MS EXCEL

Excel Spreadsheet

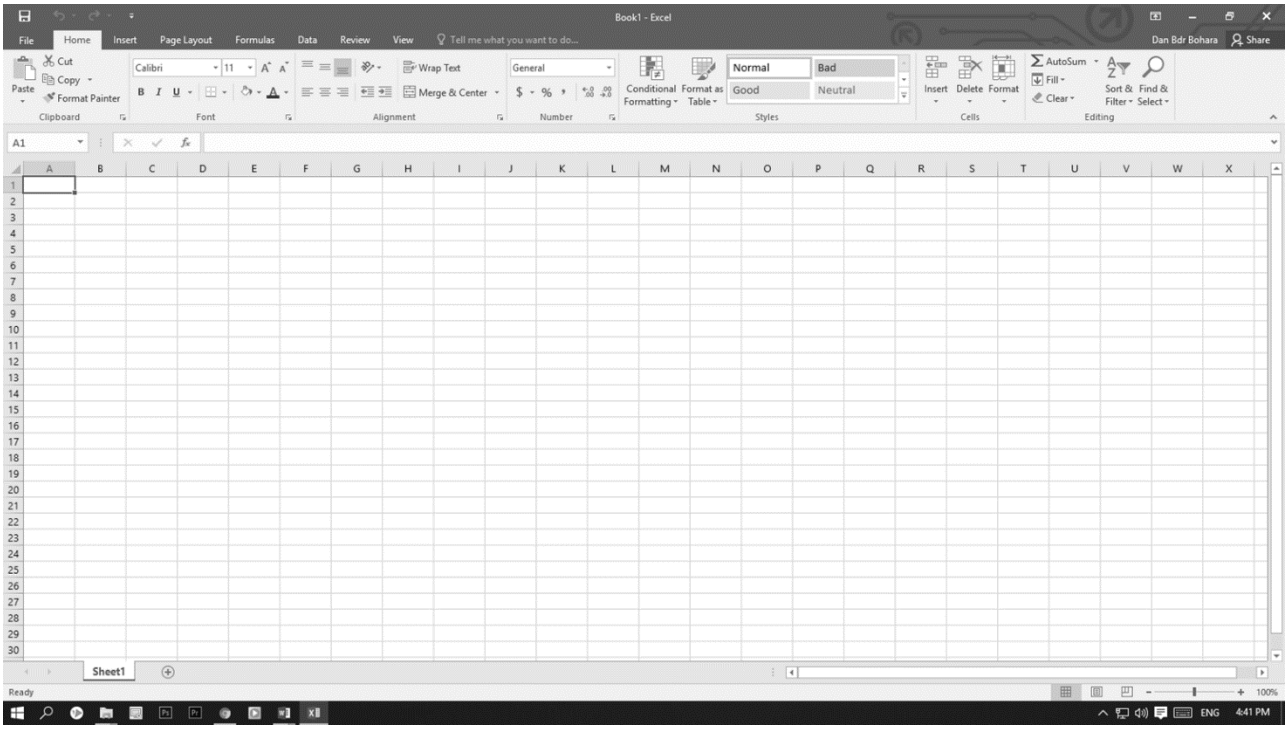
Microsoft Excel is an electronic spreadsheet. You can use it to organize your data into rows and columns. You can also use it to perform mathematical calculations quickly. This notes teaches Microsoft Excel basics. Although knowledge of how to navigate in a Windows environment is helpful, this tutorial was created for the computer novice.
This lesson will introduce you to the Excel window. You use the window to interact with Excel. To begin this lesson, start Microsoft Excel 2016. The Microsoft Excel window appears and your screen looks similar to the one shown here.

Limitation of Ms-Excel

Feature	Maximum limit
Open workbooks	Limited by available memory and system resources
Worksheet size	1,048,576 rows by 16,384 columns
Column width	255 characters
Row height	409 points
Page breaks	1,026 horizontal and vertical
Total number of characters that a cell can contain	32,767 characters
Characters in a header or footer	255
Sheets in a workbook	Limited by available memory (default is 3 sheets)
Colors in a workbook	16 million colors (32 bit with full access to 24 bit color spectrum)
Named views in a workbook	Limited by available memory
Unique cell formats/cell styles	64,000
Fill styles	256
Line weight and styles	256
Unique font types	1,024 global fonts available for use; 512 per workbook
Number formats in a workbook	Between 200 and 250, depending on the language version of Excel that you have installed
Names in a workbook	Limited by available memory
Windows in a workbook	Limited by available memory
Hyperlinks in a worksheet	66,530 hyperlinks
Panes in a window	4
Linked sheets	Limited by available memory
Scenarios	Limited by available memory; a summary report shows only the first 251 scenarios
Changing cells in a scenario	32
Adjustable cells in Solver	200

Custom functions	Limited by available memory
Zoom range	10 percent to 400 percent
Reports	Limited by available memory
Sort references	64 in a single sort; unlimited when using sequential sorts
Undo levels	100
Fields in a data form	32
Workbook parameters	255 parameters per workbook
Items displayed in filter drop-down lists	10,000
Noncontiguous cells that can be selected	2,147,483,648 cells

Getting Start.



File

In Microsoft Word and other Microsoft Office products the **File tab** is a tab on the Office ribbon that gives you access to file functions. For example, from the File tab you can access the Open, Save, Close, Properties, and Recent file options.

The Quick Access Toolbar

Next to the Microsoft Office button is the Quick Access toolbar. The Quick Access toolbar gives you with access to commands you frequently use. By default, Save, Undo, and Redo appear on the Quick Access toolbar. You can use Save to save your file, Undo to roll back an action you have taken, and Redo to reapply an action you have rolled back.

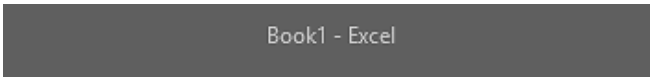
Ribbon contains commands organized in three components:

Tabs: They appear across the top of the Ribbon and contain groups of related commands. Home, Insert, Page Layout is the examples of ribbon tabs.

Groups: They organize related commands; each group name appears below the group on the Ribbon. For example, group of commands related to fonts or group of commands related to alignment etc.

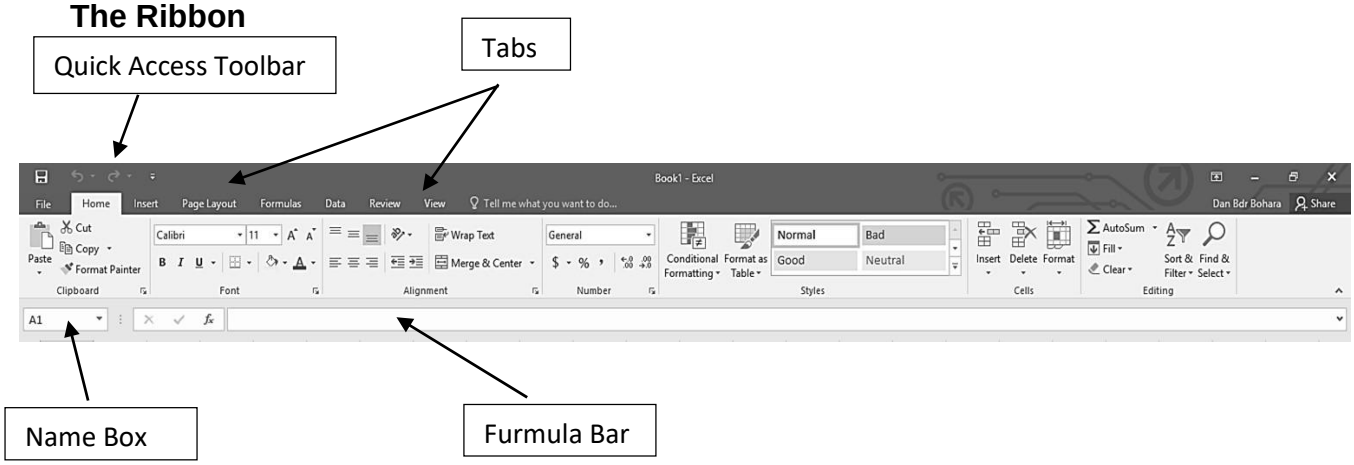
Commands: Commands appear within each group as mentioned above.

The Title Bar



Next to the Quick Access toolbar is the Title bar. On the Title bar, Microsoft Excel displays the name of the workbook you are currently using. At the top of the Excel window, you should see "Microsoft Excel - Book1" or a similar name.

The Ribbon



You use commands to tell Microsoft Excel what to do. In Microsoft Excel 2016, you use the Ribbon to issue commands. The Ribbon is located near the top of the Excel window, below the Quick Access toolbar. At the top of the Ribbon are several tabs; clicking a tab displays several related command groups. Within each group are related command buttons. You click buttons to issue commands or to access menus and dialog boxes. You may also find a dialog box launcher in the bottom-right corner of a group. When you click the dialog box launcher, a dialog box makes additional commands available.

Workbook: - It is a current open window of excel. It is a collection of work sheet. There are three Worksheet in a workbook by default.

Worksheet: -Worksheet is the combination of rows and columns. In one worksheet, there are 65,536 (1 to 65,536) rows and 256(A to IV) columns. (1,048,576 rows by 16,384 columns in 2007/2010/2013/2016)

Row: -Row is the horizontal line of the cells in a worksheet. There are 65,536 rows in a single sheet.

Column: - Column is the vertical line of cells in a worksheet.

Cells: - It is the rectangular block in a worksheet. it is the meet point of row ad column.

The Formula Bar

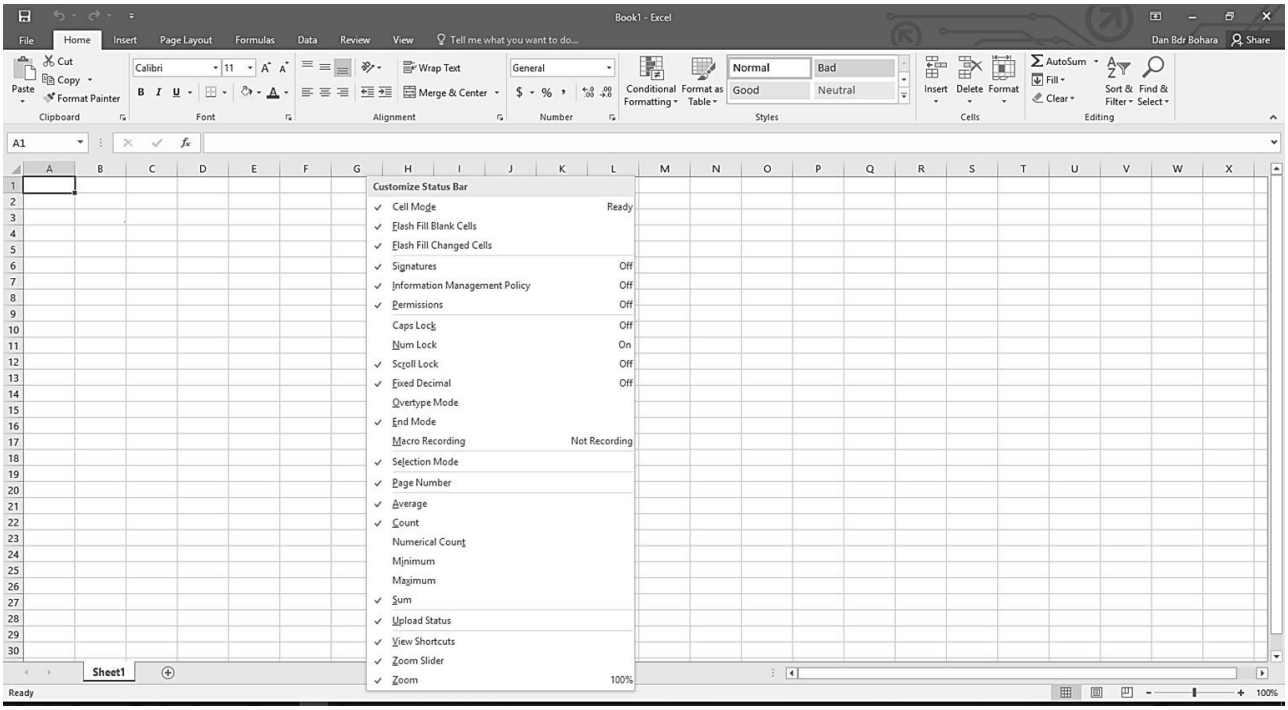
If the Formula bar is turned on, the cell address of the cell you are in displays in the Name box which is located on the left side of the Formula bar. Cell entries display on the right side of the Formula bar. If you do not see the Formula bar in your window, perform the following steps:

1. Choose the View tab.
2. Click Formula Bar in the Show/Hide group. The Formula bar appears.

Note: The current cell address displays on the left side of the Formula bar.

The Status Bar

The Status bar appears at the very bottom of the Excel window and provides such information as the sum, average, minimum, and maximum value of selected numbers. You can change what displays on the Status bar by right-clicking on the Status bar and selecting the options you want from the Customize Status Bar menu. You click a menu item to select it. You click it again to deselect it. A check mark next to an item means the item is selected.



Move around a Worksheet

By using the arrow keys, you can move around your worksheet. You can use the down arrow key to move downward one cell at a time. You can use the up arrow key to move upward one cell at a time. You can use the Tab key to move across the page to the right, one cell at a time. You can hold down the Shift key and then press the Tab key to move to the left, one cell at a time. You can use the right and left arrow keys to move right or left one cell at a time. The Page Up and Page Down keys move up and down one page at a time. If you hold down the Ctrl key and then press the Home key, you move to the beginning of the worksheet.

The Down Arrow Key

- Press the down arrow key several times. Note that the cursor moves downward one cell at a time.

The Up Arrow Key

- Press the up arrow key several times. Note that the cursor moves upward one cell at a time.

The Tab Key

1. Move to cell A1.
2. Press the Tab key several times. Note that the cursor moves to the right one cell at a time.

The Right and Left Arrow Keys

1. Press the right arrow key several times. Note that the cursor moves to the right.
2. Press the left arrow key several times. Note that the cursor moves to the left.

The Name Box

You can also use the Name box to go to a specific cell. Just type the cell you want to go to in the Name box and then press Enter.

1. Type **B10** in the Name box.
2. Press Enter. Excel moves to cell B10.

Select Cells

To select cells A1 to E1:

1. Go to cell A1.
2. Press the F8 key. This anchors the cursor.
3. Note that "Extend Selection" appears on the Status bar in the lower-left corner of the window. You are in the Extend mode.
4. Click in cell E7. Excel highlights cells A1 to E7.
5. Press Esc and click anywhere on the worksheet to clear the highlighting.

Alternative Method: Select Cells by Dragging

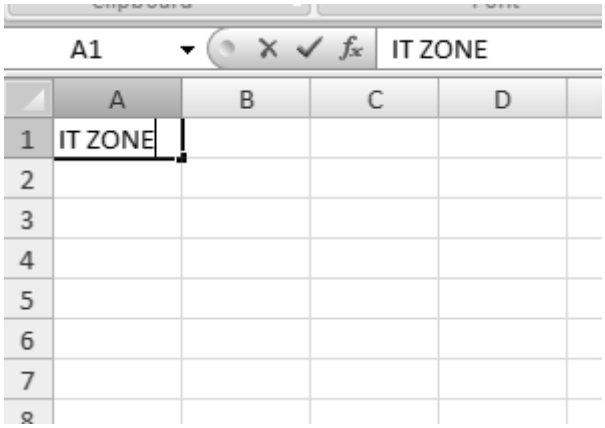
You can also select an area by holding down the left mouse button and dragging the mouse over the area. In addition, you can select noncontiguous areas of the worksheet by doing the following:

Enter Data

In this section, you will learn how to enter data into your worksheet. First, place the cursor in the cell in which you want to start entering data. Type some data, and then press Enter. If you need to delete, press the Backspace key to delete one character at a time.

