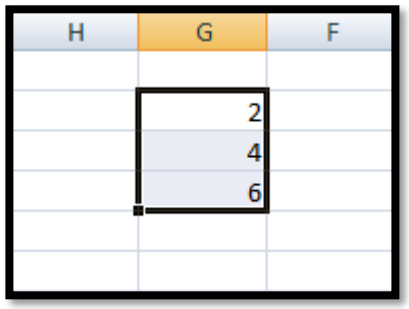
2-Insert the pointer into new cell.
3-Click on the **Home** tab. In the **Clipboard** group, choose **Past.**

Excel 2013

AutoFill

AutoFill: is a tool that lets you select cells of interest and make relative copies of them in adjacent cells. AutoFill can also be used to copy formulas, to use AutoFill:

1- Select the cells that contain the data that you want to fill into adjacent cells.
2- Drag the fill handle (the small black square in the bottom right-hand corner of the selected cell). Your pointer turns into a large plus sign. (as in following figure)
3- Drag to the new range of cells you want.
4- Release the mouse button.



Or

If the purpose is auto filling, such as the number sequence, you must type the first number and then drag the left mouse button with pressing the Ctrl key. We will notice the sequence of numbers.

Hide Row, Column

To hide a row or column in a sheet, you do the following:

1- Select row/ column to be hidden.
2- Click on Home tab, Format in cells group and hide row/ column.

Show Row, Column

To show a row or column in a sheet, you do the following:

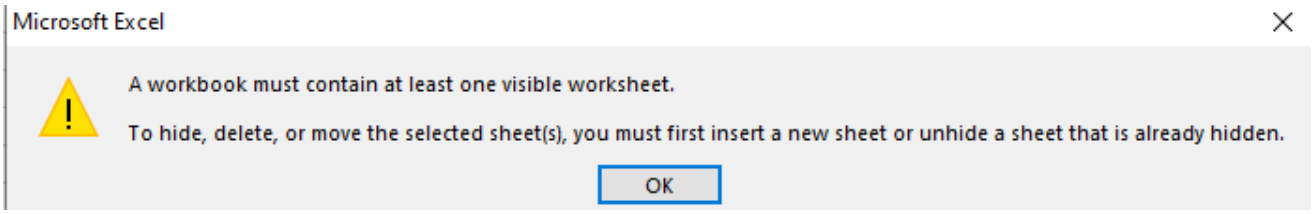
1- Select before and after the hidden row /column.
2- Click on Home tab, Format in cells group and Unhide row/ column.

Hide Sheet

To hide a sheet in a work book, you do the following:

1- Select sheet to be hidden.
2- Click on Home tab, Format in cells group and hide row/ sheet.

Note: Not all sheets can be hidden. Read the following note.



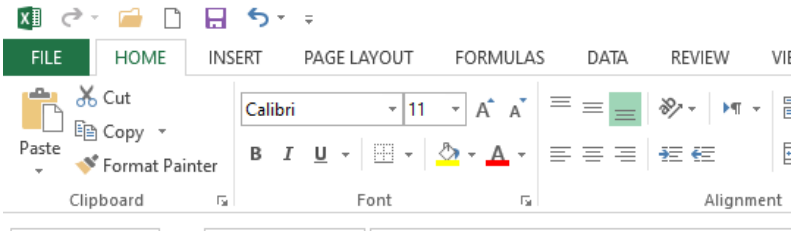
Show Sheet

To show a sheet, you do the following:
Click on Home tab, Format in cells group and Unhide sheet.

Alignment

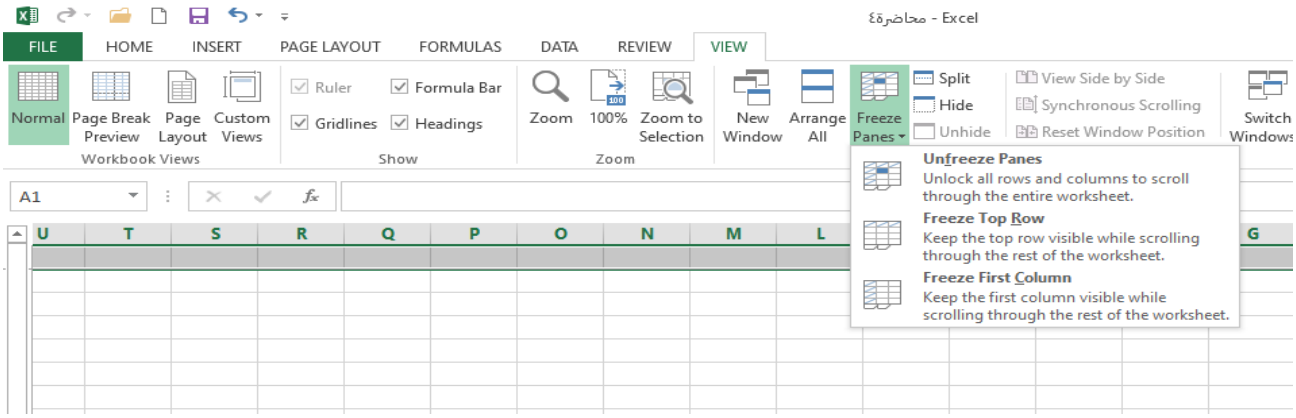
There are several different tools as follow: Select the cells, click on Home tab, Alignment group and click the tool.

1- Top alignment: align text to top.
2- Middle alignment: align text to middle.
3- Bottom alignment: align text to bottom.
4- Align left: align text to left.
5- Align right: align text to right.
6- Center: align text to center.



Freezing Column's Title

To freeze the top horizontal pane, do the following:
Select the first row.
Clock on **View** tab, in the **Window group**, click **Freeze Top Row**.



Excel 2013

Unfreezing Column's Title

To unfreeze the top horizontal pane, do the following:
Select the first row.
Clock on **View** tab, in the **Window group**, click unf**reeze Top Row**.

Text Wrapping: The term Warp Text means to break long entries into separate lines.

1- Select an adjacent cell that you want to format.
2- Click on **Home** tab. In the **Alignment** group, click **Wrap Text**.

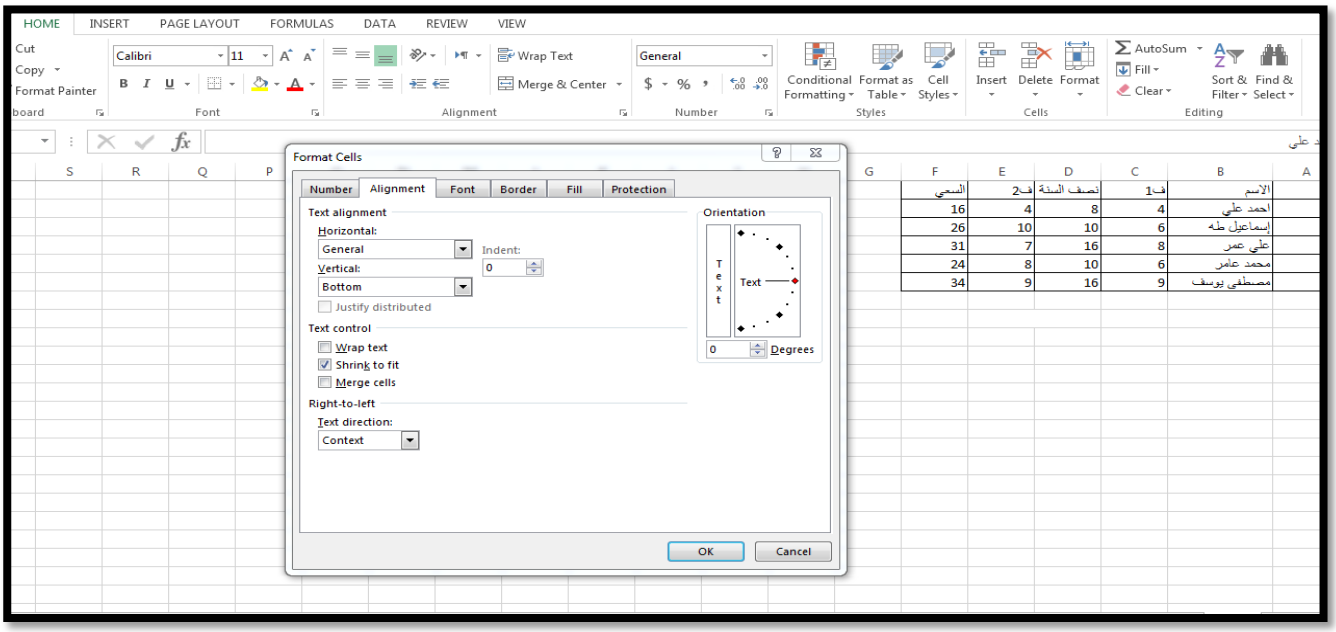
Shrink to fit

Shrink to fit will automatically reduce the font size until text fits in a cell or Shrink to fit would mean that it reduces the actual size of data to fit the size of the page or cell.

1- Select the cell or cells. Click on the **Home** tab. In the **Alignment** group, click the Dialog Box Launcher.

2- The **Format Cells** dialog box will appear as in following figure, select the **Alignment** tab.

3- In **text control** Select the **shrink to fit** and click **Ok**.



Home tab

The **Home** page consists of a set of **groups** are Clipboard, Font, Alignment, Number, Style, Cells and Editor.

Clipboard: it contains Cut, Copy.

Font: it contains type, Size, increase size, decrease size, Color, Fill color, Bottom border, underline, Italic and Bold.

Format Painter (**Copying Formatting):**

If you want to apply the selected formatting as line space, font size and style, to another text, it is not necessary to go through all the formatting options every time. You can save time by using the format painter to copy character formatting from place to place. This operation by:
Select the **text containing the formatting** you want to copy.
Click the **Home** tab in the **Clipboard** group.

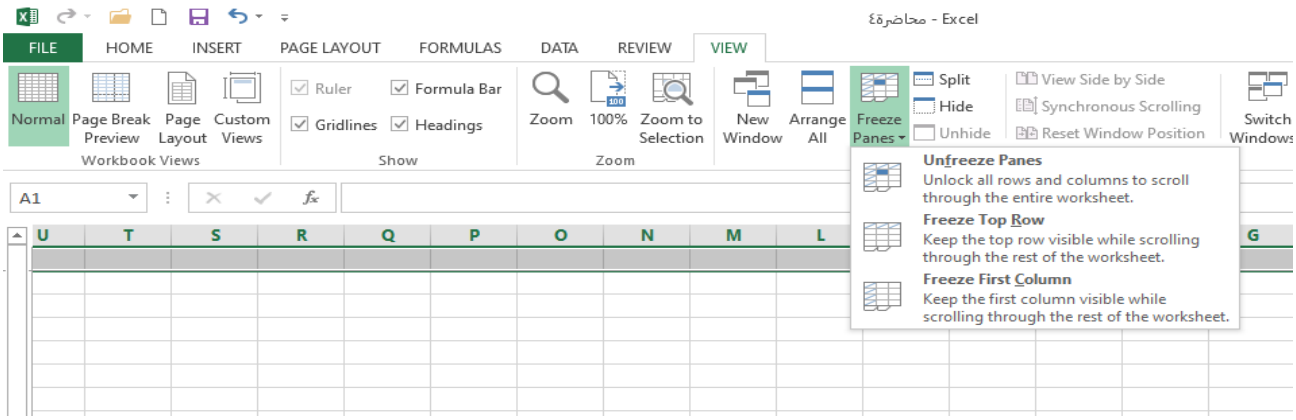
Double click on the **Format Painter** icon .
The mouse pointer will change to a paintbrush.

Select the **text you want to format**.
Press Esc key in keyboard when you have finished. Click once on the Format Painter icon to copy formatting to one location.

Freezing First Column

To freeze the top horizontal pane, do the following:
Select the first column.
Clock on **View** tab, in the **Window group**, click **Freeze First Column**.

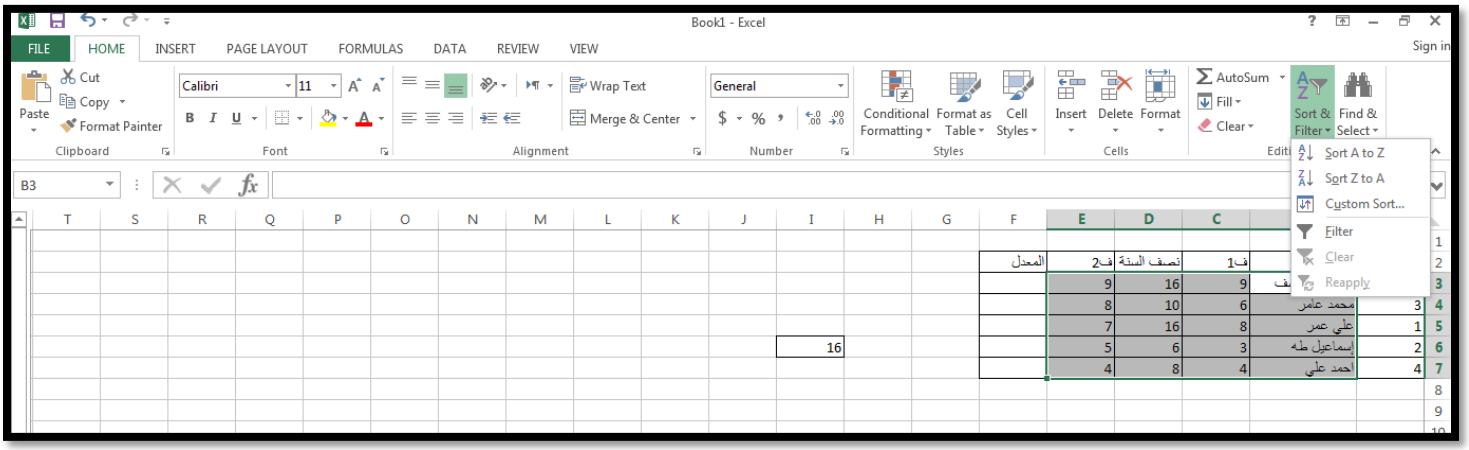
To delete freezing by:
Select the first column.
Clock on **View** tab, in the **Window group**, click **Unfreeze First Column**.



Sorting Data

1- Select any cell within the list range.
2- Click on the **Home** tab. In the **Editing** group, click **Sort &Filter.**

3- Click **Sort A to Z**, to sort ascending order. Click **Sort Z to A**, to sort descending order (as in following figure).



Excel 2013

Creating Formulas

A formula can be a combination of values (numbers or cell references) and math operators (+, -, /, *, =) into an algebraic expression. Excel requires every formula to begin with an equal sign (=).

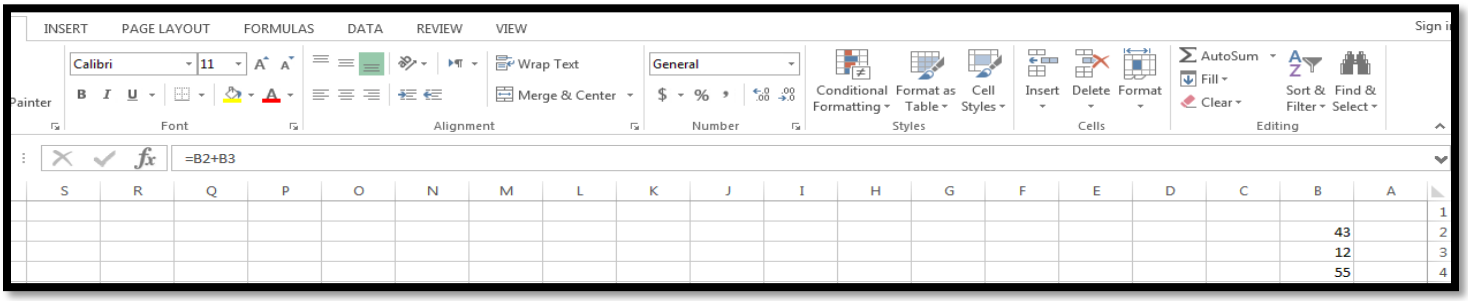
To Create a Simple Formula that adds two numbers: print the numbers you want to calculate in separate cells (for example, print 43 in cell B2 and 12 in cell B3). Click the cell where the answer will appear (B4, for example), print the equal sign (=) to let Excel know a formula is being defined.

print the cell number that contains the first number to be added (B2, for example).

print the addition sign (+) to let Excel know that an add operation is to be performed.

print the cell number that contains the second number to be added (B3,for example).

Press Enter or click the Enter button on the Formula bar to complete the formula.



Using Functions

Functions can be a more efficient way of performing mathematical operations than formulas. For example, if you wanted to add the values of cells D1 through D10, you would type the formula: D1+D2+D3+D4+D5+D6+D7+D8+D9+D10.

A shorter way would be to use the SUM function and simply type =SUM (D1:D10).

AutoSum

It contains Sum, Average, Count Numbers, Max, Min, ….

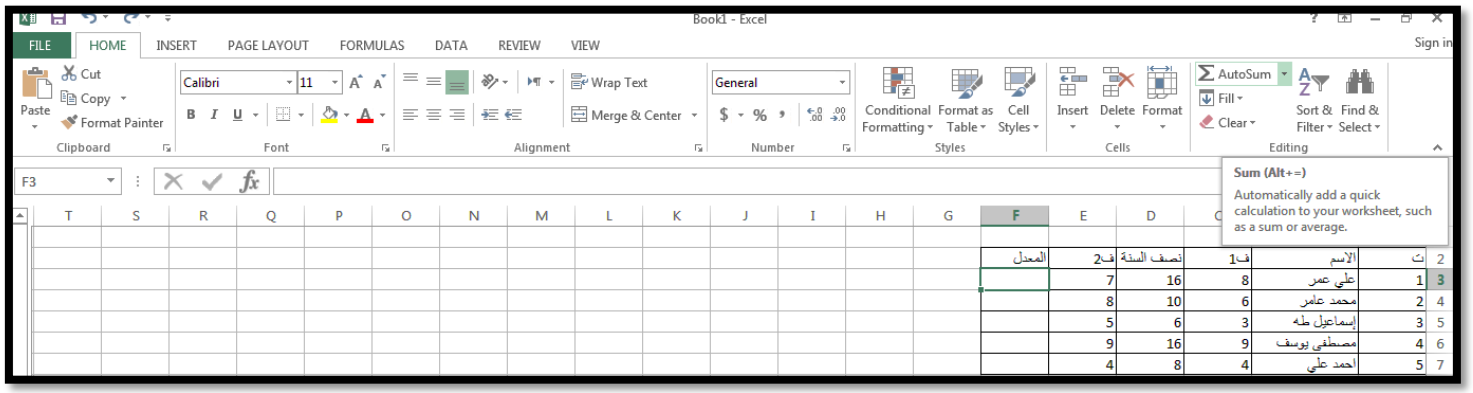
Average: to find the average.

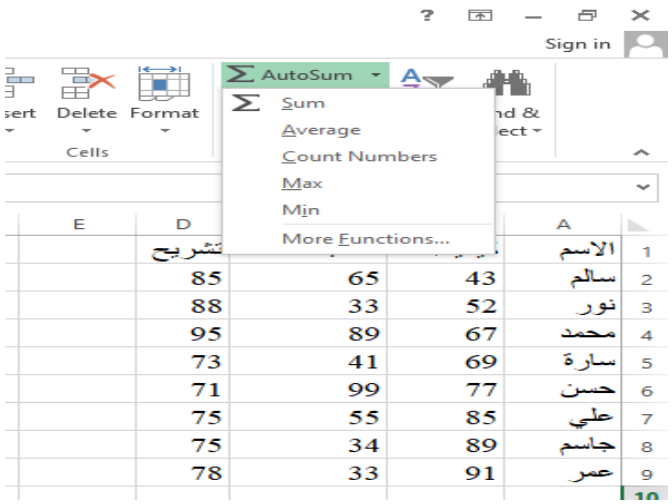
Or, we can the average by calculated by the sum divided by the number as H2/5.

Count Numbers: This function is used to count cells that contain numerical data.

Sum Function: To add contiguous numbers in row or column, do the following:

1- Select the cell in which you want the total.
2- Click on the **Home** tab → **Editing group** → **AutoSum**. A Sum formula is entered automatically.
3- Press the **Enter** key. The total will appear in the selected cell.