Enter Data

1. Place the cursor in cell A1.
2. Type **IT ZONE**. Do not press Enter at this time.



Delete Data

The Backspace key erases one character at a time.

1. Press the Backspace key until Jordan is erased.
2. Press Enter. The name "John" appears in cell A1.

Edit a Cell

After you enter data into a cell, you can edit the data by pressing F2 while you are in the cell you wish to edit.

Edit a Cell

Change "IT" to "ZONE."

1. Move to cell A1.
2. Press F2.
3. Press Enter.

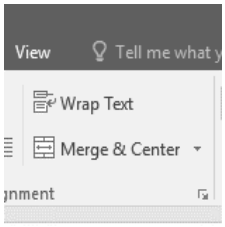
Alternate Method: Editing a Cell by Using the Formula Bar

You can also edit the cell by using the Formula bar and double click. You change "Jones" to "Joker" in the following exercise.

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.

Move to cell A2.

1. Type **Text too long to fit**.
2. Press Enter.
4. Return to cell A2.
5. Choose the Home tab.
6. Click the Wrap Text button 

Excel wraps the text in the cell.

Save a File

1. Click the File button.
2. Click Save. The Save As dialog box appears.
3. Go to the directory in which you want to save your file.
4. Type **Lesson1** in the File Name field.
5. Click Save. Excel saves your file.

Close Excel

1. Click the **File tab**

2. Click Close. Excel closes.

Or directly click on close button of the right side.

Entering Excel Formulas and Formatting Data

A major strength of Excel is that you can perform mathematical calculations and format your data.

Perform Mathematical Calculations

In Microsoft Excel, you can enter numbers and mathematical formulas into cells. Whether you enter a number or a formula, you can reference the cell when you perform mathematical calculations such as addition, subtraction, multiplication, or division. When entering a mathematical formula, precede the formula with an equal sign. Use the following to indicate the type of calculation you wish to perform:

About calculation operators

Operators specify the type of calculation that you want to perform on the elements of a formula. Microsoft Excel includes four different types of calculation operators: arithmetic, comparison, text, and reference.

Types of operators

Arithmetic operators: - To perform basic mathematical operations such as addition, subtraction, or multiplication; combine numbers; and produce numeric results, use the following arithmetic operators

Plus	**+**	(Addition)
Minus	**-**	(Subtraction)
Asterisk	*****	(Multiplication)
Slash	*/*	(Division)

Logical Operator

IF
AND
OR

And Operator

Condition 1	Condition 2	Output/Result
F	F	F
F	T	F
T	F	F
T	T	T

OR Operator

Condition 1	Condition 2	Output/Result
F	F	F
F	T	T
T	F	T
T	T	T

Relational Operator

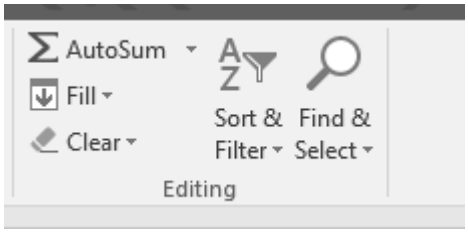
Greater than	>
Less than	<
Greater than and Equal to	>=
Less Than and equal to	<=
not equal to	<>

Addition

1. Give them some number on cell.
2. Click on formula bar.
3. Press =
4. Click on first cell which you want to addition and press + sign than click another cell.
5. Than press enter.

Note: Clicking the check mark on the Formula bar is similar to pressing Enter. Excel records your entry but does not move to the next cell.

(Note: Subtraction, Multiplication and Division are like addition. Only change the operator.)

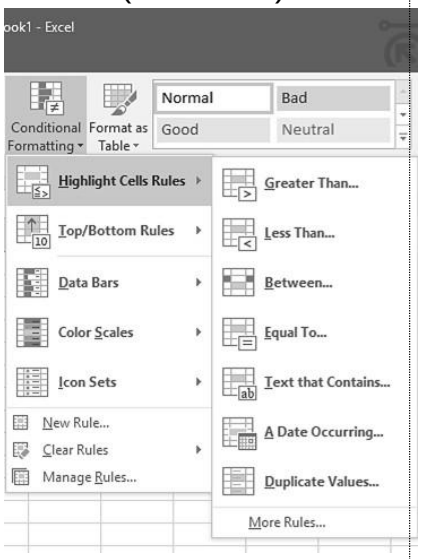


AutoSum

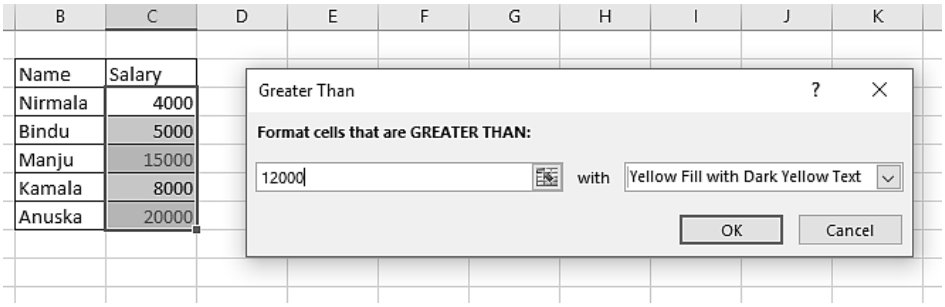
You can use the AutoSum button Σ on the Home tab to automatically add a column or row of numbers. When you press the AutoSum button Σ, Excel selects the numbers it thinks you want to add. If you then click the check mark on the Formula bar or press the Enter key, Excel adds the numbers. If Excel's guess as to which numbers you want to add is wrong, you can select the cells you want.

What is conditional Formatting?

Conditional formatting allows you to set rules for cell formatting. If the rules(conditions) are met, then the formatting is applied. You can have up to 3 rules in a cell. For example, you can set conditional formatting so that a cell turns blue, yellow, red, dark etc. if it contains a value higher/greater than 12000.

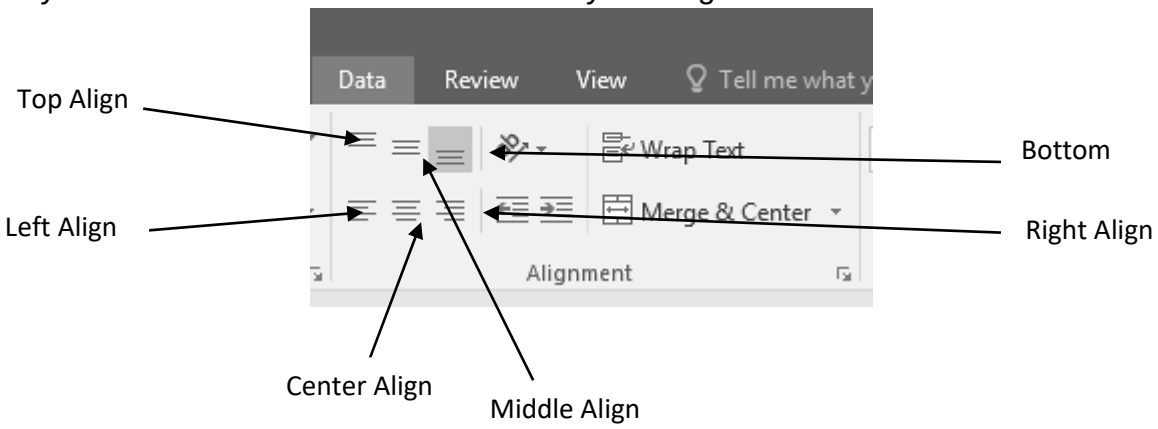


1. Select the cells to be formatted.
2. On the Home tab in the styles group click on Conditional formatting…
3. Choose Highlight Cells Rules click on Greater Than (to your requirement)
4. Type 10000 in the formatting dialog box and choose required color design.
5. Click on Ok.



Align Cell Entries

When you type text into a cell, by default your entry aligns with the left side of the cell. When you type numbers into a cell, by default your entry aligns with the right side of the cell. You can change the cell alignment. You can center, left-align, or right-align any cell entry. Look at cells A1 to D1. Note that they are aligned with the left side of the cell.



Center

1. Select cells A1 to D1.
2. Choose the Home tab.

3. Click the Center button  in the Alignment group. Excel centers each cell's content.

Left-Align

1. Select cells A1 to D1.
2. Choose the Home tab.
3. Click the Align Text Left  button in the Alignment group. Excel left-aligns each cell's content.

Right-Align

1. Select cells A1 to D1. Click in cell A1.
2. Choose the Home tab.
3. Click the Align Text Right button. Excel right-aligns the cell's content.
4. Click anywhere on your worksheet to clear the highlighting.

Note: You can also change the alignment of cells with numbers in them by using the alignment buttons.

New Worksheet

In Microsoft Excel, each workbook is made up of several worksheets. Each worksheet has a tab. By default, a workbook has three sheets and they are named sequentially, starting with Sheet1. The name of the worksheet appears on the tab. Before moving to the next topic, move to a new worksheet. The exercise that follows shows you how.

Move to a New Worksheet

- Click Sheet in the lower-left corner of the screen. Excel moves to Sheet.

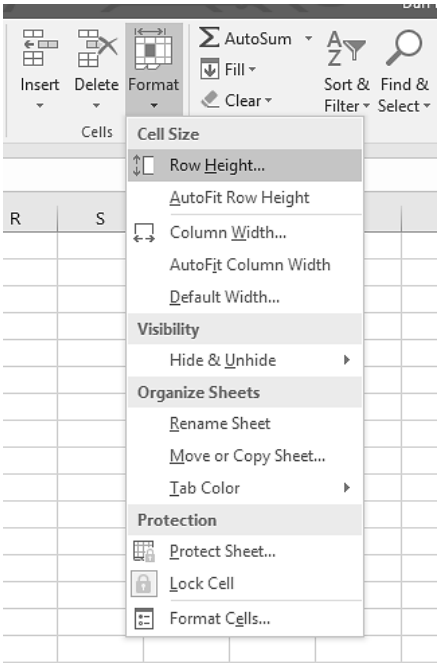
Work with Long Text

Whenever you type text that is too long to fit into a cell, Microsoft Excel attempts to display all the text. It left-aligns the text regardless of the alignment you have assigned to it, and it borrows space from the blank cells to the right. However, a long text entry will never write over cells that already contain entries—instead, the cells that contain entries cut off the long text. The following exercise illustrates this.

Change A Column's Width

You can increase column widths. Increasing the column width enables you to see the long text.

Change Column Width



1. Make sure you are in any cell under column A.
2. Choose the Home tab.
3. Click the down arrow next to **Format** in the **Cells** group.
4. Click Column Width. The Column Width dialog box appears.
5. Type **55** in the Column Width field.
6. Click OK. Column A is set to a width of 55. You should now be able to see all of the text.

Change a Column Width by Dragging

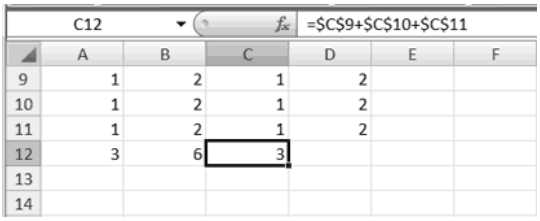
You can also change the column width with the cursor.

1. Place the mouse pointer on the line between the B and C column headings. The mouse pointer should look like the one displayed here ✛, with two arrows. or Double click on right heading border for auto fit.

Absolute Cell Addressing

You make a cell address an absolute cell address by placing a dollar sign in front of the row and column identifiers. You can do this automatically by using the F4 key. To illustrate:

1. Move to cell C12.
2. Type **=**.
3. Click cell C9.
4. Press F4. Dollar signs appear before the C and the 9.
5. Type **+**.
6. Click cell C10.
7. Press F4. Dollar signs appear before the C and the 10.
8. Type **+**.
9. Click cell C11.
10. Press F4. Dollar signs appear before the C and the 11.
11. Click the check mark on the formula bar. Excel records the formula in cell C12.



Insert and Delete Columns and Rows

You can insert and delete columns and rows. When you delete a column, you delete everything in the column from the top of the worksheet to the bottom of the worksheet. When you delete a row, you delete the entire row from left to right. Inserting a column or row inserts a completely new column or row.

Insert and Delete Columns and Rows

1. Click on column which you want to delete.
2. Right click on the column and click on delete.

To insert a column:

1. Click on A to select column A.
2. Click the down arrow next to Insert in the Cells group. A menu appears.
3. Click Insert Sheet Columns. Excel inserts a new column.
4. Click anywhere on the worksheet to remove your selection.

To insert rows:

1. Click on 1 and then drag down to 2 to select rows 1 and 2.
2. Click the down arrow next to Insert in the Cells group. A menu appears.
3. Click Insert Sheet Rows. Excel inserts two new rows.
4. Click anywhere on the worksheet to remove your selection.

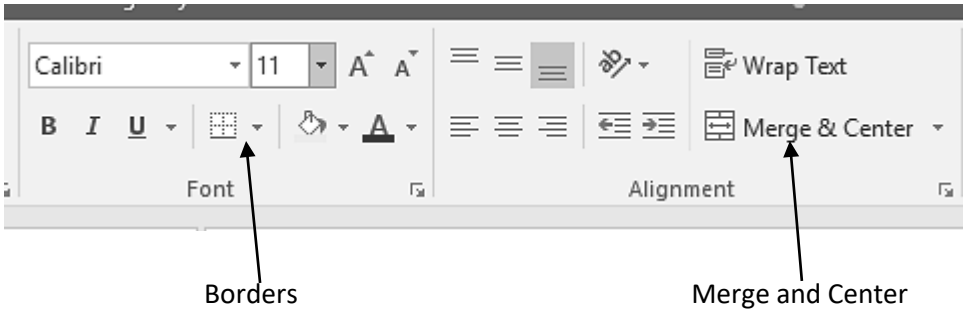
Your worksheet should look like the one shown here.

Create Borders

You can use borders to make entries in your Excel worksheet stand out. You can choose from several types of borders. When you press the down arrow next to the Border button , a menu appears. By making the proper selection from the menu, you can place a border on the top, bottom, left, or right side of the selected cells; on all sides; or around the outside border. You can have a thick outside border or a border with a single-line top and a double-line bottom. Accountants usually place a single underline above a final number and a double underline below. The following illustrates:

Create Borders

1. Select cells where you want to set the borders.
2. Choose the Home tab.
3. Click the down arrow next to the Borders button . A menu appears.
4. Click Top and Double Bottom Border. Excel adds the border you chose to the selected cells.



Merge and Center

Sometimes, particularly when you give a title to a section of your worksheet, you will want to center a piece of text over several columns or rows. The following example shows you how.

Merge and Center

1. Go to any cell.
2. Type **IT ZONE COMPUTER EDUCATION**.
3. Click the check mark on the Formula bar.
4. Select cells want to merge.
5. Choose the Home tab.
6. Click the Merge and Center  button in the Alignment group.