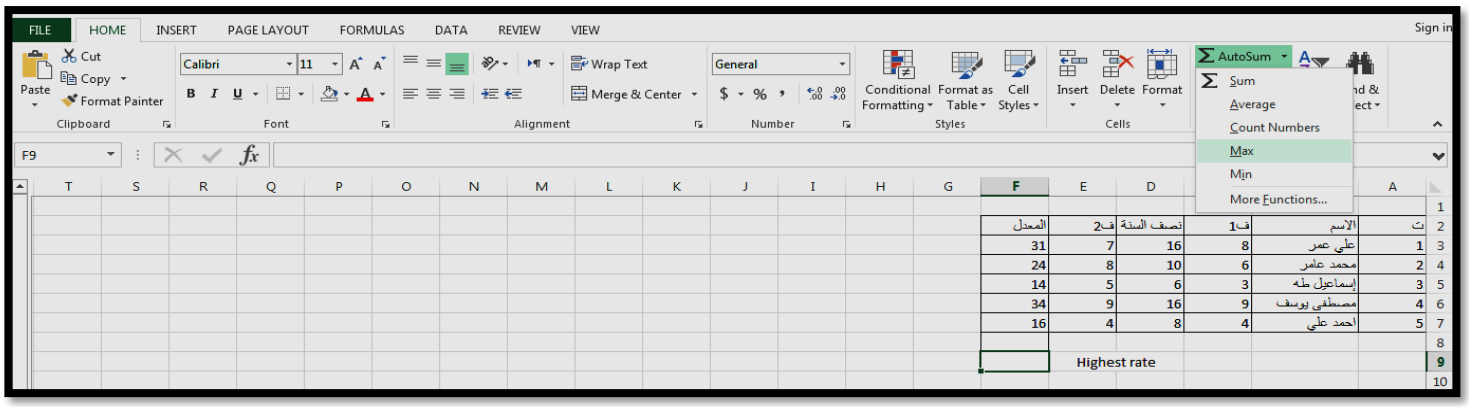




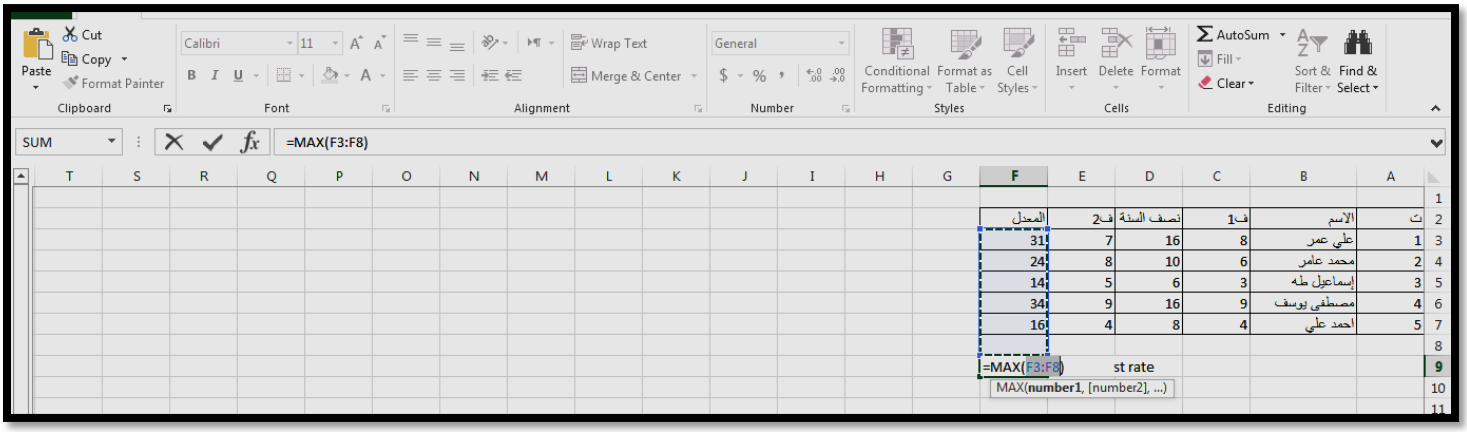
Maximum and Minimum Value

Use the **Maximum** function to show the highest number within a selected range.

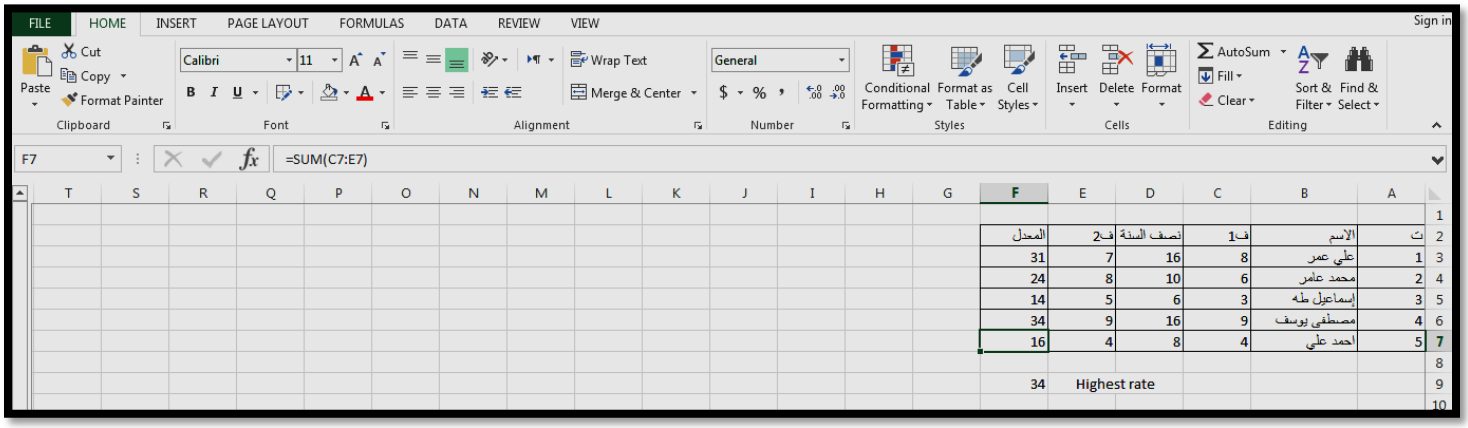
1- Select the cell in which you want to results to appear.
2- Click on **Home** tab→**Editing** group, click the drop down arrow next **AutoSum**. Then click **Max**.



3- A dotted line will appear around the selected cells, as in following figure.



4-Press the **Enter** key. The Maximum value will appear in the selected cell, as in following figure.



Note: Use the **Minimum** function to show the lowest number within a selected range.

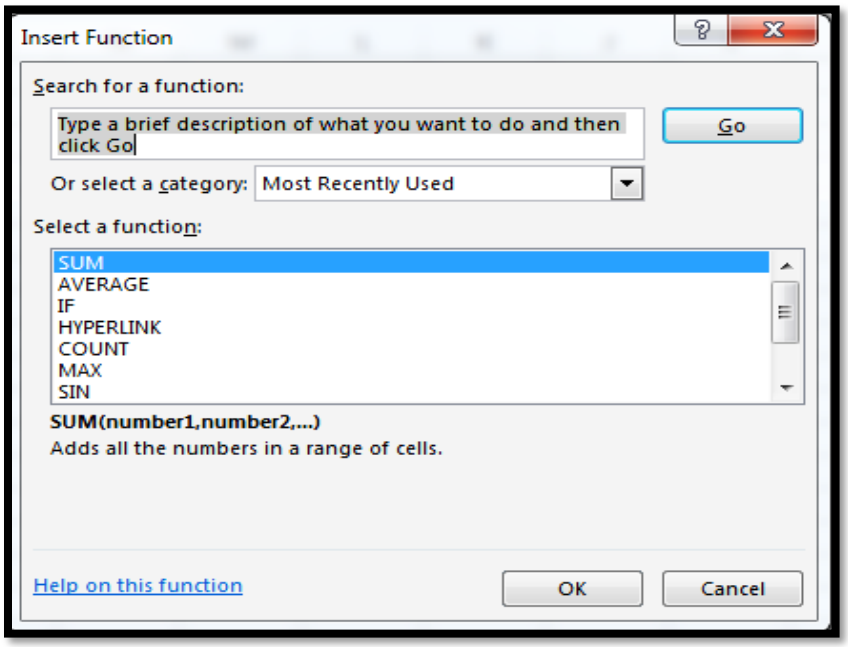
Excel 2013

Inserting a Function

1-Select the cell into which you wish to insert your function.

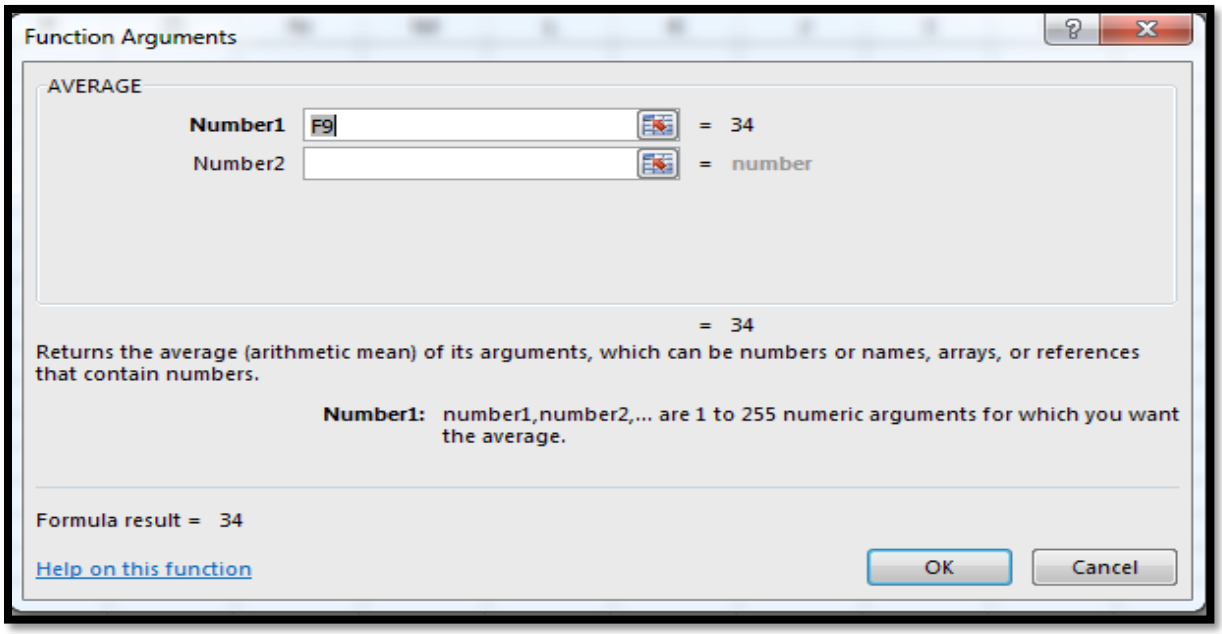
2-From the **Formulas** tab, go to the **Function Library** group and click on the **Insert Function** button**.**

3-The Insert Function window will appear.



4-From the list, click on the name of your function you wish to insert then **OK** to continue.

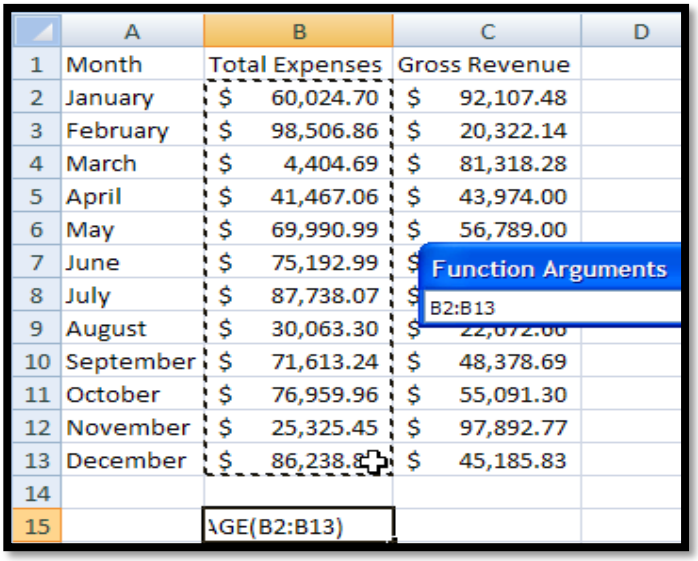
5-Excel will display the Function Arguments window, specify arguments for use in your Function.



6- Click OK to insert your function into your worksheet.

Note: To select the range of cell.

- Drag the Function Arguments window to one side of your screen so that you can see the cells containing the data you wish to use in your calculation.
- Drag to select the range of cells that you wish to use as the function's first argument. While you're selecting these cells, the Function Arguments window will be temporarily hidden.



	A	B	C	D
1	Month	Total Expenses	Gross Revenue	
2	January	$ 60,024.70	$ 92,107.48	
3	February	$ 98,506.86	$ 20,322.14	
4	March	$ 4,404.69	$ 81,318.28	
5	April	$ 41,467.06	$ 43,974.00	
6	May	$ 69,990.99	$ 56,789.00	
7	June	$ 75,192.99	$	
8	July	$ 87,738.07	$	
9	August	$ 30,063.30	$	
10	September	$ 71,613.24	$ 48,378.69	
11	October	$ 76,959.96	$ 55,091.30	
12	November	$ 25,325.45	$ 97,892.77	
13	December	$ 86,238.8	$ 45,185.83	
14				
15		AGE(B2:B13)		

- When you've finished making your selection, the Function will reappear.

IF Function

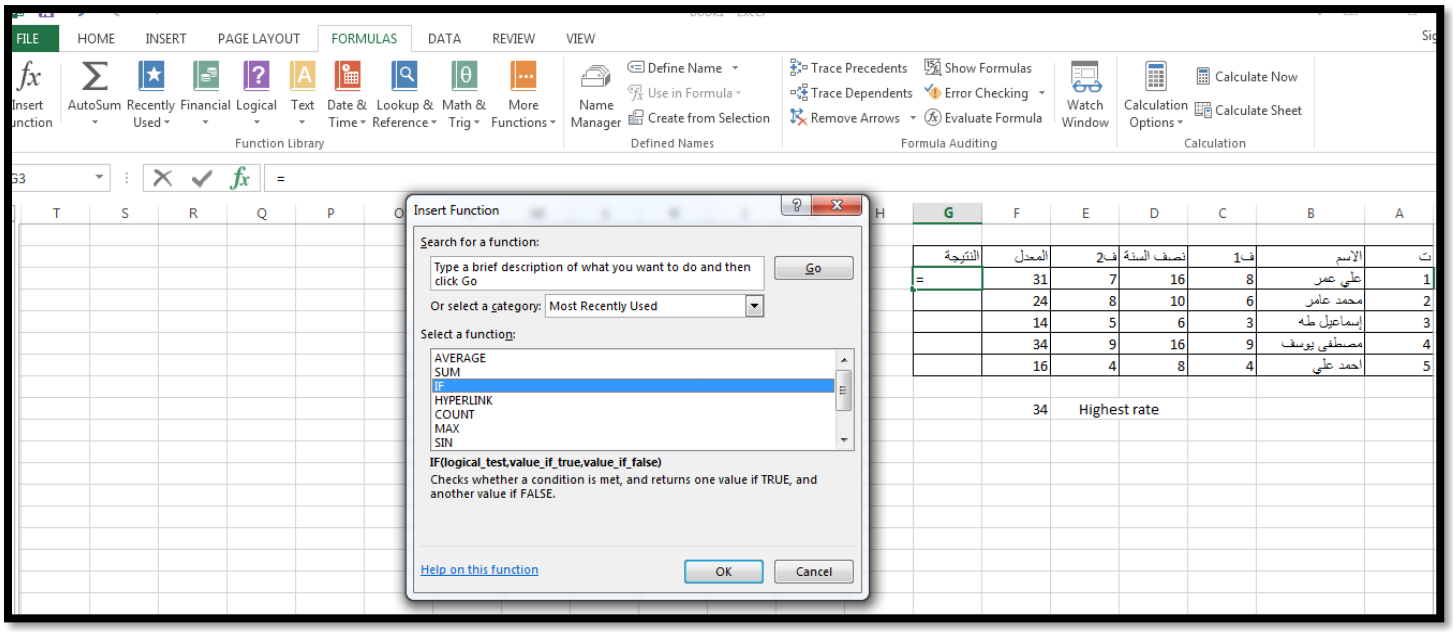
The **IF** function is very useful. It will carry out a conditional test and then return one value if the condition is true but a different value if the condition is false.
General form: =IF(condition,value_if_true,value_if_false)
Ex: =IF(F3>49,"pass","fail")

To insert IF Function:

1- Select the cell where the function will be placed.

2- From the **Formulas** tab, go to the **Function Library** group and click on the **Insert Function** button.

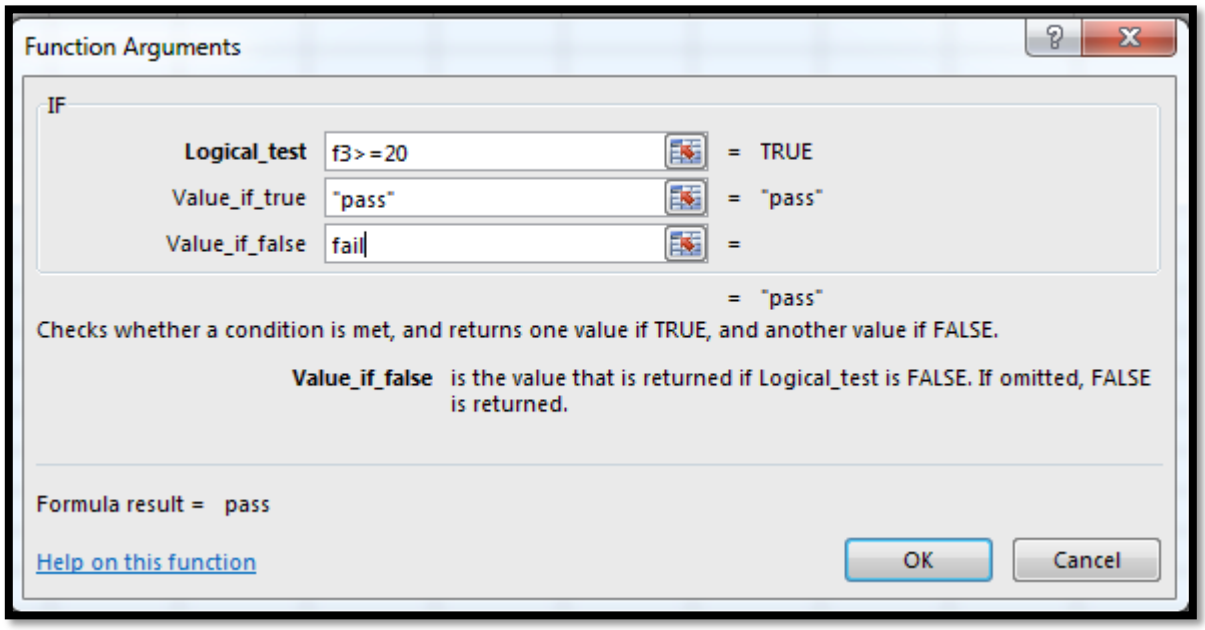
3-The **Insert Function** window will appear, from the **Insert Function** dialog box, select **IF** function then **OK**



1- In the **Function Argument** window enter the data in each box then click **OK**.

Note:

- In **logical_test** enter the condition
- In **value_if_true** enter the data if the condition is true
- In **value_if_false** enter the data if the condition is false.



Example (1):
For each student, assign the result by “pass” with average is greater than or equal 50 otherwise assign “fail”.

= IF (f3>= 50; “pass”;”fail”)

Example (2):

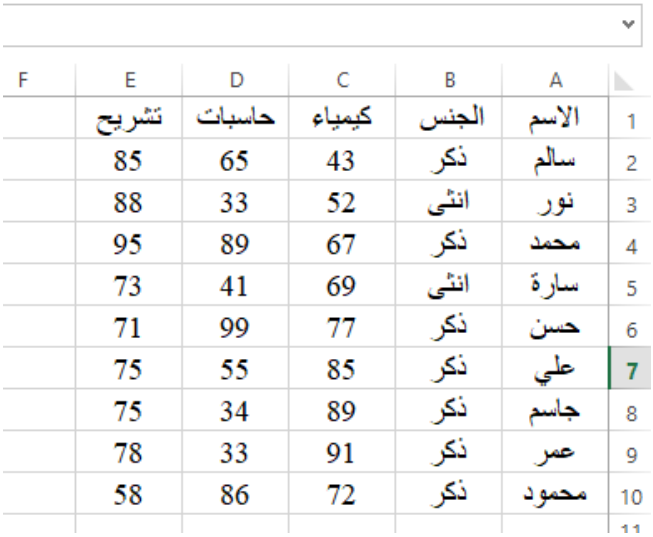
For each student, assign the result by

90-100 امتياز, 80-89 جيد جدا, 70-79 جيد, 60-69 متوسط, 50-59 مقبول, < 50 راسب

= IF (f3>= 90; “امتياز”;IF(f3>= 80; “جيد جدا”; IF(f3>= 70; “جيد”; IF(f3>= 60; “متوسط”; IF (f3>= 50; “مقبول”; “راسب”))))) Click on Enter

Example (3):

If you have the following data, find what follows, for each student, assign “A” for each male and assign “B” for each female.



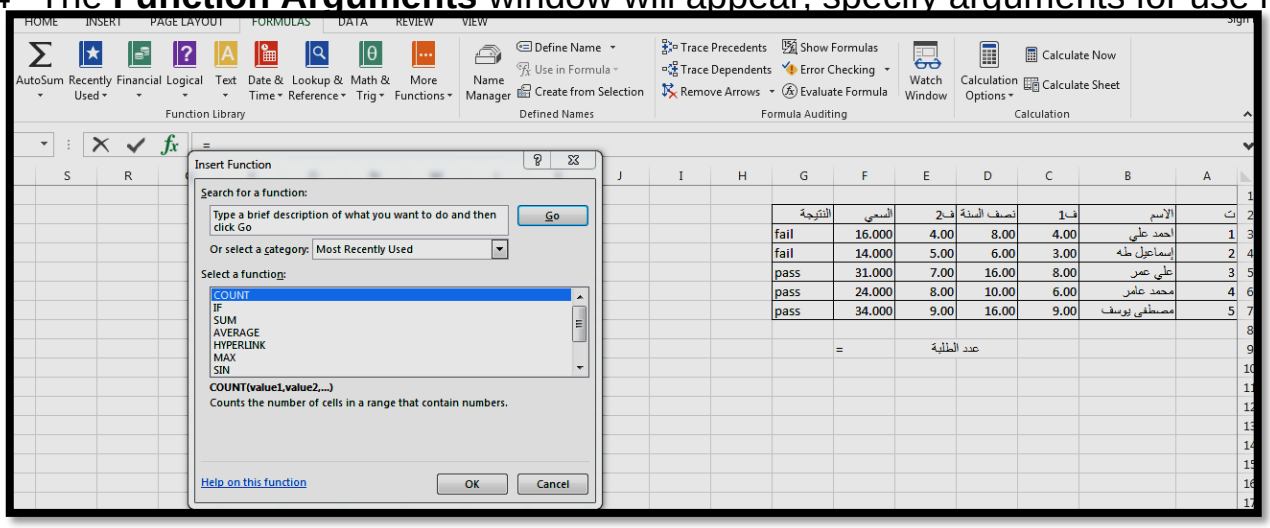
	A	B	C	D	E	F
1	الاسم	الجنس	كيمياء	حاسبات	تشريح	
2	سالم	ذكر	43	65	85	
3	نور	انثى	52	33	88	
4	محمد	ذكر	67	89	95	
5	سارة	انثى	69	41	73	
6	حسن	ذكر	77	99	71	
7	علي	ذكر	85	55	75	
8	جاسم	ذكر	89	34	75	
9	عمر	ذكر	91	33	78	
10	محمود	ذكر	72	86	58	