Note: To unmerge cells:

1. Select the cell you want to unmerge.
2. Choose the Home tab.
3. Click the down arrow next to the Merge and Center button  . A menu appears.
4. Click Unmerge Cells. Excel unmerges the cells.

Add Background Color

To make a section of your worksheet stand out, you can add background color to a cell or group of cells.

1. Select cells which you want to color.
2. Choose the Home tab.
3. Click the down arrow next to the Fill Color button. 
4. Click the on the any color.

Some Common functions used in excel

1. Abs(X)

Returns the absolute value of a number, a number without its sign.

Use: - =Abs (100-200)

100

2. Max (A1:A5)

Returns the largest value in a set of values.

10

40

30

20

Use: - =Max(A1:A5)

40

6. Min (A1:A5)

Returns the smallest value in a set of values. Ignores logical values and text.

10

40

30

20

Use: - =Min(A1:A5)

10

4. Upper ("Text")

Converts a text strings in all uppercase text.

5. Use: - =Upper ("it zone computer")

IT ZONE COMPUTER

1. Lower("Text")

Converts a text strings in all lowercase text.

Use: - =Lower ("IT ZONECOMPUTER")

it zone computer

2. NOW ()

Returns the current date and time formatted as a date and time.

Use: - =NOW ()

Or,

Press: - Ctrl+;

3. Today ()

To show current date only in current sheet.

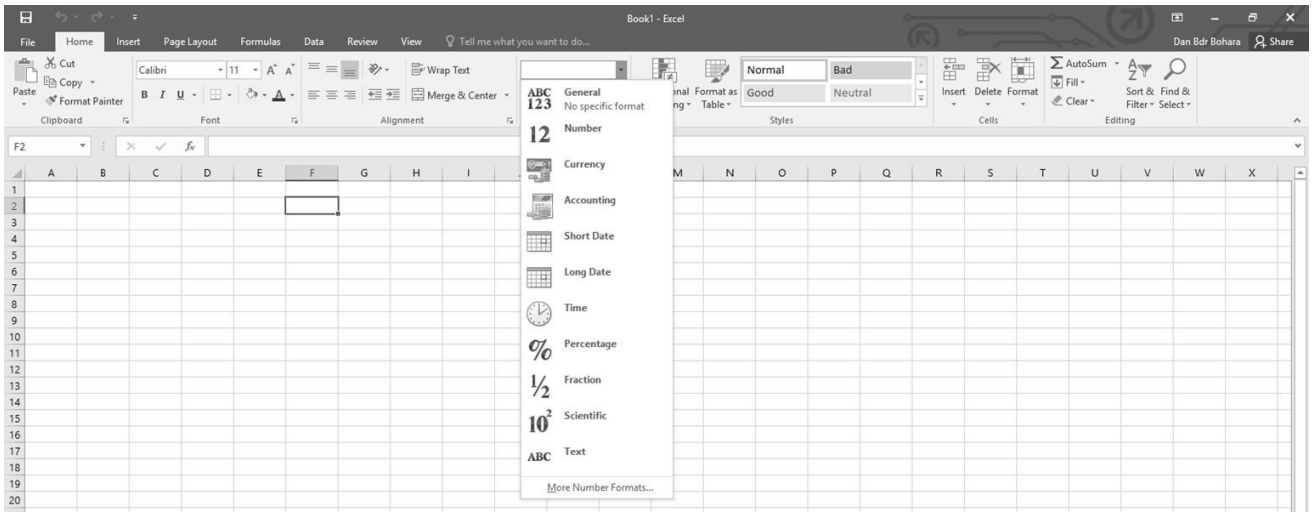
Use: - =Today ()

Format Numbers

You can format the numbers you enter into Microsoft Excel. For example, you can add commas to separate thousands, specify the number of decimal places, place a dollar sign in front of a number, or display a number as a percent.

Format Numbers

1. Move to cell B8.
2. Type **1234567**.
3. Click the check mark on the **Formula bar.**
4. Choose the Home tab.
5. Click the down arrow next to the Number Format box. A menu appears.
6. Click Number. Excel adds two decimal places to the number you typed.
7. Click the Comma Style button ,. Excel separates thousands with a comma.
8. Click the Accounting Number Format button $. Excel adds a dollar sign to your number.
9. Click twice on the Increase Decimal button to change the number format to four decimal places.
10. Click the Decrease Decimal button if you wish to decrease the number of decimal places.



Change a decimal to a percent.

1. Move to cell B9.
2. Type **.35** (note the decimal point).
3. Click the check mark on the formula bar.
4. Choose the Home tab.
5. Click the Percent Style button %. Excel turns the decimal to a percent.

Format worksheet

1. Move to cell.
2. Type the word **Sum**.
3. Select cells B4 to C4.
4. Choose the Home tab.
5. Click the down arrow next to the Borders button .
6. Click Top and Double Bottom Border.

	A	B	C	D
1		12	150	
2		27	85	
3		24	65	
4	Sum	63	300	
5				
6				

As you learned in Lesson 2, you can also calculate a sum by using the AutoSum button Σ.

Calculate an Average

You can use the AVERAGE function to calculate the average of a series of numbers.

B6 =AVERAGE(B1:B3)

	A	B	C	D	E	F
1		12	150			
2		27	85			
3		24	65			
4	Sum	63	300			
5						
6	Average	21				
7						

1. Move to cell A6.
2. Type **Average**. Press the right arrow key to move to cell B6.
3. Type **=AVERAGE (B1:B3)**.
4. Press Enter. The average of cells B1 to B3, which is 21, appears.

Calculate an Average with the AutoSum Button

In Microsoft Excel, you can use the AutoSum button Σ to calculate an average.

1. Move to cell C6.
2. Choose the Home tab.
3. Click the down arrow next to the **AutoSum button** Σ.
4. Click Average.
5. Select cells C1 to C3.
6. Press Enter. The average of cells C1 to C3, which is 100, appears.

SUM =AVERAGE(C1:C3)

	A	B	C	D	E	F
1		12	150			
2		27	85			
3		24	65			
4	Sum	63	300			
5						
6	Average	21	=AVERAGE(C1:C3)			
7						
8						

AVERAGE(**number1**, [number2], ...)

Working with different formulas

Simple Billing system. JAMEER STORE				
SN	**Name of ITEM**	**Quantity**	**Price**	**Amount**
1	Potato	20	35	700
2	Banana	15	50	
3	Orange	12	120	
4	Mango	5	80	
5	Onion	20	40	

Solution
Amount: - Qty * Rate
Discount: - Discount will give 10% of the Amount.
Net Amount: - Amount – Discount

Simple Billing system. KONZOM STORE						
SN	**Name of ITEM**	**Quantity**	**Price**	**Amount**	**Discount**	**Net Amount**
1	Potato	20	35			
2	Banana	15	50			
3	Orange	12	120			
4	Mango	5	80			
5	Onion	20	40			

Salary Sheet.

Sample of Salary Sheet							
SN	**Name**	**Address**	**Post**	**Salary**	**Bonus**	**Tax**	**Net Salary**
1	Dan	Mnr	Teacher	30000	4500	2400	32100
2	Raju	KTM	Manager	40000			
3	Laxman	Dhangadhi	Police	20000			
4	Birendra	Pokhara	Supervisor	45000			
5	Anita	Ilam	Peon	12000			

Criteria

Bonus: - Bonus will give 15% of the Basic Salary.
Tax: - Tax will give 8% of the Basic Salary.

Solution

=Basic Salary*15%
=Basic Salary*8%
Total: - Salary + Bonus – Tex

Bonus: - if salary is greater than equal to 25000, Bonus will give 15% of the Basic Salary.
-Otherwise bonus will give 10% of the Basic Salary.
Tax: - Tax will give 5% of the Basic Salary.
Total: - Salary + Bonus – Tex

Solution

Bonus: - =if(Salary>25000,Salary*15%, Salary*10%)
Tax: - Salary*5%

Criteria

Bonus: - if address is KTM, Bonus will give 20% of the Basic Salary.
- Otherwise 10% bonus will give others.

Tax: - If Post is Manager than bonus will give 10% of the salary, other wise 5% bonus will give others.

Solution

Bonus: - =if(Address ="KTM",Salary*20%, Salary*10%)
Tax: - if(Post ="Manager", Salary*10%,Salary* 5%)

Criteria

Bonus: - if address is KTM or Post is equal to Manager, Bonus will give 25% of the Basic Salary.
- Otherwise 10% bonus will give others.

Tax: - If Post is Manager or Salary is less than 25000, Tax will give 10% of the Basic Salary.
- 5% Tax will give others.

Solution

Bonus: - =if(OR(Address ="KTM",Post= "Manager"), Salary*20%, Salary*10%)

Tax: - if(OR(Post ="Manager", Salary<25000),Salary*10%, Salary*5%)

Excel मा माथिको सुत्रको प्रयोग गर्दा Salary, Post, Address etc. को ठाउँमा जस्ताको तेस्तै नलेखी सोही Active Cell मा Click गर्ने।

Mark-Sheet

Criteria

Total: Sum of All obtain numbers.

Result: If student obtain mark is greater than 35 in all subject, pass otherwise Fail.

PCT: if result is pass, total/number of subject, Otherwise 0.

Division: if PCT greater than 80, Distinction, if PCT greater than 60, First, if PCT greater than 45 than second, if PCT greater than 35 than Third, Otherwise No Division. **Remark:** - if Division is Distinction than Outstanding, If Division is First than Excellent, if Division is Second than Well, If Division is Third than Good, otherwise Try Again.

NAUGAD SECONDARY SCHOOL											
SN	Name	English	Nepali	Computer	Science	Math	Total	Result	PCT	Division	Remark
1	Bikram	84	78	86	87	89					
2	Raju	75	87	87	25	75					
3	Mohan	84	58	65	75	84					
4	Naresh	35	40	45	74	87					
5	Rajan	38	40	65	36	41					

Solution

Result: -

=IF(AND(English>=35,Nepali>=35,Computer>=35,Science>=35,Math>=35),"Pass","Fail")

Percentage: - =IF(Result="Pass",Total/5,0)

Division: - =IF(PCT>=80,"Distinction",IF(PCT>=60,"First",IF(PCT >=45,"Second", IF(PCT>35,"Third", "No Division"))))

Remark: -=IF (Division="Distinction", "Outstanding" ,IF (Division= "First","Excellent",IF(Division="Second","Well",IF(Division ="Third","Good","Try Again"))))

Grading Mark sheet

Grade: If Percentage greater than 90 then A+, if Percentage Greater than 80 then, Grade is A, if Percentage Greater than 70 then, grade B+, if percentage greater than 60 then , grade B, if percentage greater than 50 then, grade C+, if percentage greater than 40 then, grade C, if percentage greater than 30,

JAMEER SECONDARY SCHOOL								
Student Name	English	Nepali	Computer	Digital Logic	Total	Percentage	Grade	GPA
Dan	85	98	99	84	366	91.5	A	4
Raju	68	98	69	48	283	70.75	B+	3.33
Dev	88	84	62	45	279	69.75	B	3
Shanti	69	99	85	89	342	85.5	A-	3.67
Harish	22	42	12	42	118	29.5	C	2

Grade: - if(pct>=90,"A", if(pct>=80,"A-", if(pct>=70,"B+", if(pct>60="B", if(pct>="C+", if(pct>=50,"C", if(pct>=40,"D+", if(pct>30,"D",if(pct>20,"E"."F")))))))

GPA: =Vlookup(Grade, Table area, make absolute ,2,0)

Letter Grade	Points
A	4.00
A-	3.67
B+	3.33
B	3.00
C+	2.67
C	2.33
D+	2.00
D	1.67
E	1.00
F	0.00

Electricity Bill						
C_ID	C Name	Type	P Unit	C Unit	Con-Unit	Amount
1	Raju	Po_P	35	456		
2	Sunita	Pr_P	653	789		
3	Gita	Po_P	485	685		
4	Hari	Pr_P	954	1200		
5	Harry	Po_P	253	695		

Conditions and Formula

Unit Consume =Current Unit-Previous Unit

Amount=

If Unit consume is less than or equal 20 units, Amount=20, Or

if Unit consume is Greater than 20 units, Amount is 7.7 for extra Unit, Or

If Unit consume is Greater than 250 units, Amount is 9.9 for extra Unit.

Solution

=if(Con-Unit>250, (Con-Unit-250) *9.9+230*7.7+20,if(Con-Unit>20,(Con-Unit-20)*7.7+20,20))

Telecom Bill						
C_ID	**C_Name**	**Type**	**Previous Call**	**Current Call**	**Total Call**	**Amount**
1	Raju	Po_P	35	456		
2	Sunita	Pr_P	653	789		
3	Gita	Po_P	485	685		
4	Hari	Pr_P	954	1200		
5	Harry	Po_P	253	695		

Amount=

If Total call is less than or equal 100 units, Amount=200, Or

if Total call is Greater than 100 units, Amount is 2.5 for extra Call, Or

If Total Call is Greater than 500 Call, Amount is 3.5 for extra Unit.

Create Headers and Footers

You can use the Header & Footer button on the Insert tab to create headers and footers. A header is text that appears at the top of every page of your printed worksheet. A footer is text that appears at the bottom of every page of your printed worksheet. When you click the Header & Footer button, the Design context tab appears and Excel changes to Page Layout view. A context tab is a tab that only appears when you need it. Page Layout view structures your worksheet so that you can easily change the format of your document. You usually work in Normal view.
You can type in your header or footer or you can use predefined headers and footers. To find predefined headers and footers, click the Header or Footer button or use the Header & Footer Elements group's buttons. When you choose a header or footer by clicking the Header or Footer button, Excel centers your choice. The table shown here describes each of the Header & Footer Elements group button options.

Header & Footer Elements	
Button	**Purpose**
Page Number	Inserts the page number.
Number of Pages	Inserts the number of pages in the document.
Current Time	Inserts the current time.
File Path	Inserts the path to the document.
File Name	Inserts the file name.
Sheet Name	Inserts the name of the worksheet.
Picture	Enables you to insert a picture.

Both the header and footer areas are divided into three sections: left, right, and center. When you choose a Header or Footer from the Header & Footer Elements group, where you place your information determines whether it appears on the left, right, or center of the printed page. You use the Go to Header and Go to Footer buttons on the Design tab to move between the header and footer areas of your worksheet.

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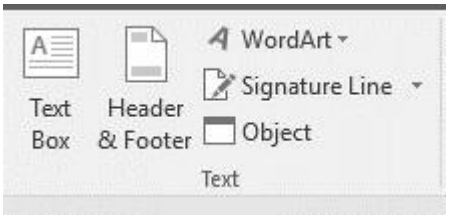
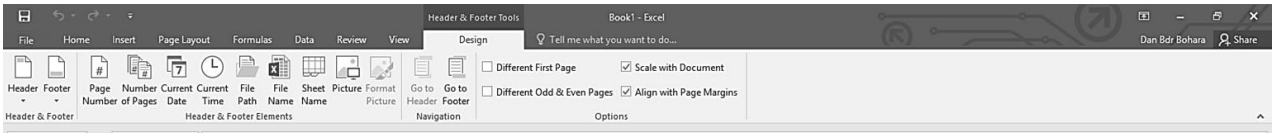
Insert Headers and Footers

1. Choose the Insert tab.





2. Click the Header & Footer button in the Text group. Your worksheet changes to Page Layout view and the Design context tab appears. Note that your cursor is located in the center section of the header area.
3. Click the right side of the header area.
4. Click Page Number in the Header & Footer Elements group. When you print your document, Excel will place the page number in the upper-right corner.
5. Click the left side of the Header area.
6. Type your name. When you print your document, Excel will place your name in the upper-left corner.
7. Click the Go To Footer button. Excel moves to the footer area.
8. Click the Footer button. A menu appears.
9. Click the path to your document. Excel will place the path to your document at the bottom of every printed page.

Return to Normal View

To return to Normal view:
1. Choose the View tab.
2. Click the Normal button in the Workbook Views group.

Set Print Options

The simplest way to print is to click the Office button, highlight Print on the menu that appears, and then click Quick Print in the Preview and Print the Document pane. Dotted lines appear on your screen, and your document prints. The dotted lines indicate the right, left, top, and bottom edges of your printed pages.

You click the Print button when you are ready to print. The Print dialog box appears. You can choose to print the entire worksheet or specific pages. If you want to print specific pages, enter the page numbers in the Form and to fields. You can enter the number of copies you want to print in the Number of Copies field.

Creating Charts

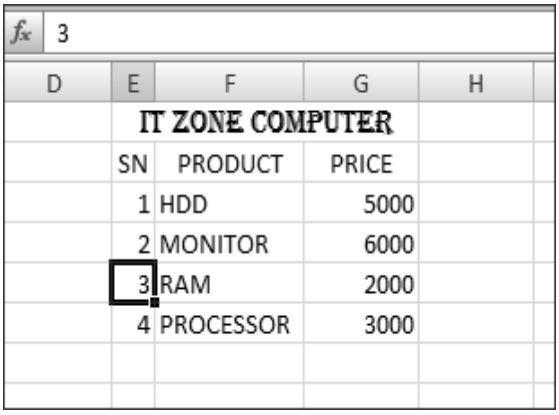
In Microsoft Excel, you can represent numbers in a chart. On the Insert tab, you can choose from a variety of chart types, including column, line, pie, bar, area, and scatter. The basic procedure for creating a chart is the same no matter what type of chart you choose. As you change your data, your chart will automatically update.
You select a chart type by choosing an option from the Insert Tab's Chart group. After you choose a chart type, such as column, line, or bar, you choose a chart sub-type. For example, after you choose Column Chart, you can choose to have your chart represented as a two-dimensional chart, a three-dimensional chart, a cylinder chart, a cone chart, or a pyramid chart. There are further sub-types within each of these

categories. As you roll your mouse pointer over each option, Excel supplies a brief description of each chart sub-type.

Create a Chart

To create the column chart shown below, start by creating the worksheet below exactly as shown.

1. Click on insert.
2. Select the data for chart.
3. Click on Column, pie, line etc.



SN	PRODUCT	PRICE
	IT ZONE COMPUTER	
1	HDD	5000
2	MONITOR	6000
3	RAM	2000
4	PROCESSOR	3000

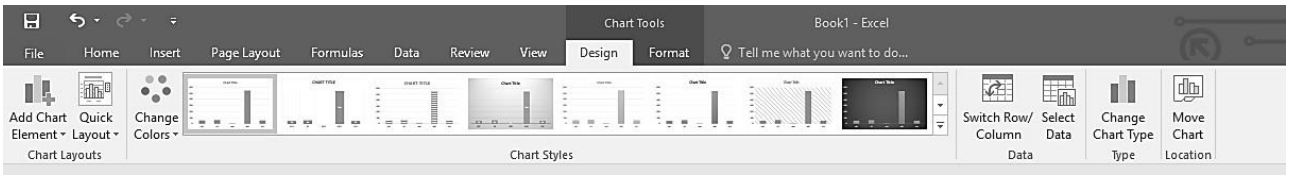
After you have created the worksheet, you are ready to create your chart.

Apply a Chart Layout

Context tabs are tabs that only appear when you need them. Called Chart Tools, there are three chart context tabs: Design, Layout, and Format. The tabs become available when you create a new chart or when you click on a chart. You can use these tabs to customize your chart.

You can determine what your chart displays by choosing a layout. For example, the layout you choose determines whether your chart displays a title, where the title displays, whether your chart has a legend, where the legend displays, whether the chart has axis labels and so on. Excel provides several layouts from which you can choose.

Apply a different Chart Design/Type



1. Click your chart. The Chart Tools become available.
2. Choose the Design tab.

3. Click the Quick Layout button in the Chart Layout group. A list of chart layouts appears.
4. Click Layout 5. Excel applies the layout to your chart.

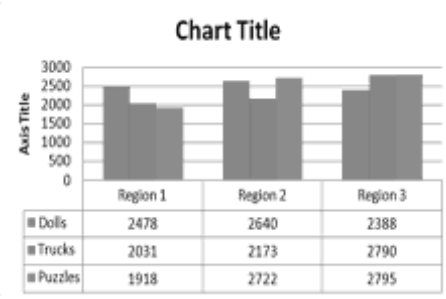
Add Labels

When you apply a layout, Excel may create areas where you can insert labels. You use labels to give your chart a title or to label your axes. When you applied layout 5, Excel created label areas for a title and for the vertical axis.

Add labels

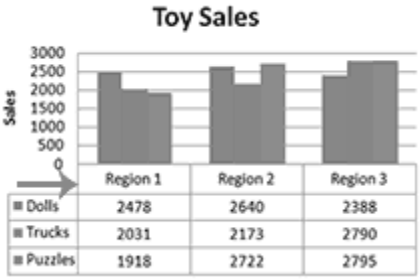
Select Chart Title. Click on Chart Title and then place your cursor before the C in Chart and hold down the Shift key while you use the right arrow key to highlight the words Chart Title.

2. Type **Toy Sales**. Excel adds your title.
3. Select Axis Title. Click on Axis Title. Place your cursor before the A in Axis. Hold down the Shift key while you use the right arrow key to highlight the words Axis Title.
4. Type **Sales.** Excel labels the axis.
5. Click anywhere on the chart to end your entry.



Change the Style of a Chart

1. Click your chart. The Chart Tools become available.
2. Choose the Design tab.
3. Click the More buttons in the Chart Styles group. The chart styles appear.
4. Click Style 42. Excel applies the style to your chart.



Change the Size and Position of a Chart

When you click a chart, handles appear on the right and left sides, the top and bottom, and the corners of the chart. You can drag the handles on the top and bottom of the chart to increase or decrease the height of the chart. You can drag the handles on the left and right sides to increase or decrease the width of the chart. You can drag the handles on the corners to increase or decrease the size of the chart proportionally. You can change the position of a chart by clicking on an unused area of the chart and dragging.

Move a Chart to a Chart Sheet

1. Click your chart. The Chart Tools become available.
2. Choose the Design tab.
3. Click the Move Chart button in the Location group. The Move Chart dialog box appears.
4. Click the New Sheet radio button.

5. Type Toy Sales to name the chart sheet. Excel creates a chart sheet named Toy Sales and places your chart on it.

Change the Chart Type

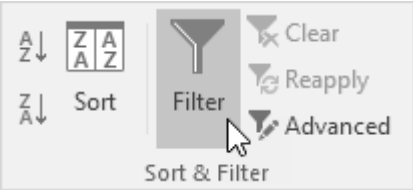
Any change you can make to a chart that is embedded in a worksheet, you can also make to a chart sheet. For example, you can change the chart type from a column chart to a bar chart.

1. Click your chart. The Chart Tools become available.
2. Choose the Design tab.
3. Click Change Chart Type in the Type group. The Chart Type dialog box appears.
4. Click Bar.
5. Click Clustered Horizontal Cylinder.
6. Click OK. Excel changes your chart type.

Filter in

Filter your Excel data if you only want to display records that meet certain criteria.

1. Click any single cell inside a data set.
2. On the Data tab, in the Sort & Filter group, click Filter.



3. You can see drop down arrow on the selected field/heading.
4. Click on drop down arrow and check/uncheck your data which you want to saw. You can also arrange your data ascending or descending order.

Freeze

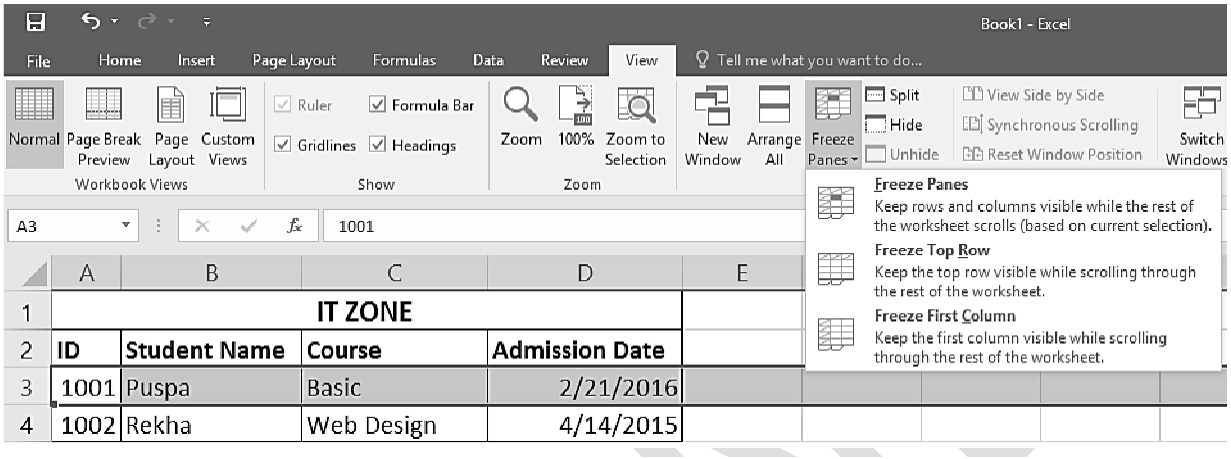
Whenever you're working with a lot of data, it can be difficult to **compare** information in your workbook. Fortunately, Excel includes several tools that make it easier to view content from different parts of your workbook at the same time, such as the ability to **freeze panes** and **split** your worksheet.

To freeze rows:

You may want to see certain rows or columns all the time in your worksheet, especially **header cells**. By **freezing** rows or columns in

place, you'll be able to scroll through your content while continuing to view the frozen cells.

1. Select the **row** below the row(s) you want to **freeze**. In our example, we want to freeze rows **1** and **2**, so we'll select row **3**.

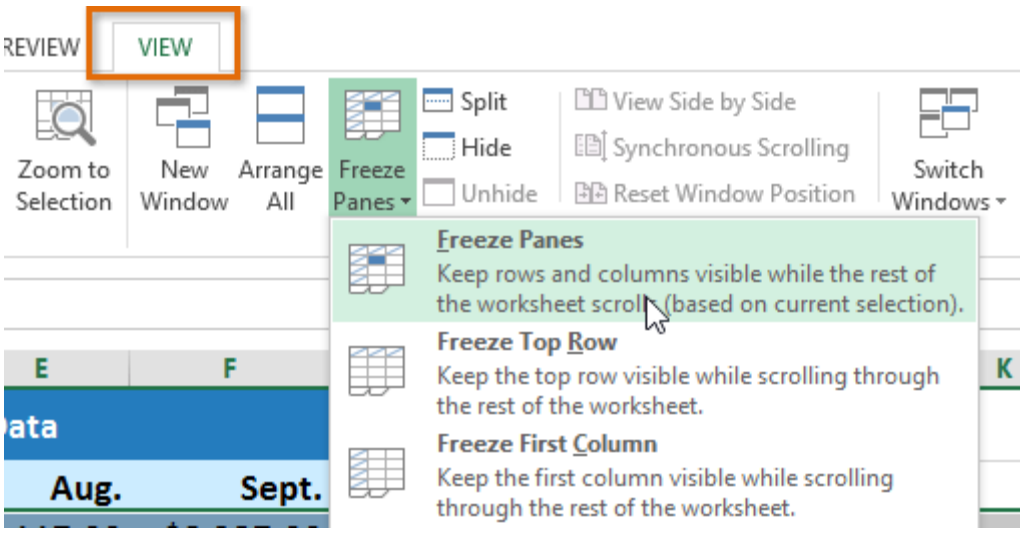


2. Click the **View** tab on the **Ribbon**.
3. Select the **Freeze Panes** command, then choose **Freeze Panes** from the drop-down menu.
4. The rows will be **frozen** in place, as indicated by the **gray line**. You can **scroll down** the worksheet while continuing to view the frozen rows at the top.

To freeze columns:

1. Select the **column** to the right of the column(s) you want to **freeze**. In our example, we want to freeze **column A**, so we'll select column **B**.
2. Click the **View** tab on the **Ribbon**.
3. Select the **Freeze Panes** command, then choose **Freeze Panes** from the drop-down menu.

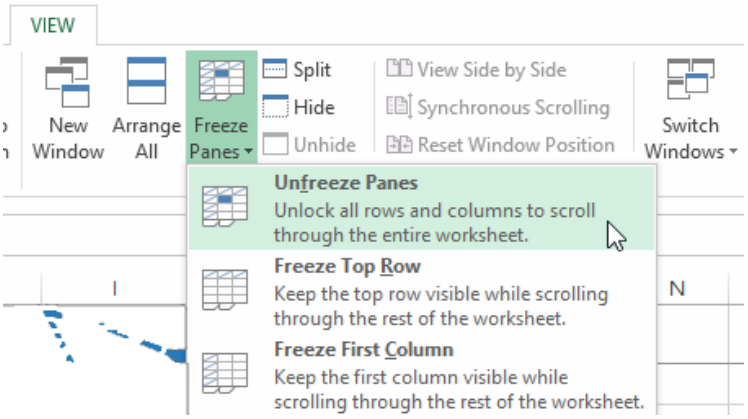
4. The



Print

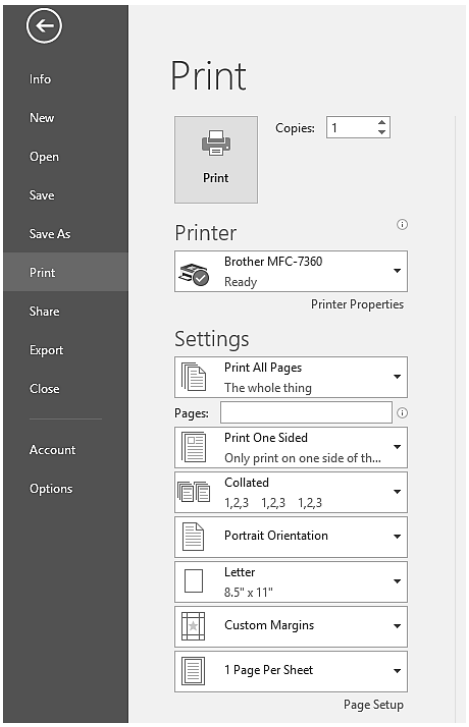
column will be **frozen** in place, as indicated by the **gray line**. You can **scroll across** the worksheet while continuing to view the frozen column on the left. In our example, we've scrolled across to column **E**.

To **unfreeze** rows or columns, click the **Freeze Panes** command, then select **Unfreeze Panes** from the drop-down menu.



If you only need to freeze the **top row** (row 1) or **first column** (column A) in the worksheet, you can simply select **Freeze Top Row** or **Freeze First Column** from the drop-down menu.

1. Click the Print button. The Print dialog box appears.
2. Click the down arrow next to the name field and select the printer to which you want to print.
3. Click OK. Excel sends your worksheet to the printer.