= IF(b2 = “ذكر” ; “A”; “B”) Click on Enter

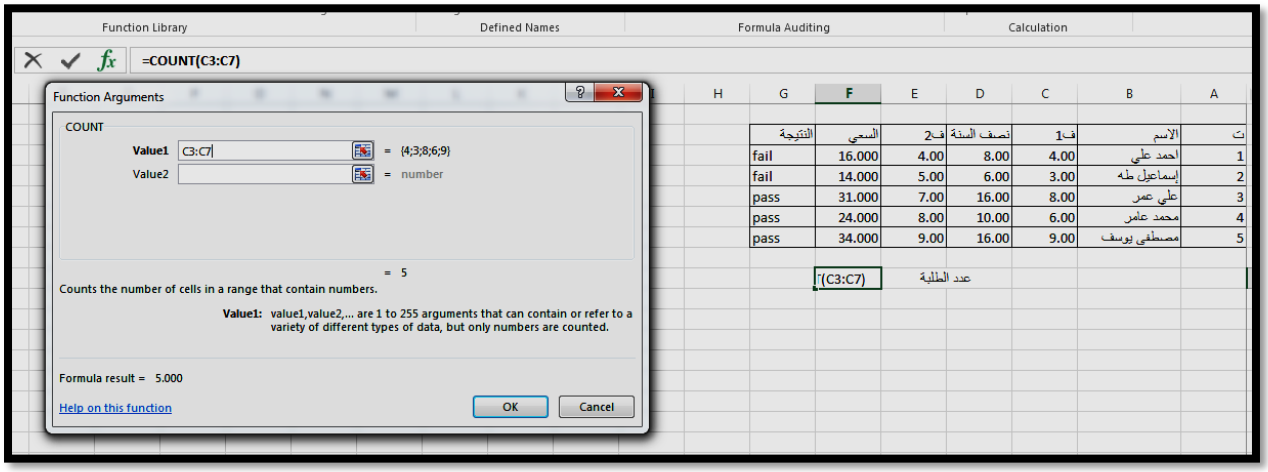
Excel 2013

Count function: counts the number of cells that contain numbers. Use COUNT to get the number of entries in a number field in a range or array of numbers.
To use Count function:

1- Select the cell where you want to place the result of calculation.
2- Click on **Formulas tab**. In **Function Library**, click **Insert Function.**
3- Chose **Count** Function then **Ok**.
4- The **Function Arguments** window will appear, specify arguments for use in



your function then click **Ok.**

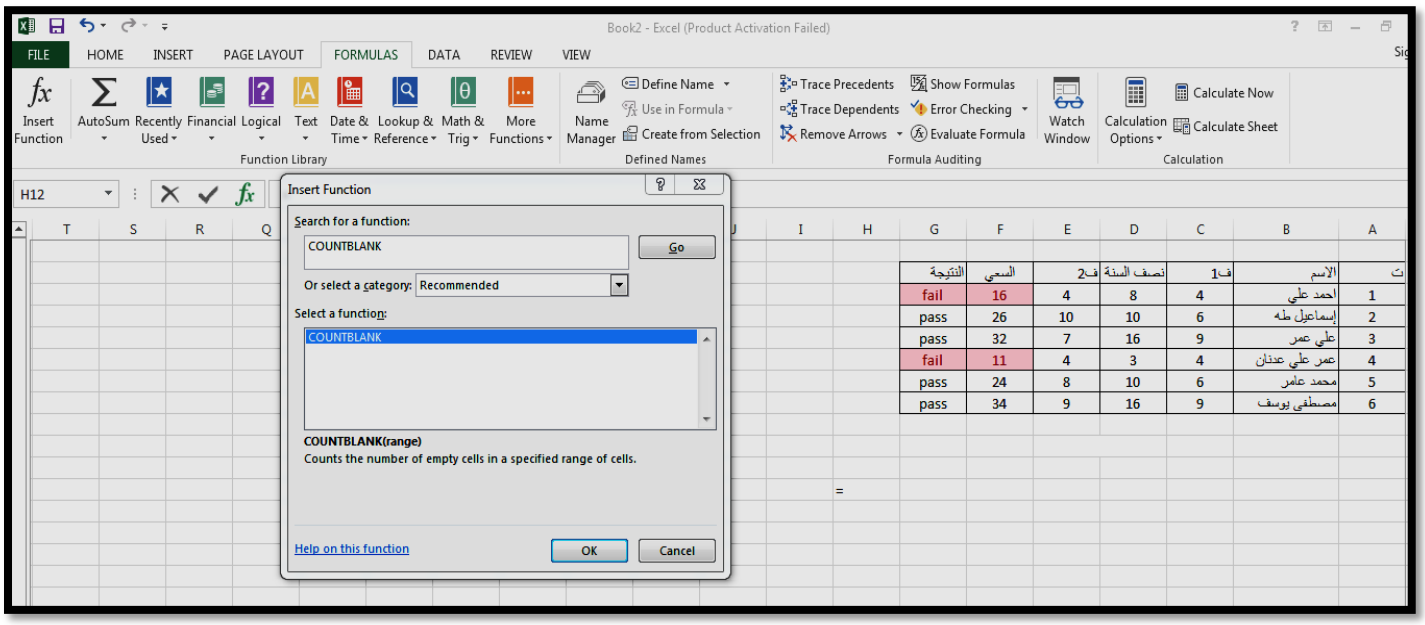


5- The result appears in selected cell.

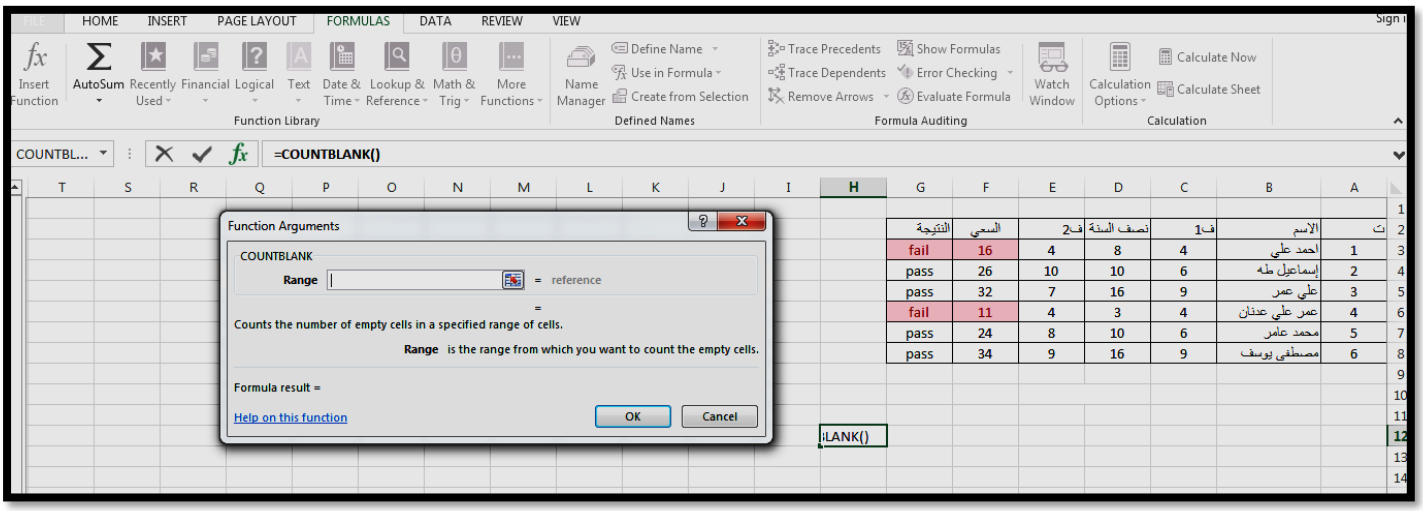
COUNTBLANK: counts empty cells in a specified range of cells.
To use COUNTIF function

1- Select the cell where you want to place the result of calculation.
2- Click on **Formulas tab**. In **Function Library**, click **Insert Function.**

3- In **Insert Function** window chose **COUNTBLANK** function then **Ok**.



4- The **Function Arguments** window will appear, specify arguments for use in your function then click **Ok.**

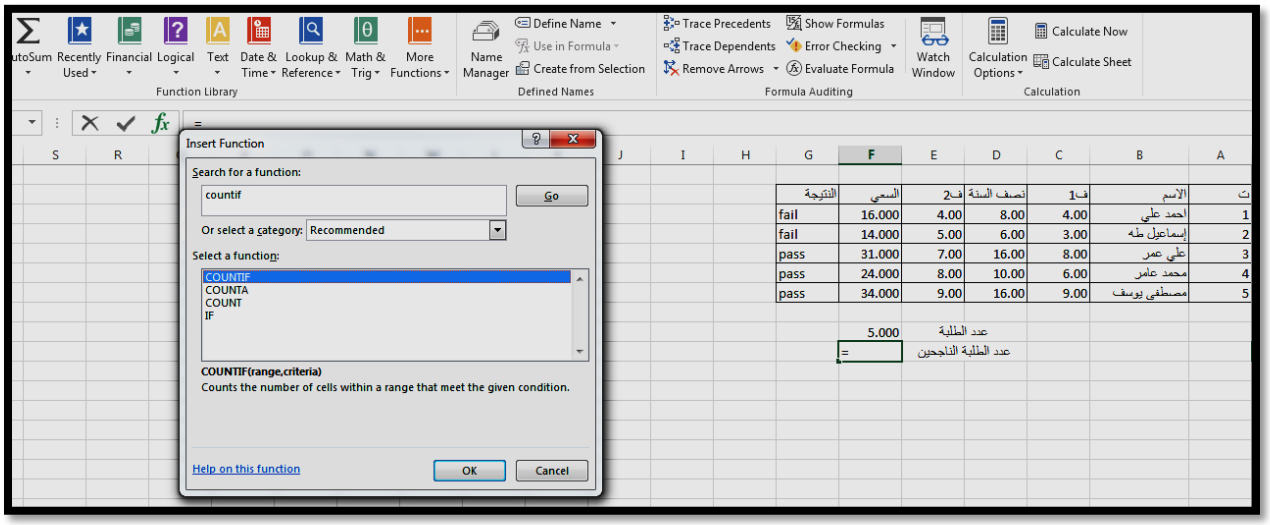


6- The result appears in selected cell.

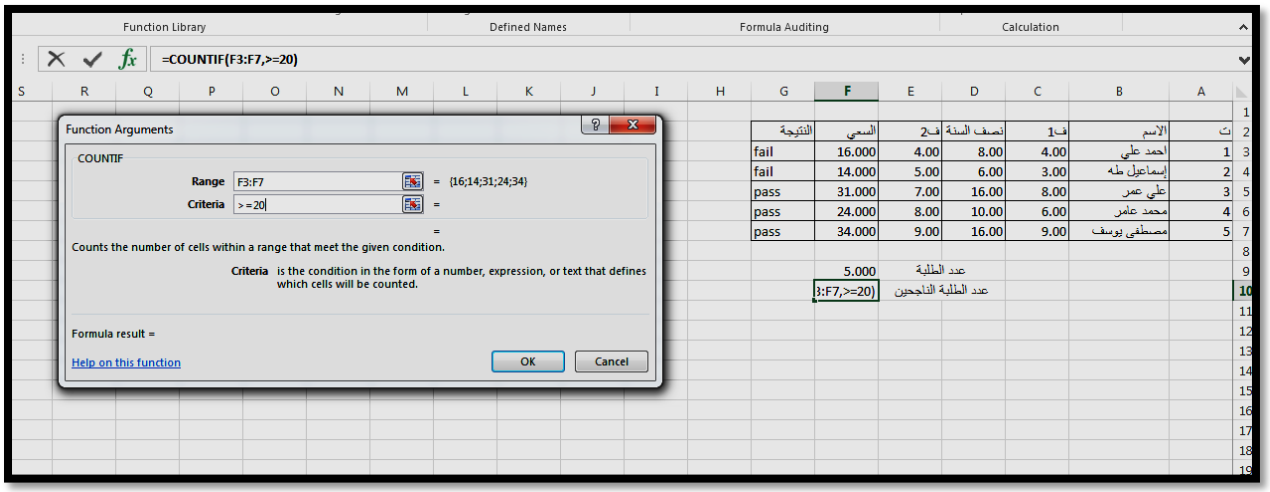
COUNTIF: counts the number of cells in a range based on given criteria.