DATA VALIDATION and CONDITIONAL FORMATTING

- Data validation to allow / disallow certain types of data to be entered within a spreadsheet
- Using Data Validation to choose a value for a cell from a dropdown list predefined with a list of data with a defined name
- Formatting certain cells to only accept a date value with parameters
- Returning Error Messages if Data Validation is not passed for a particular cell value
- Conditional Formatting may be used to highlight values in a particular column based on their values
- Quickly identify items that need attention within a spreadsheet using the Conditional formatting tools within Excel

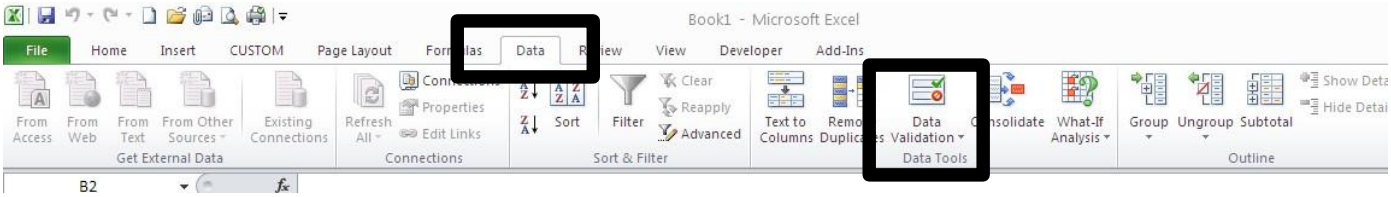
This session will cover a number of functions in Excel that allow for better data entry and will show you how to quickly identify items within a spreadsheet that fit a certain criteria.

Data Validation

When creating a form in excel, or using fields to set criteria or parameters for a query, it may be important to limit the type of data a user us allowed to key into the field.

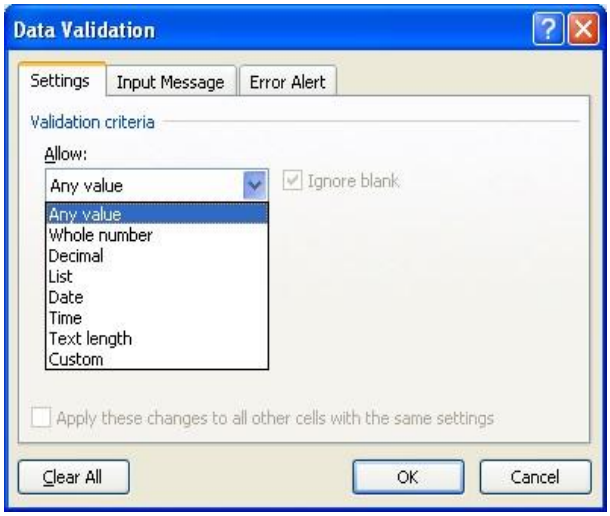
The Data Validation function in Excel limits the user's ability to fill in a field by setting criteria on the cell.

On the toolbar, the Data Validation option is found under the DATA tab – Data Validation.



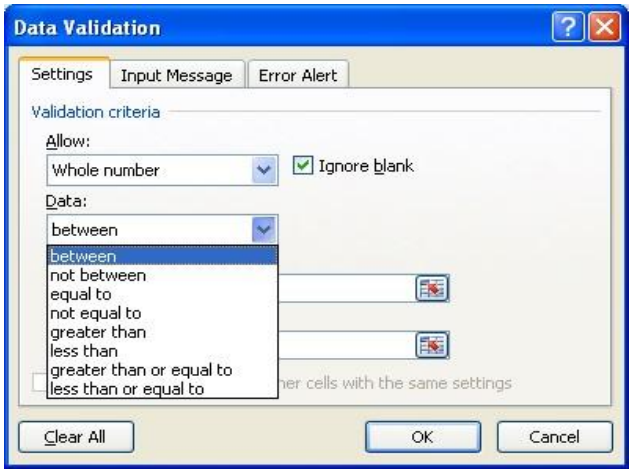
Once Selected, you are presented with the options to set in the cell / range for the validation. This functionality ensures that the data entered in a cell matches the pre-defined criteria of the cell value.

By default – Data Validation is set to "ANY VALUE" - this allows the user to enter anything into the cell.

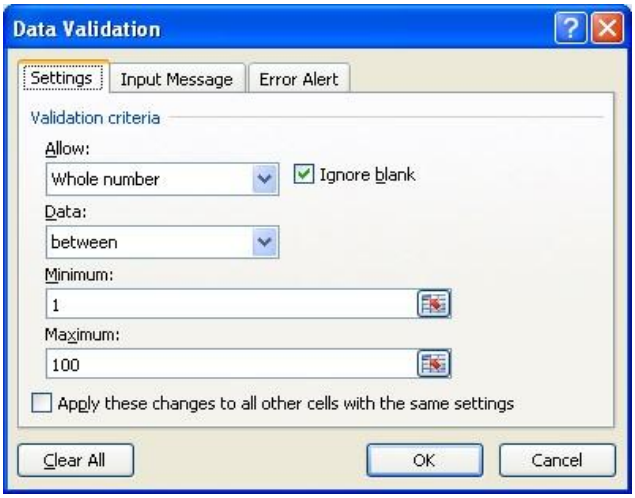


Whole Number:

When selecting the option to allow WHOLE NUMBERS in a cell, you will have the option to put parameters on the range of allowable numbers. This may be useful if you are tracking a percentage of completion entry on a spreadsheet.



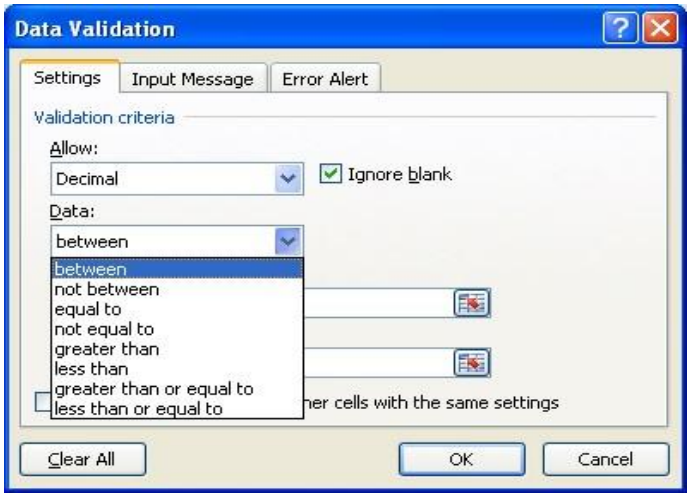
In this example – the data validation will allow any whole number between 1 and 100.



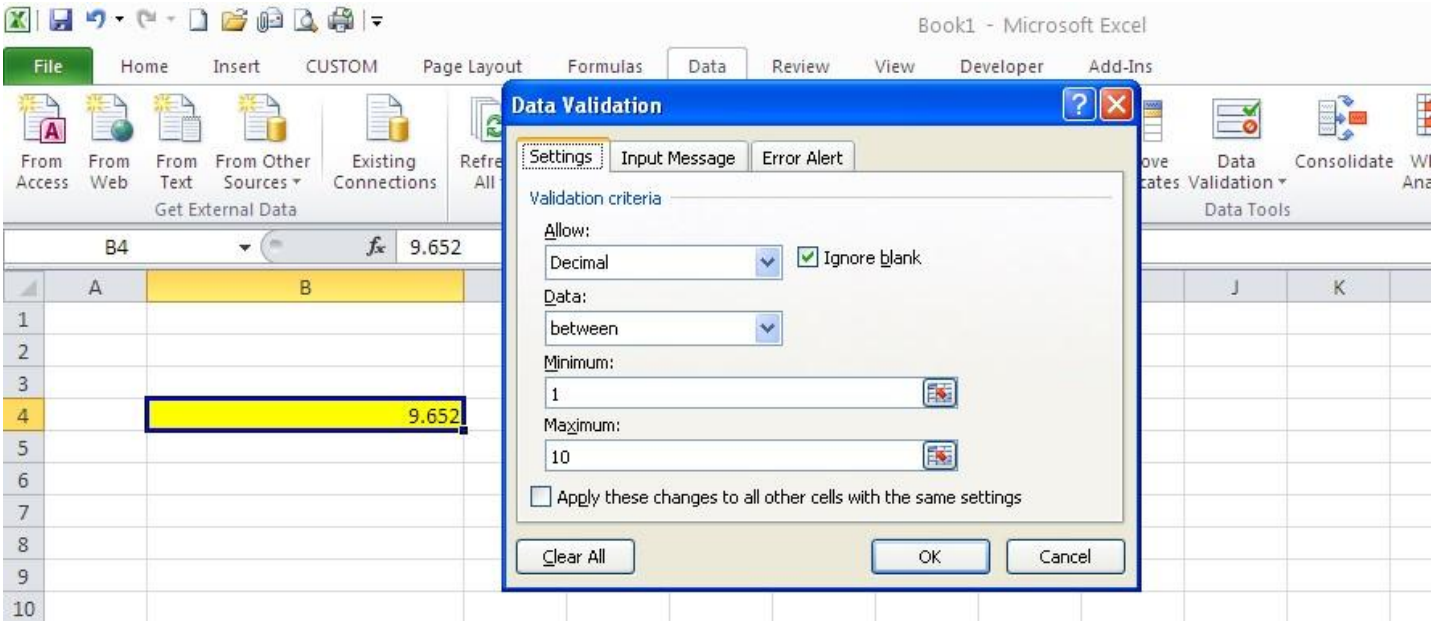
When a cell value is entered that does not match the defined criteria, a warning message appears. (More on this later)

Decimal:

This function is similar to the Whole Number function, but allows the user to enter a number with decimal places.



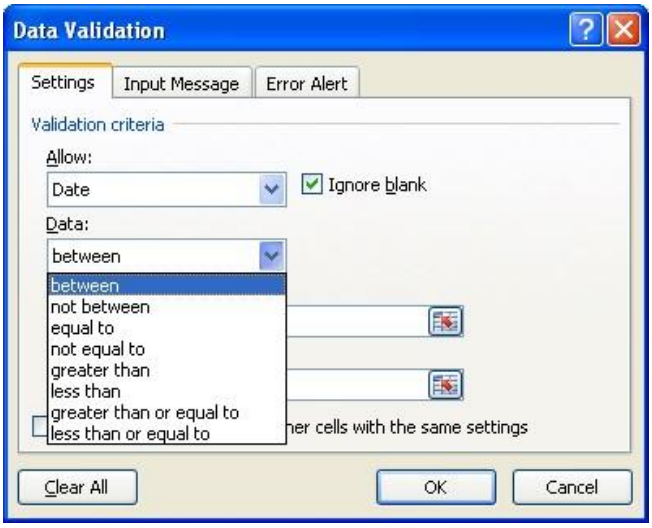
I have changed the setting here to only allow values between 1 and 10. But the Criteria to allow Decimal will let me enter a number with unlimited decimal places.



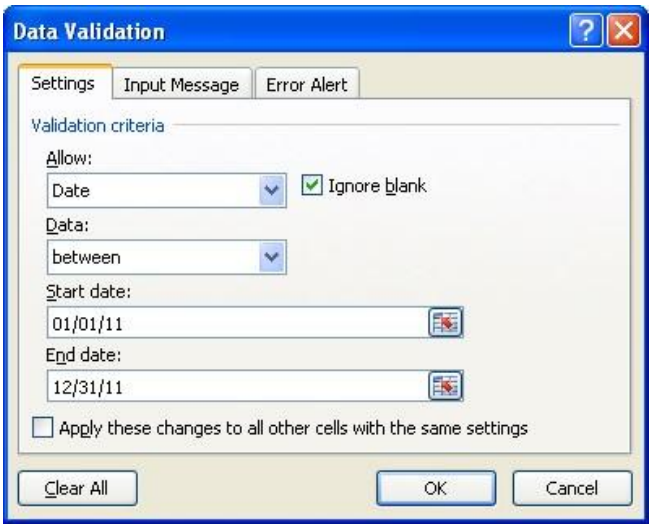
When using numeric based validation, an error will appear if a text based data is entered.

Date:

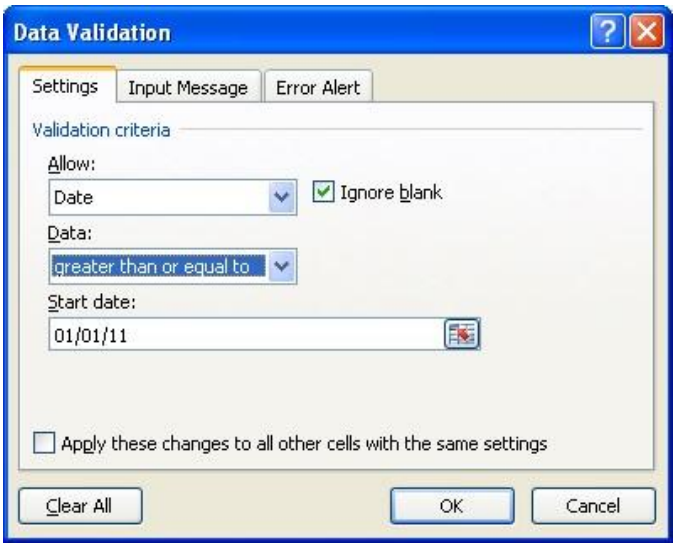
You may define a start date and an end date when entering in date fields in the validation criteria.



These settings will ensure that a valid date is entered between 01/01/11 and 12/31/11



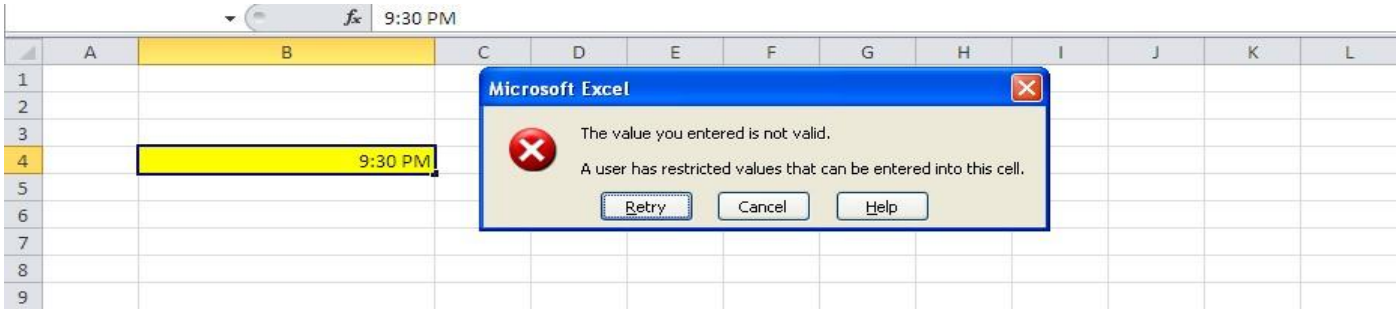
The following setting ensures that the date entered is greater than 01/01/11



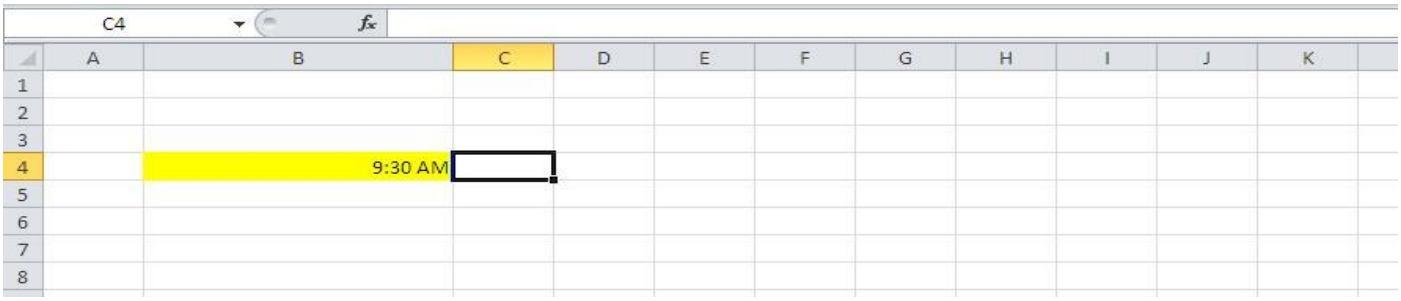
Time:

Time based fields for data validation ensure that a time entered in a field will fall into the selected criteria.