To use **COUNTIF** function

1- Select the cell where you want to place the result of calculation.
2- Click on **Formulas tab**. In **Function Library**, click **Insert Function.**
3- In **Insert Function** window chose **COUNTIF** function then **Ok**.



4-The **Function Arguments** window will appear, in **RANGE** text box Select the range of cells you wish to check. In the **CRITERIA** box, print criteria directly in the box, then **Ok**.



5-The result appear in selected cell.

Excel 2013

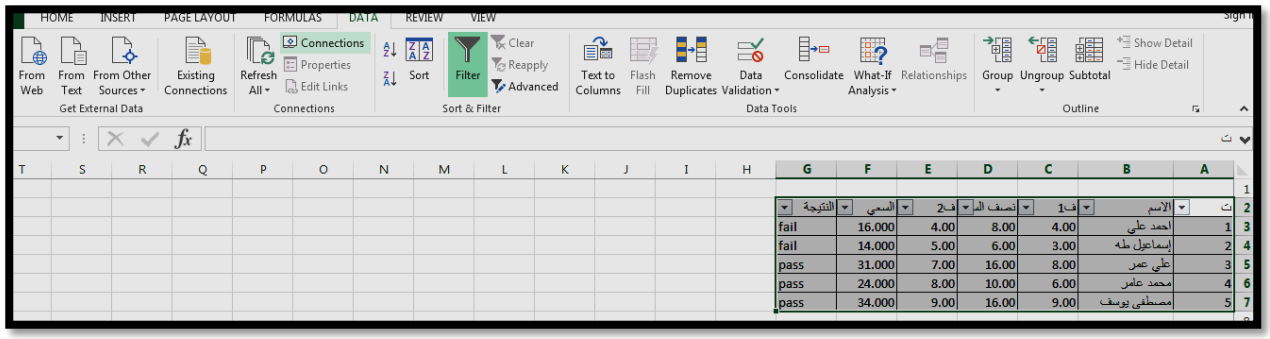
Filter the data:

It would be helpful to remove records that don't meet certain criteria from the list temporarily. You can do this with a filter. Filtering does not remove any of your records permanently, just temporarily.

To Filter the data:

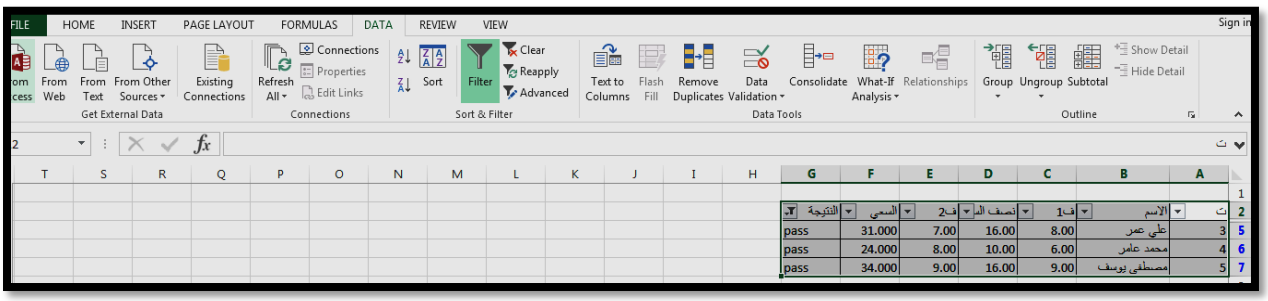
1- Select the cells which are to be filtered.
2- Click on the **Data tab** and then **Sort &Filter** group, select **Filter** button.

3- Excel displays a drop-down arrow at the right side of each column heading.



ت	الاسم	ف1	نصف الم	ف2	السعي	النتيجة
1	احمد علي	4.00	8.00	4.00	16.000	fail
2	إسماعيل طه	3.00	6.00	5.00	14.000	fail
3	علي عمر	8.00	16.00	7.00	31.000	pass
4	محمد عامر	6.00	10.00	8.00	24.000	pass
5	مصطفى يوسف	9.00	16.00	9.00	34.000	pass

4- From the drop-down list for a column, select the item by which you want to filter the list
5- The new list will appear after select item filter.



ت	الاسم	ف1	نصف الم	ف2	السعي	النتيجة
3	علي عمر	8.00	16.00	7.00	31.000	pass
4	محمد عامر	6.00	10.00	8.00	24.000	pass
5	مصطفى يوسف	9.00	16.00	9.00	34.000	pass

Note: to turn off Filter Choose Data ⟶ Sort&Filter ⟶ Filter again

Excel 2013

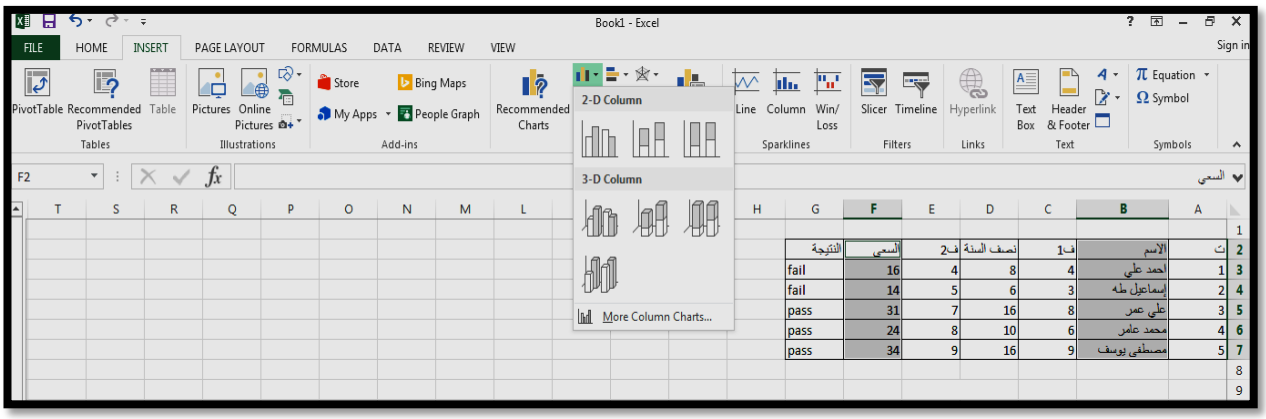
The Charts

Charts are graphical depictions of data in your worksheet. Excel can build a chart automatically based on existing data, after which the chart can be moved, resized, and deleted without affecting your worksheet data.

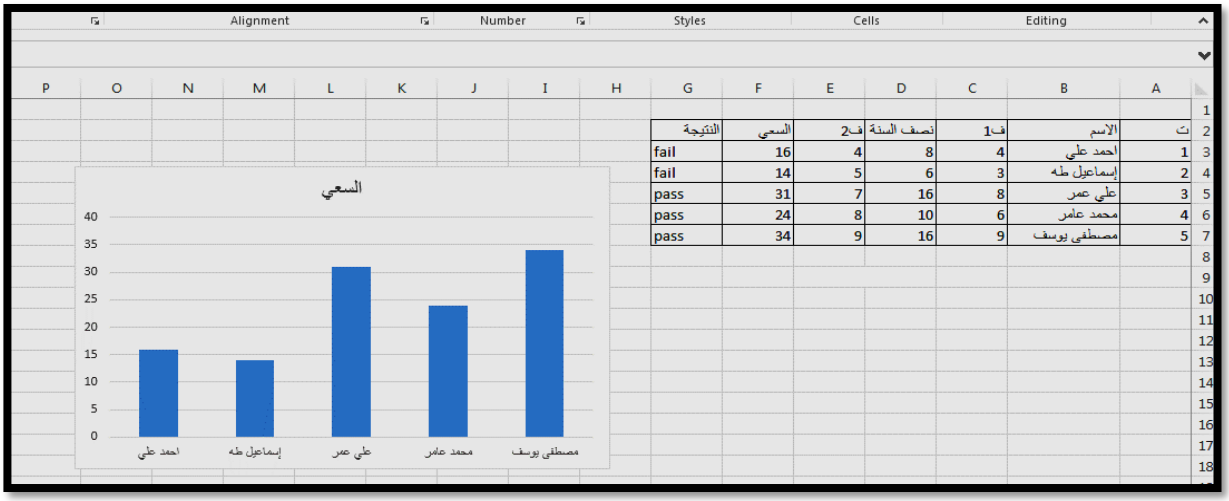
Creating Charts

1-Selected the range of data (the cells containing the data) to be charted.

2-Click on the **Insert tab**. In the **Charts** group, click the chart type, and then click a chart subtype that you want to use.



3-The chart will appear within the worksheet.



ت	الاسم	ف1	نصف السنة	ف2	السعي	النتيجة
1	احمد علي	4	8	4	16	fail
2	إسماعيل طه	3	6	5	14	fail
3	علي عمر	8	16	7	31	pass
4	محمد عامر	6	10	8	24	pass
5	مصطفى يوسف	9	16	9	34	pass

Note: If a value changes in the chart's data source, that change is automatically updated in the chart.

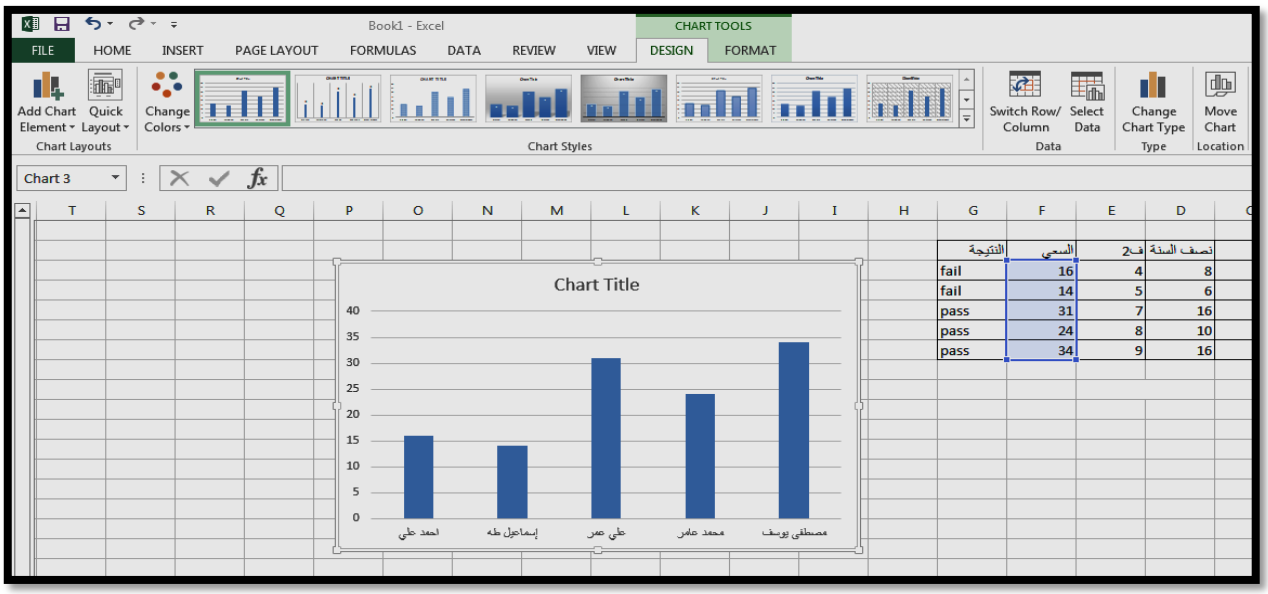
Chart Title

To add a chart title, do the following:

In the **Chart Title** text box that appears in the chart, type the text you want.

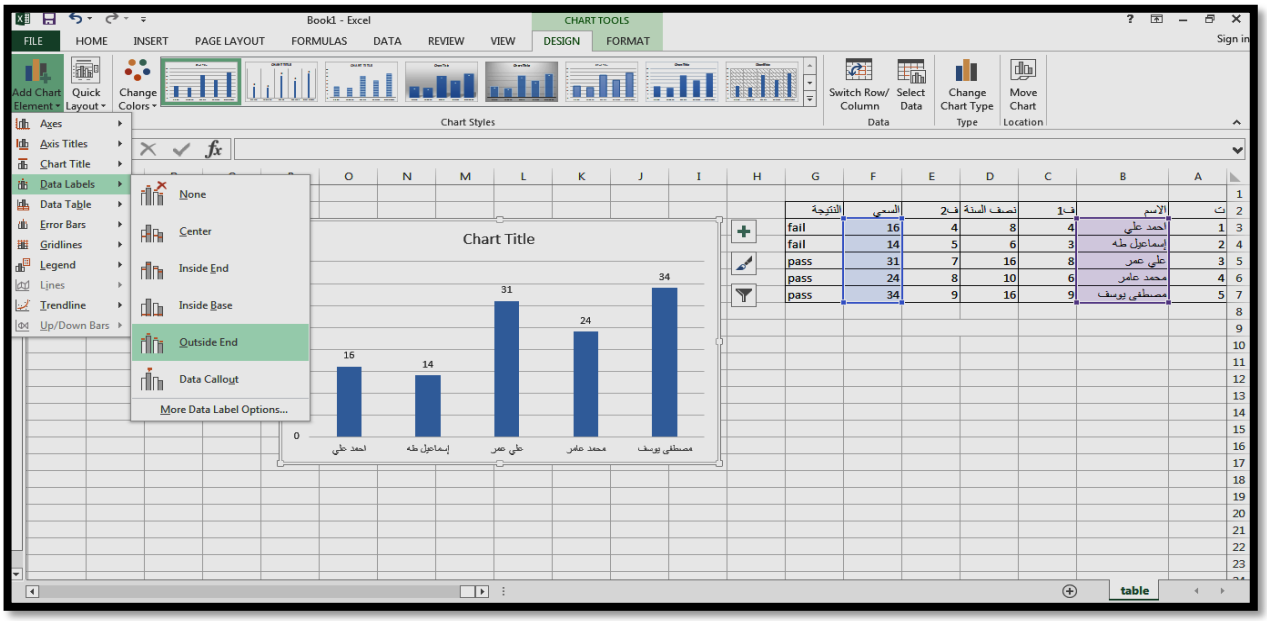
Apply a chart style:

1. Select the chart. The Chart Tools appear on the Ribbon.
2. Under Chart Tools on the **Ribbon**, click the **Design** tab.
3. Select the option to use from the **Chart Styles** gallery in the Chart Styles group. The new style is applied. Click the arrow buttons to scroll down and access additional layouts and styles



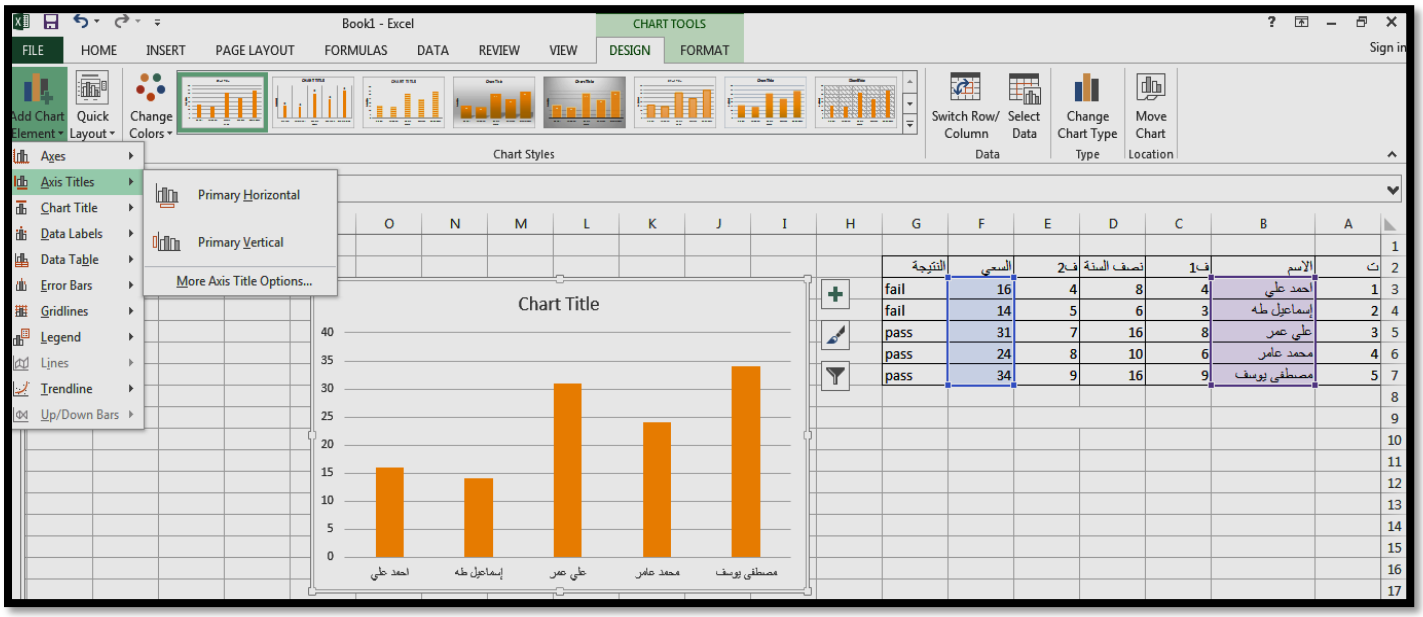
Add Data Labels

1. Select the chart.
2. Under **Chart Tools** on the Ribbon, click the **Design tab**. In the **Chart Layouts group**, select **Add Chart Element**.
3. In **Add Chart Element** select **Data labels** and then Choose the location of the data label.

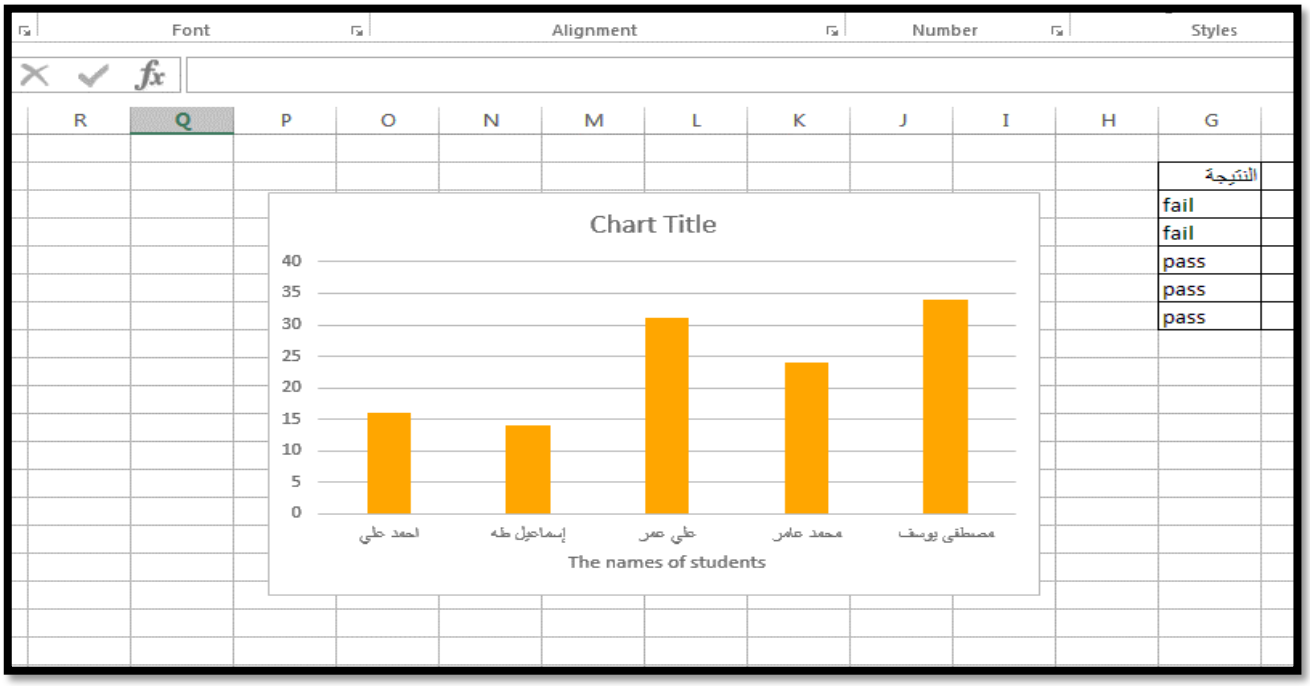


Add Axis Titles

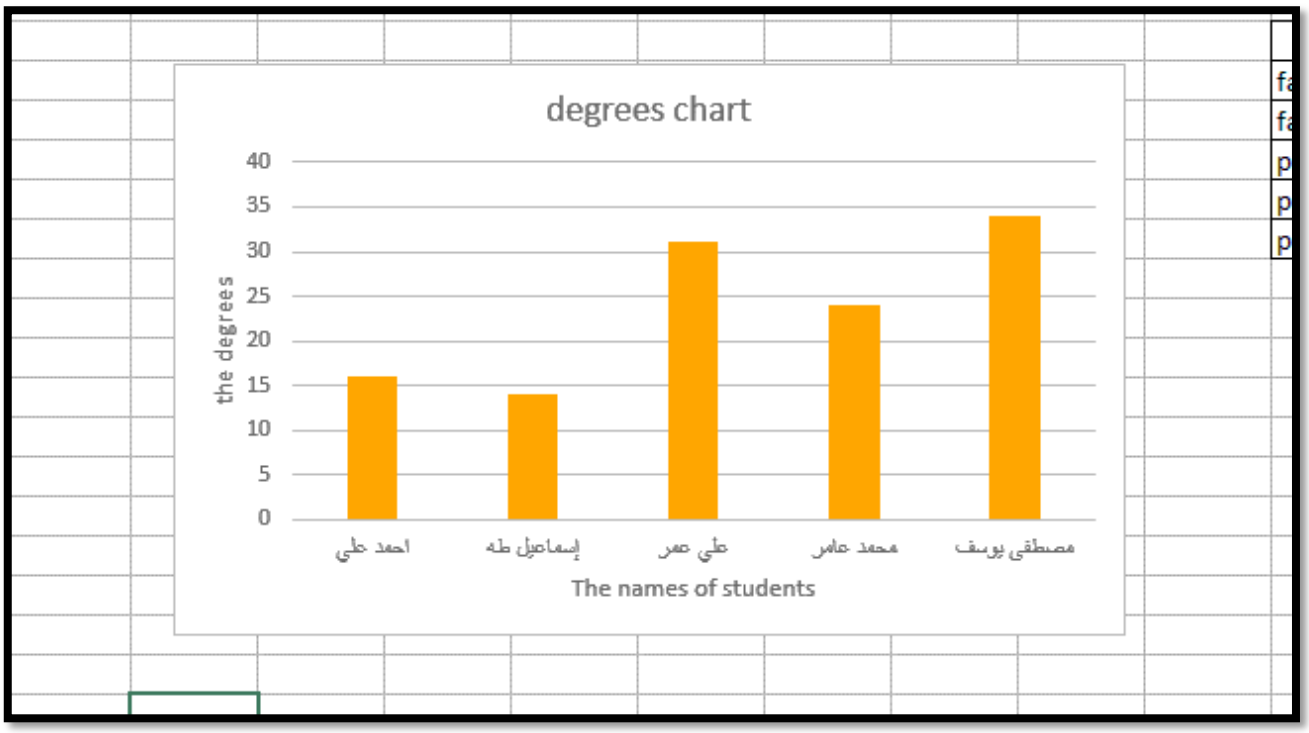
1. Select the chart.
2. Under **Chart Tools** on the Ribbon, click the **Design tab**. In the **Chart Layouts group**, select **Add Chart Element**.
3. In **Add Chart Element** select **Axis Titles.**