An error will occur if the time entered is outside of the set criteria.

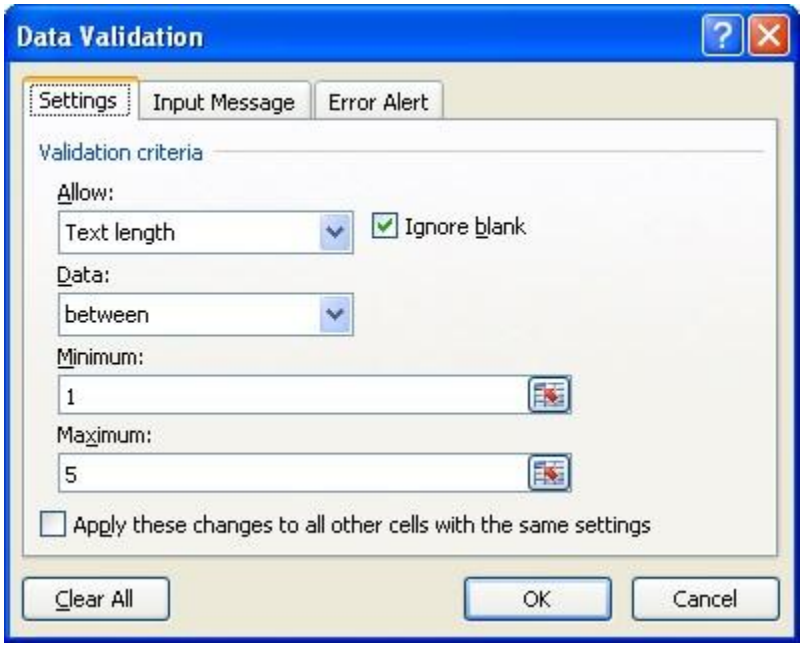


Data Validated:

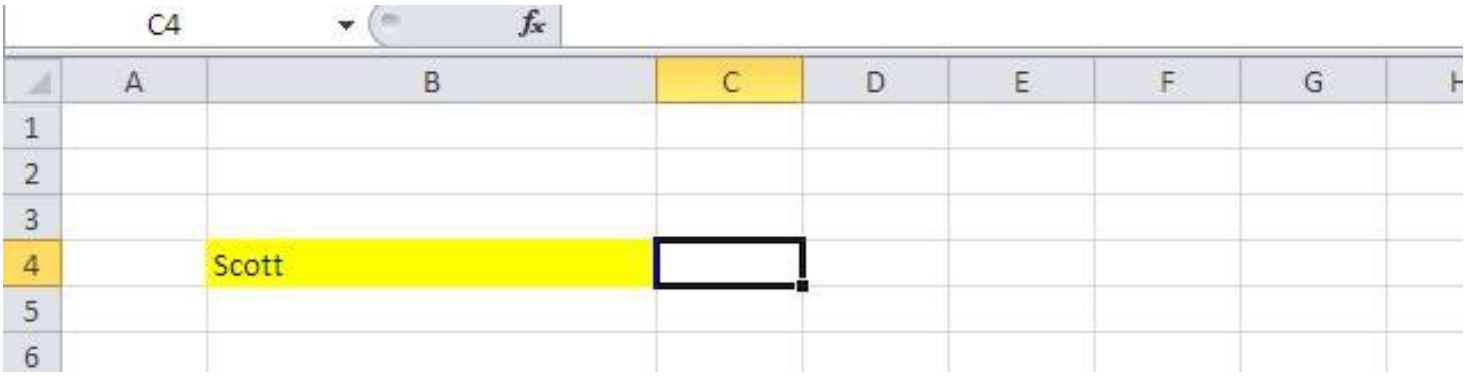


Text Length:

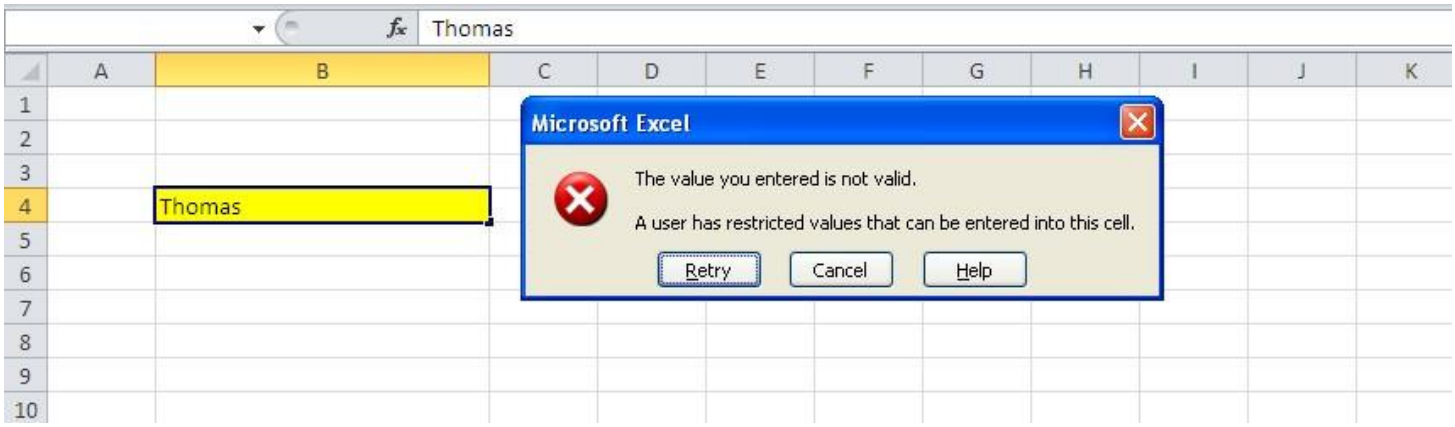
Text Length is the first text-based validation field. It basically limits the number of characters that a user is allowed to enter in a field.



Data Validated:

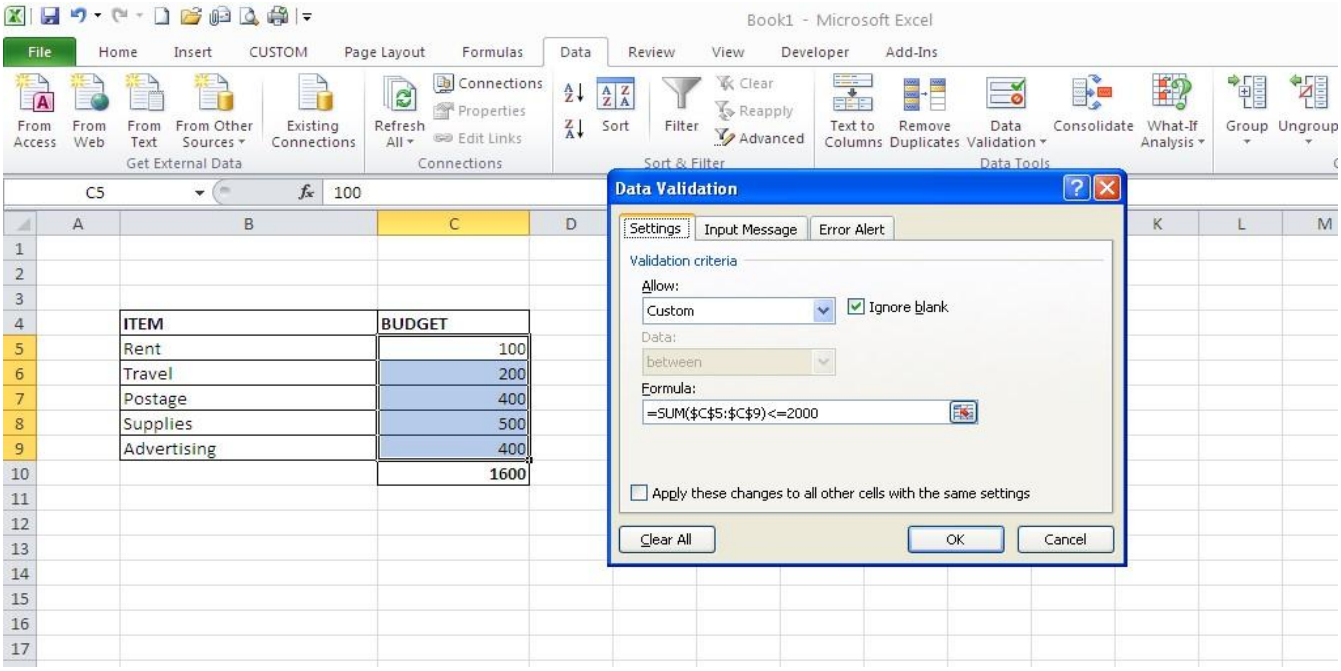


Data Entry error:



Custom:

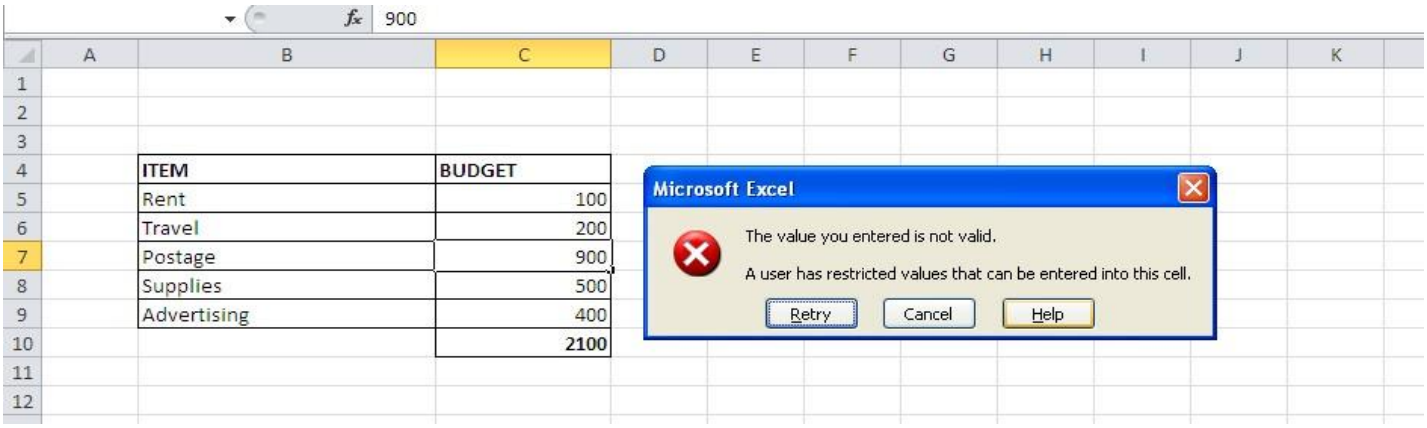
The CUSTOM function allows a great deal of flexibility on validating items based on a formula.



In this example, we want to limit the value of the sum to $2,000.00 for the data entered in cells C5 – C9.

- Select cells C5:C9 . This is the first time we have selected a **range** of cells to allow data validation.
- Choose Data - Data Validation
- Choose Allow: Custom
- For the formula, use SUM to total the values in the range $C$5:$C$9. The result must be less than or equal to $2,000.00: **=SUM($C$5:$C$9) <= 2000**

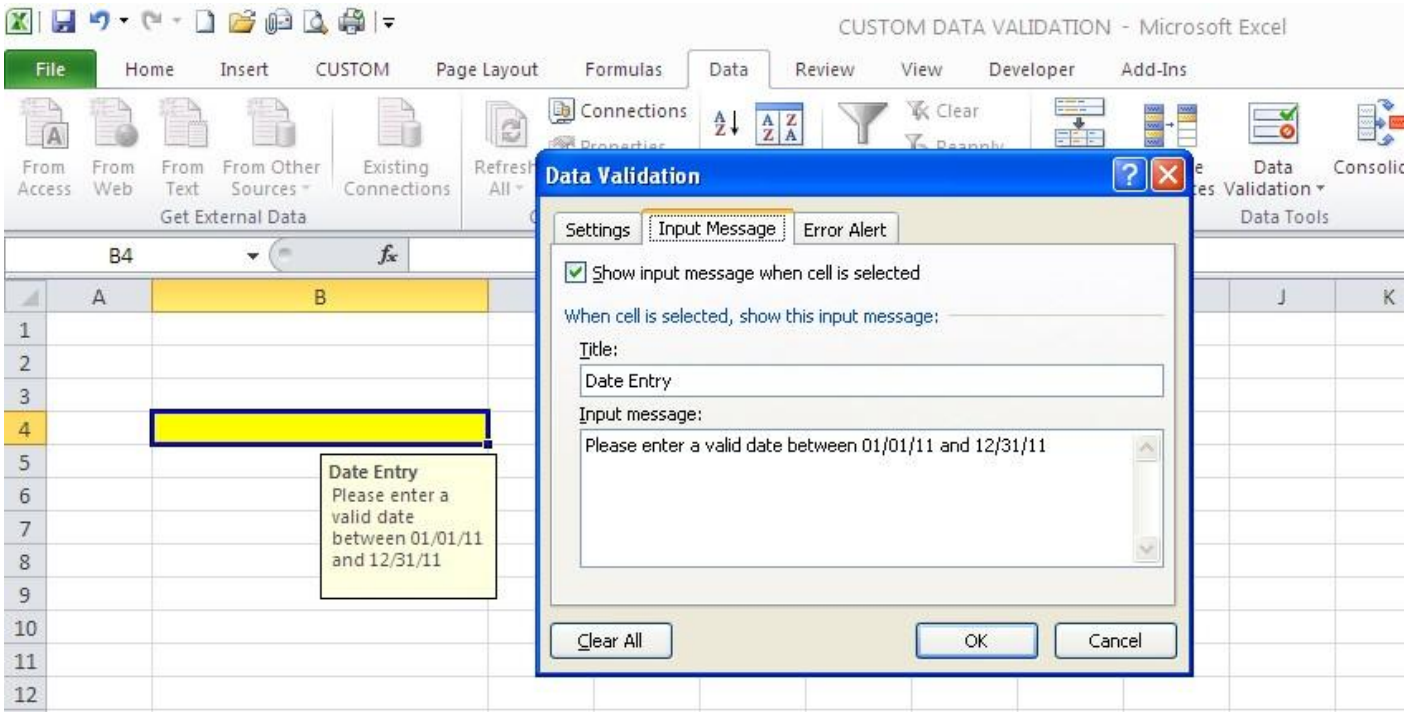
If the Sum of the selected cells exceeds the amount defined in the Formula, you will receive a validation error.