4. To add a title to **primary horizontal** , click **Primary Horizontal** , and then type the text that you want in formula bar, finally click **Enter.**



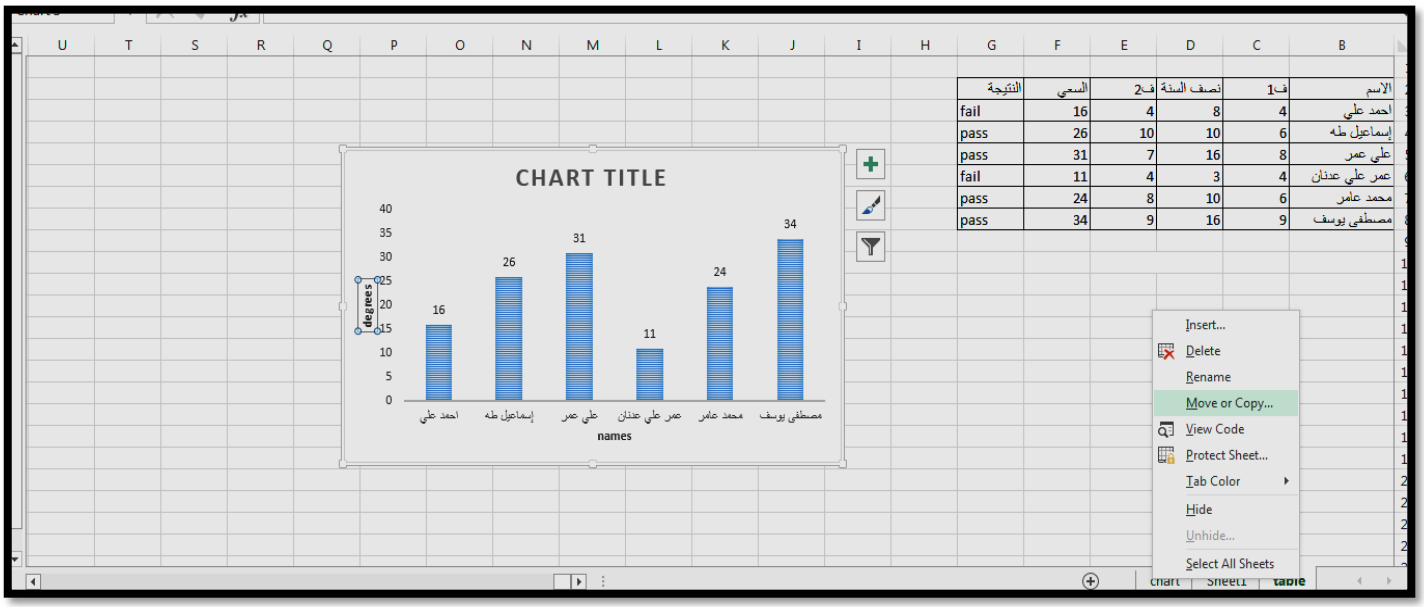
5.To add a title to **primary vertical** , click **Primary vertical** , and then type the text that you want in formula bar, finally click **Enter.**



Copying or Moving Worksheets to Other Workbooks

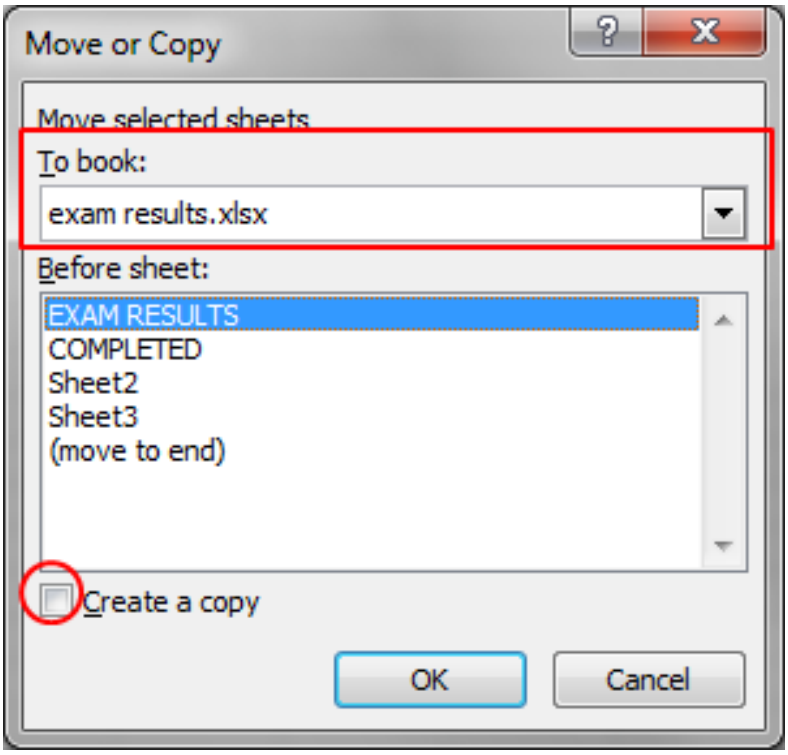
1-Click on the worksheet to be moved or copied.

2-Right click on the sheet tab and select **Move or Copy.**



الاسم	ف1	نصف السنة	ف2	السعي	النتيجة
احمد علي	4	8	4	16	fail
إسماعيل طه	6	10	10	26	pass
علي عمر	8	16	7	31	pass
عمر علي عدنان	4	3	4	11	fail
محمد عامر	6	10	8	24	pass
مصطفى يوسف	9	16	9	34	pass

3- A submenu will appear called Move or Copy (as in figure below). Click on the down arrow to the right of the box under the heading To book: and choose the destination workbook. To copy or move the sheet to a new, as yet unopened workbook, choose (new book) from the list.



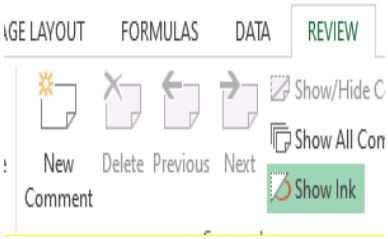
4- If you want to **copy** rather than move the worksheet, i.e. the worksheet will also remain in its original location, click in the tick box to the left of **Create a Copy**

5-Under the heading **Before Sheet:** select a sheet from the list of sheets. The copied or moved worksheet will appear to the left of this sheet in the workbook.

6- Click on **OK**.

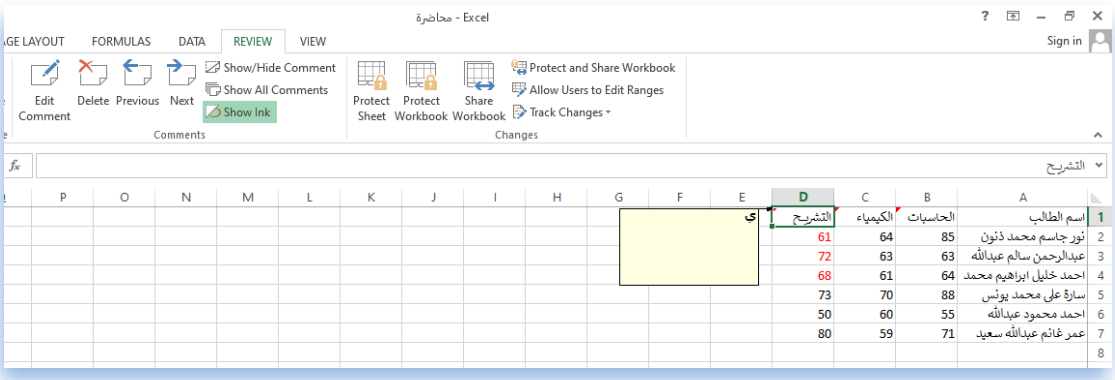
Insert a comment

To insert a comment by **Review tab**, **Comments group**, **New Comment**



It appeared box to print the text and formatting the text.

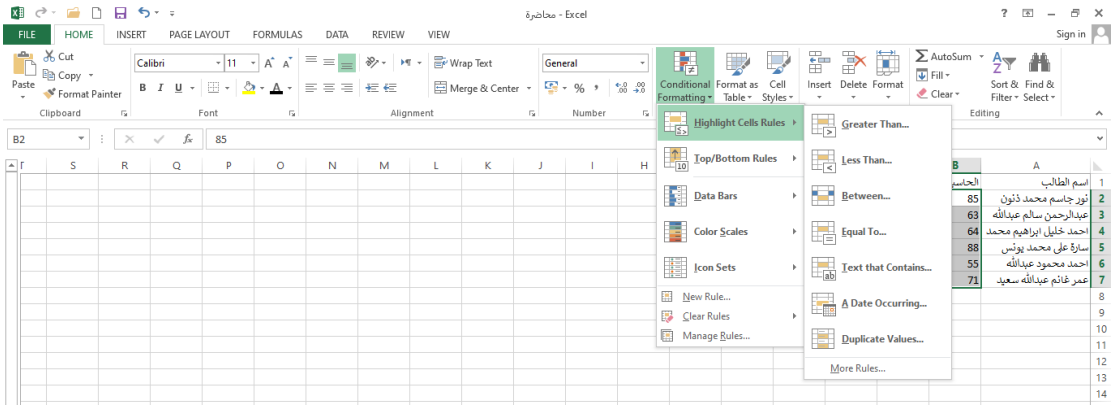
To delete the comment by **Delete** in **Comments group, Review tab.**



To show/hide the comment by click on **Show/hide** in **Comments group, Review tab.**

Conditional Formatting

In Excel can to highlight the contents by conditional formatting by:

Select the cells with number.

In **Home** tab, **Conditional Formatting** in **Styles** group, **Highlight Cells Rules** and choose the rule.