Data validation - Input Message:

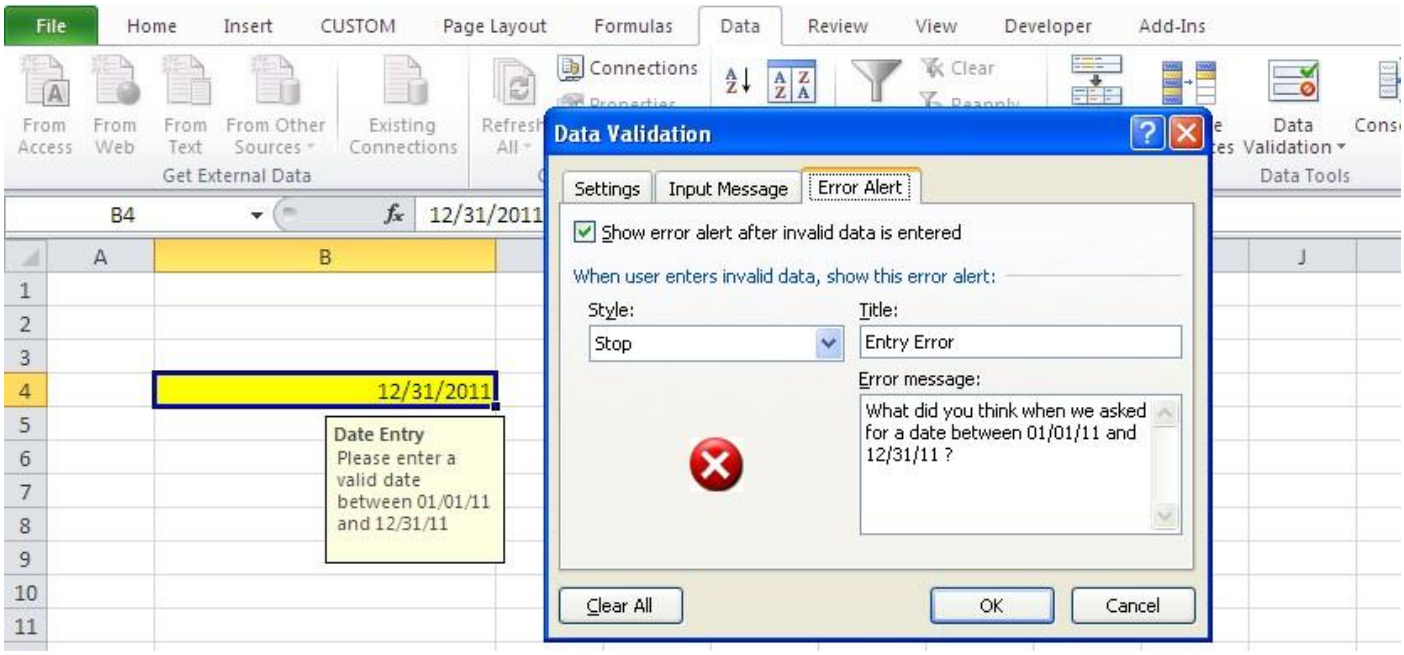
This tab will allow you to prompt the user for what type of data you are expecting to be entered in the field.

In this example, we are prompting the user to enter a date between 01/01/11 and 12/31/11. Selecting the
“Show input message when cell is selected” will open a box that lets the user know of the required data type.

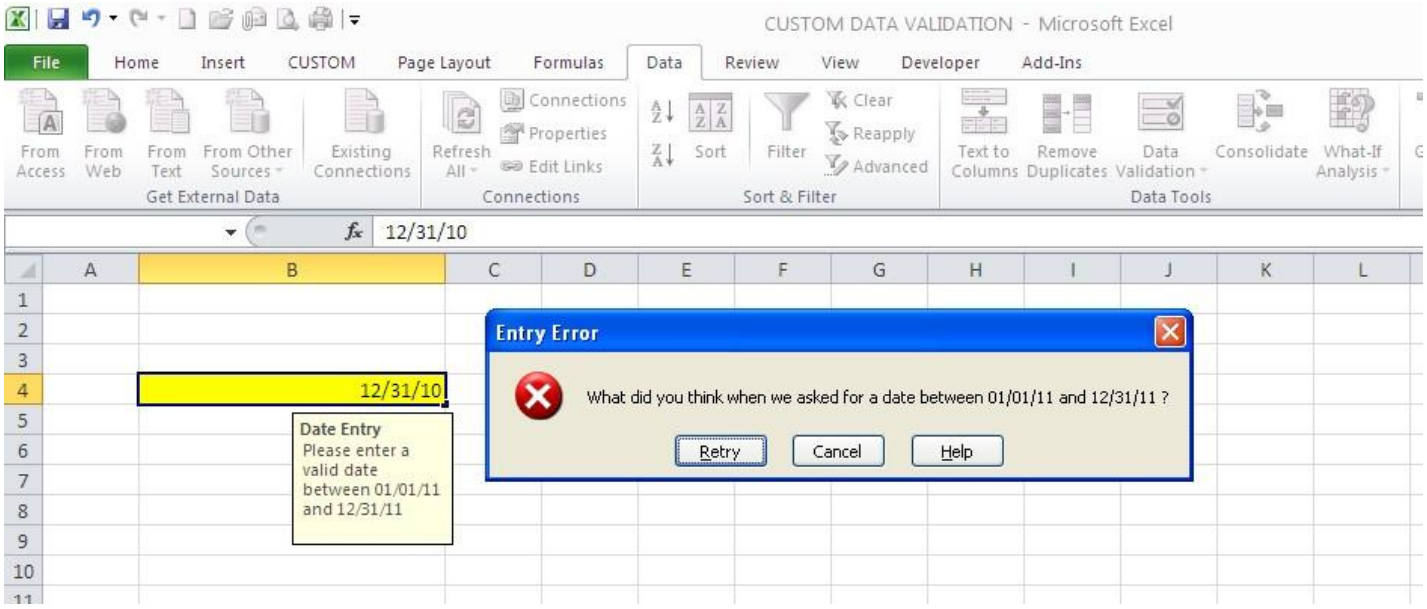


Data validation – Error Alert:

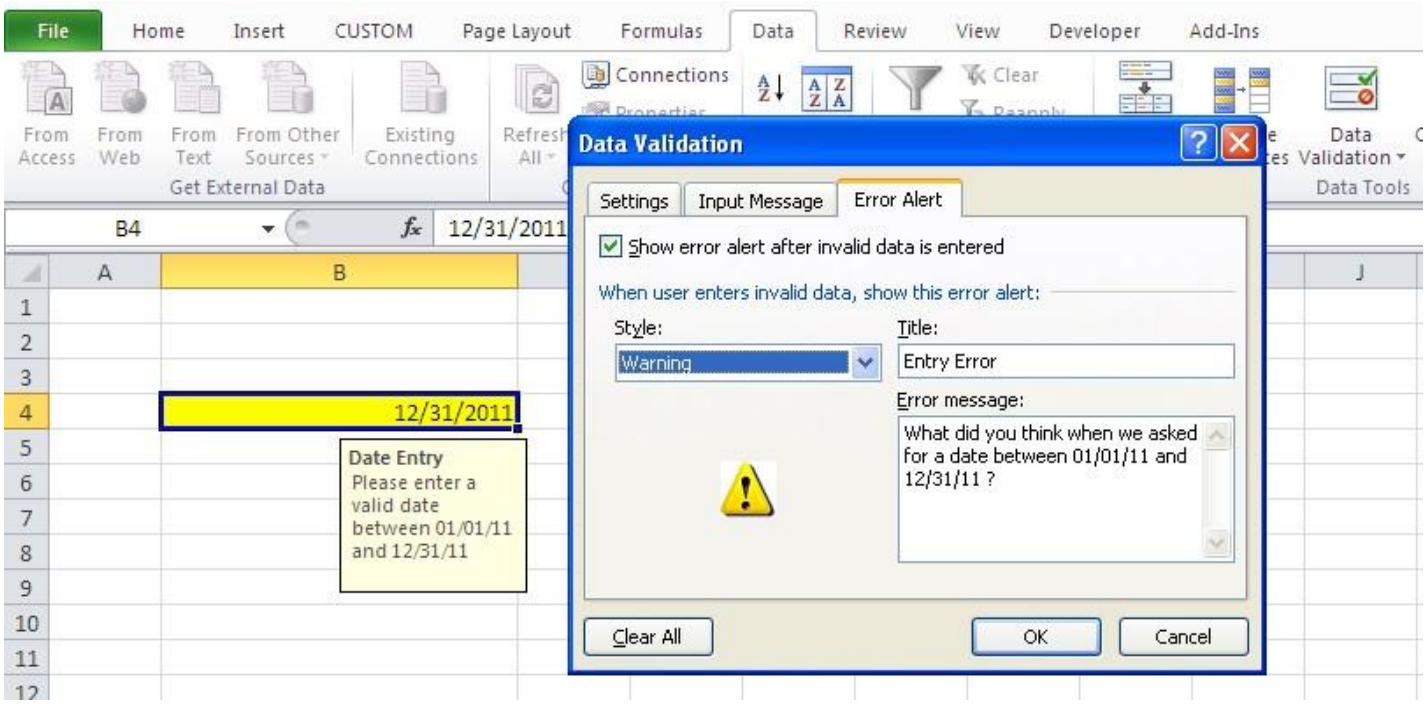
You may override the standard alert that does not inform the user on what is expected be selecting the Error Alert tab. In this example – we will STOP the process to prompt the user for what is an allowable value within the selected cell.


File
Home
Insert
CUSTOM
Page Layout
Formulas
Data
Review
View
Developer
Add-Ins
From Access
From Web
From Text
From Other Sources
Existing Connections
Get External Data
Connections
Clear
Data Validation
Data Tools
B4
12/31/2011
A
B
J
1
2
3
4
5
6
7
8
9
10
11
12/31/2011
Date Entry
Please enter a valid date between 01/01/11 and 12/31/11
Data Validation
Settings
Input Message
Error Alert
Show error alert after invalid data is entered
When user enters invalid data, show this error alert:
Style:
Stop
Title:
Entry Error
Error message:
What did you think when we asked for a date between 01/01/11 and 12/31/11 ?
Clear All
OK
Cancel

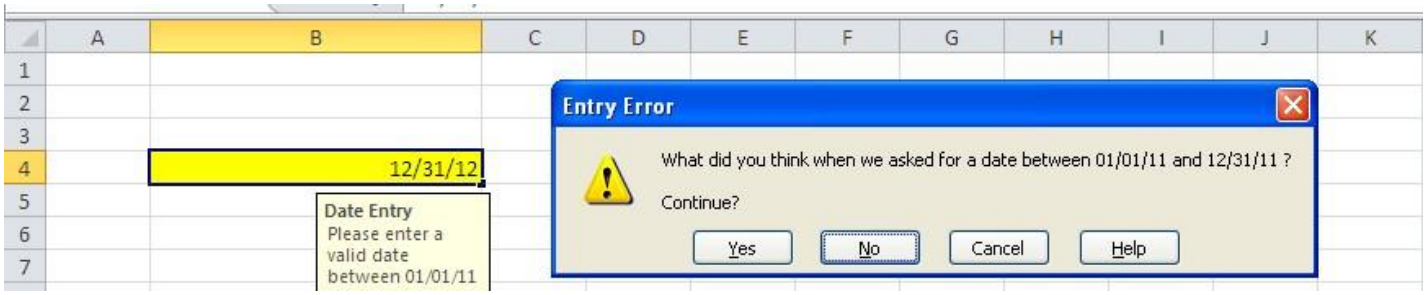
If data is entered that does not pass the validation, your custom message will appear.



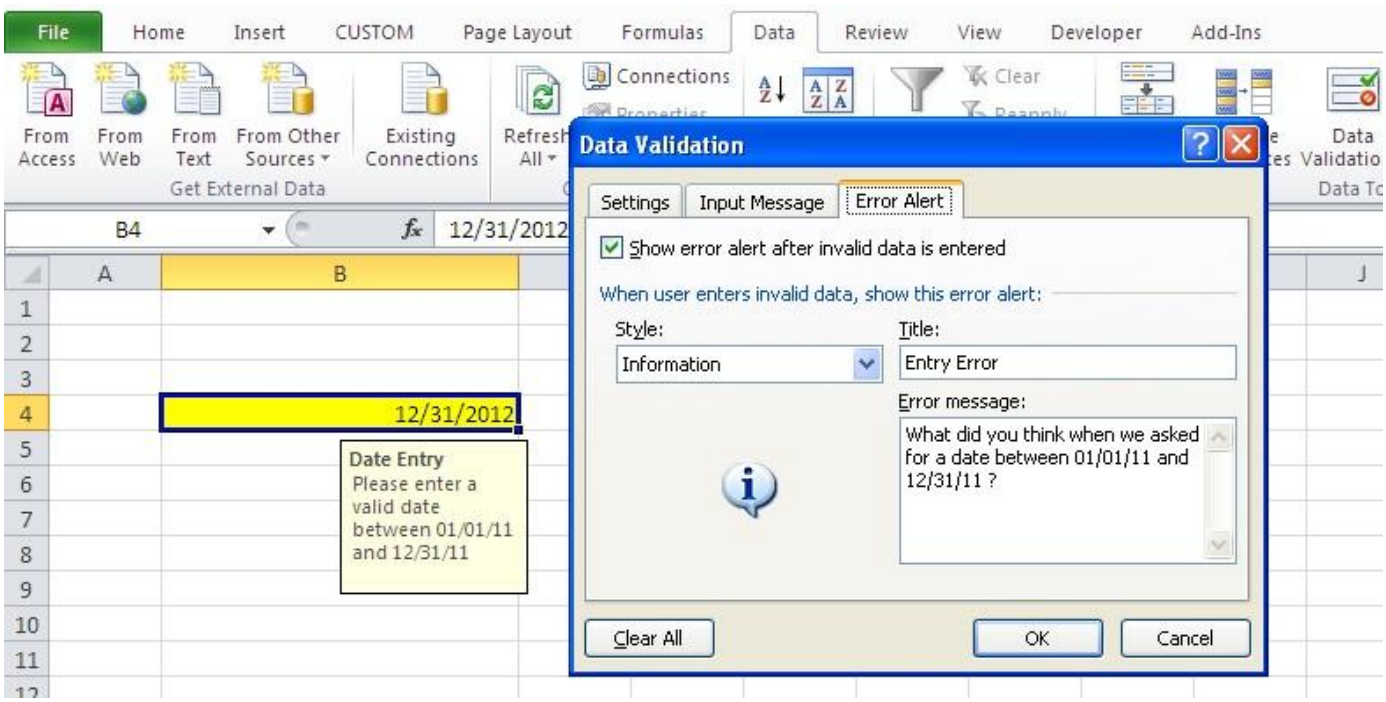
You may also set the Error Alert to **WARN** the user that they are entering in an invalid value.



The WARNING Error Alert will allow the user to continue even though the data does not pass the validation criteria. Make sure this is the option you wish to choose as it subverts the validation you defined on the SETTINGS tab.

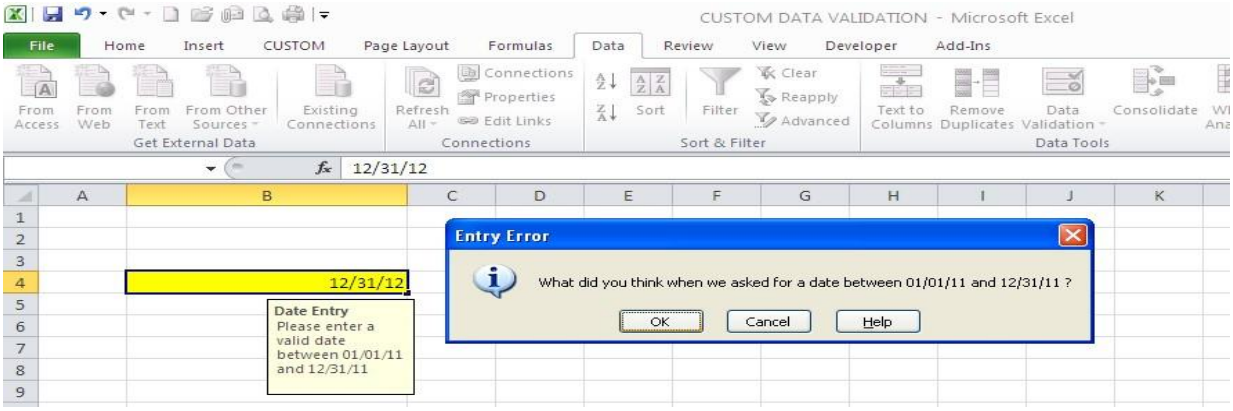


A third option is available when defining Error Alerts. This message may be defined as INFORMATION only.



In this example, when erroneous data is entered, the user will be prompted as follows:

This option will allow the user to click OK and accept the entry even though it does not pass the criteria.



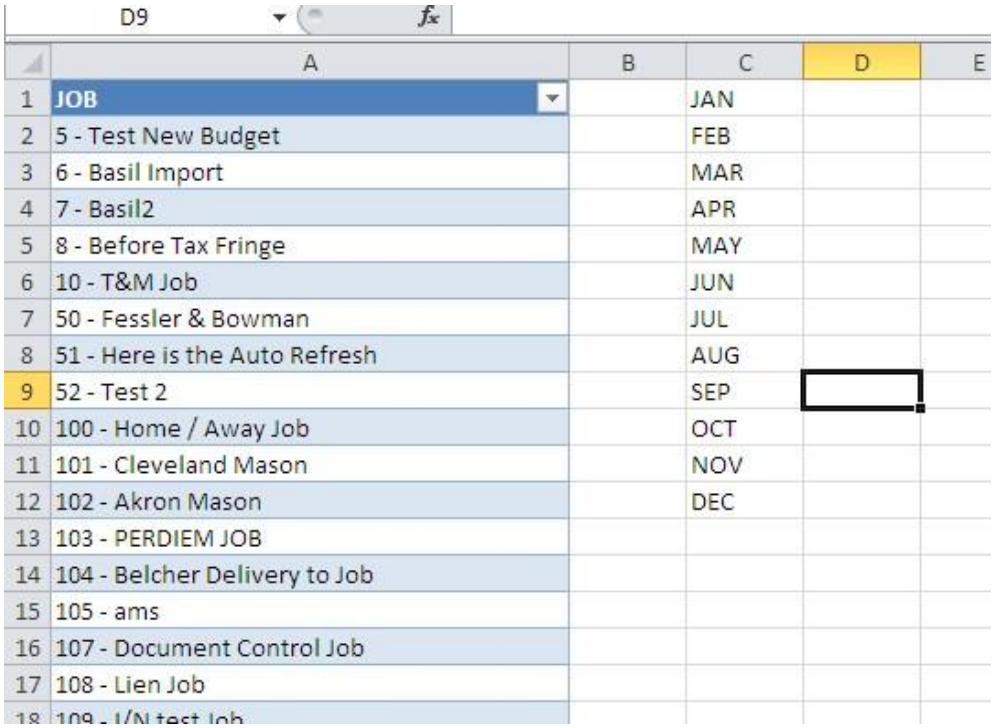
NOTE: These settings will be based on the needs of the individual form. Special consideration should be placed on selecting any option other than STOP, as the INFORMATION and WARNING option will allow the user to enter a value that does not pass the validation.

Data Validation – List:

The List option in Data Validation allows an easy method of entering values from a predefined list of items.

The first thing to know about selecting the LIST option is that you must first define a NAED RANGE for the list of items being used.

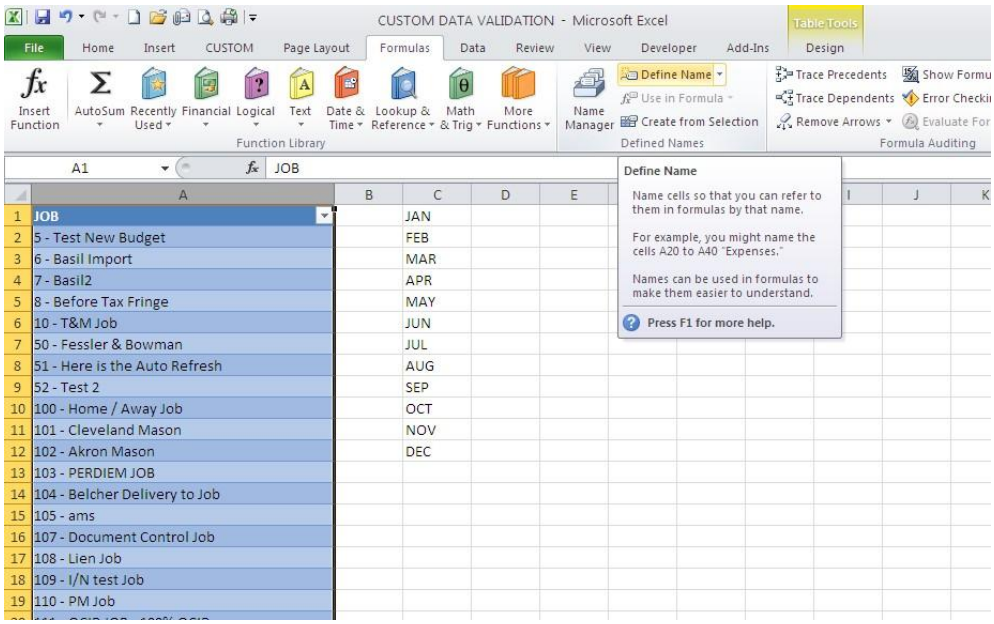
I have created two individual lists. One is a query of my active jobs and the other is Months of the year.



In order to use validation against a list, we must NAME the range. This will create a reference that defined all of the values in a particular cell range.

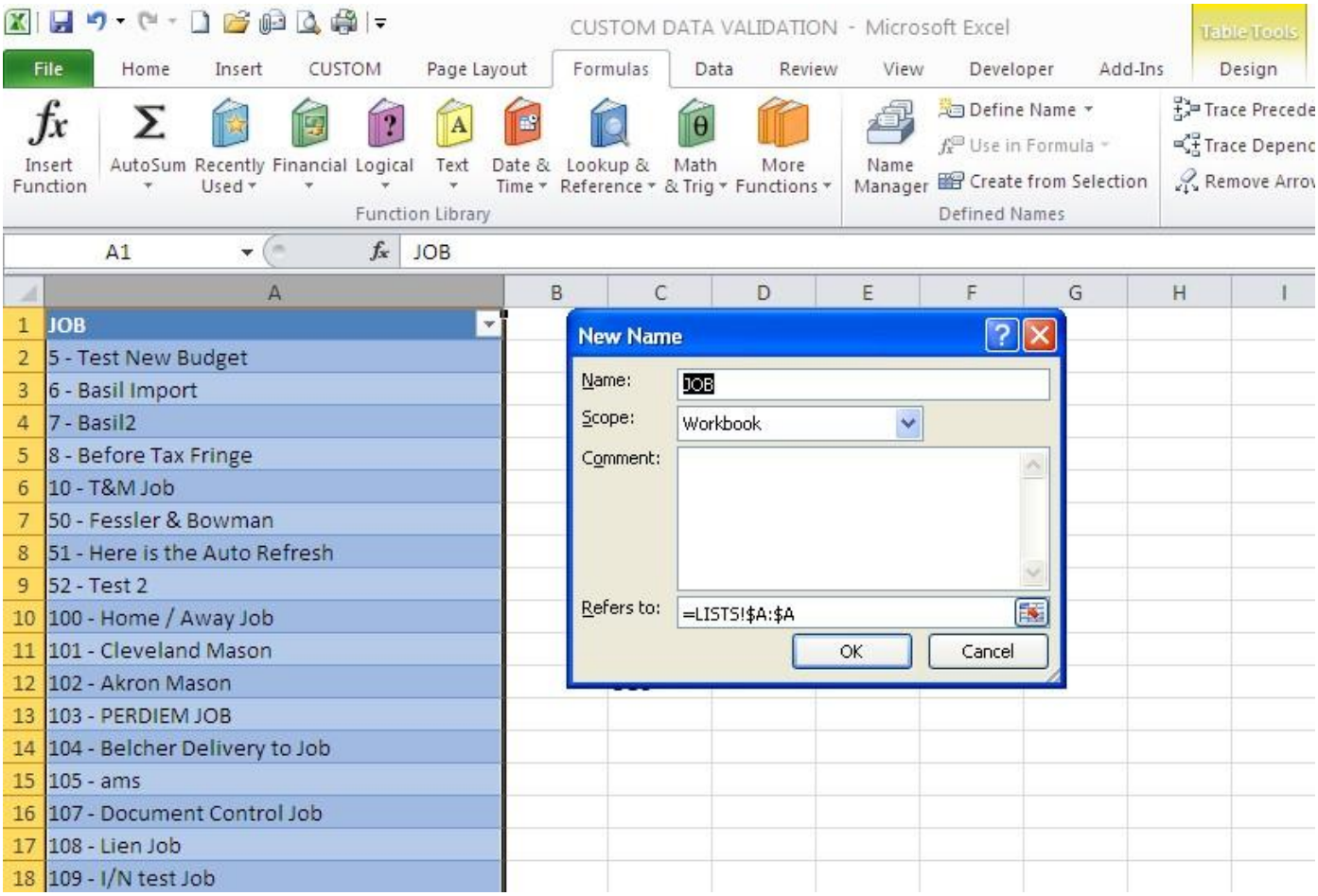
Start by highlighting the appropriate data range. In this example, I wish to select all of the values in column A, as this list will expand and/or contract as new jobs are added to the list.

Access the **FORMULAS** tab and select **DEFINE NAME**.

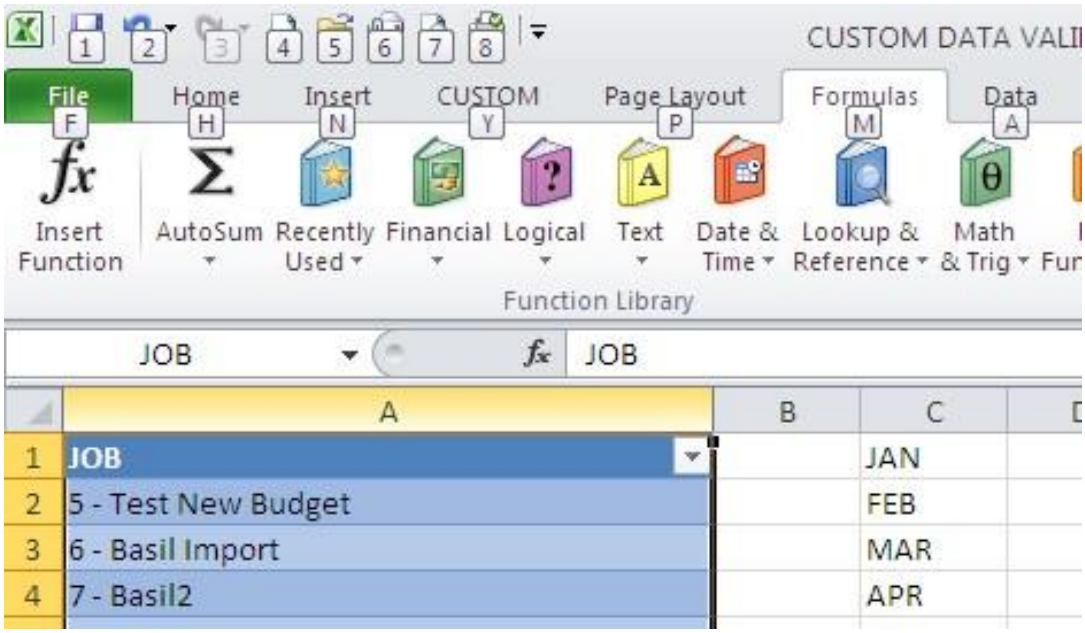


If you have a column heading on the data set, the Named Range will assume that this is the value that is defined for the named range. In this example JOB is the NAME of the data set and it refers to any and all values in column A.

Click OK to save the range.

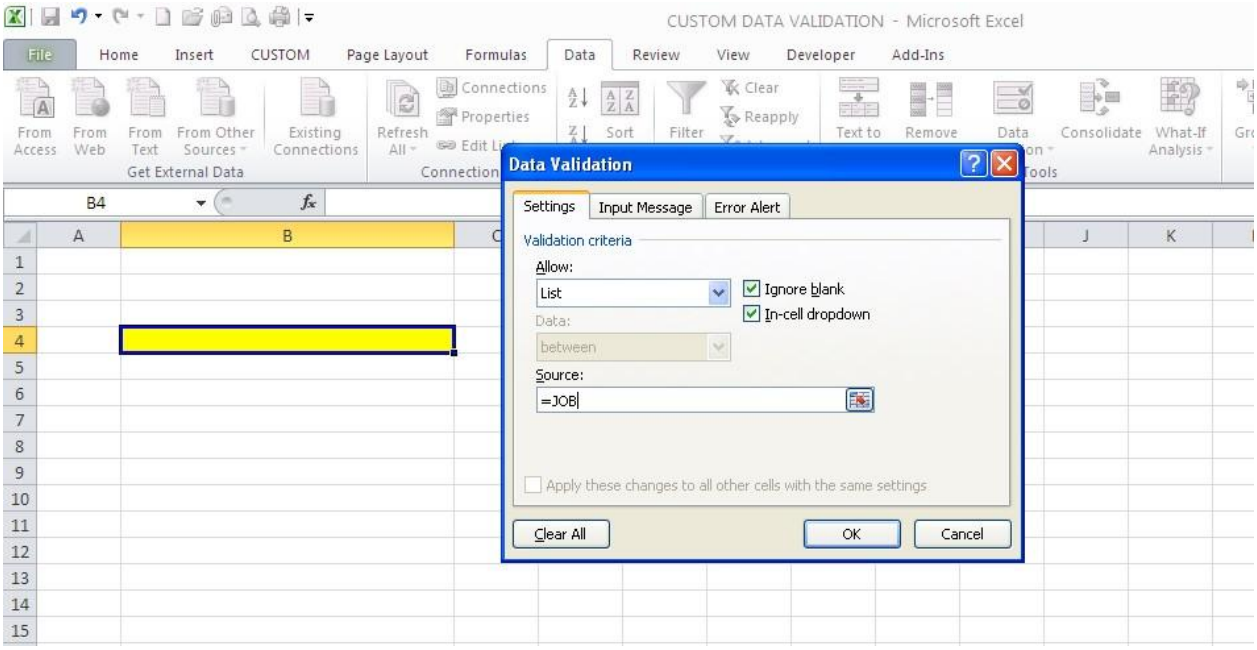


When selecting Column A, you will notice that the title in the upper left hand corner is now JOB.

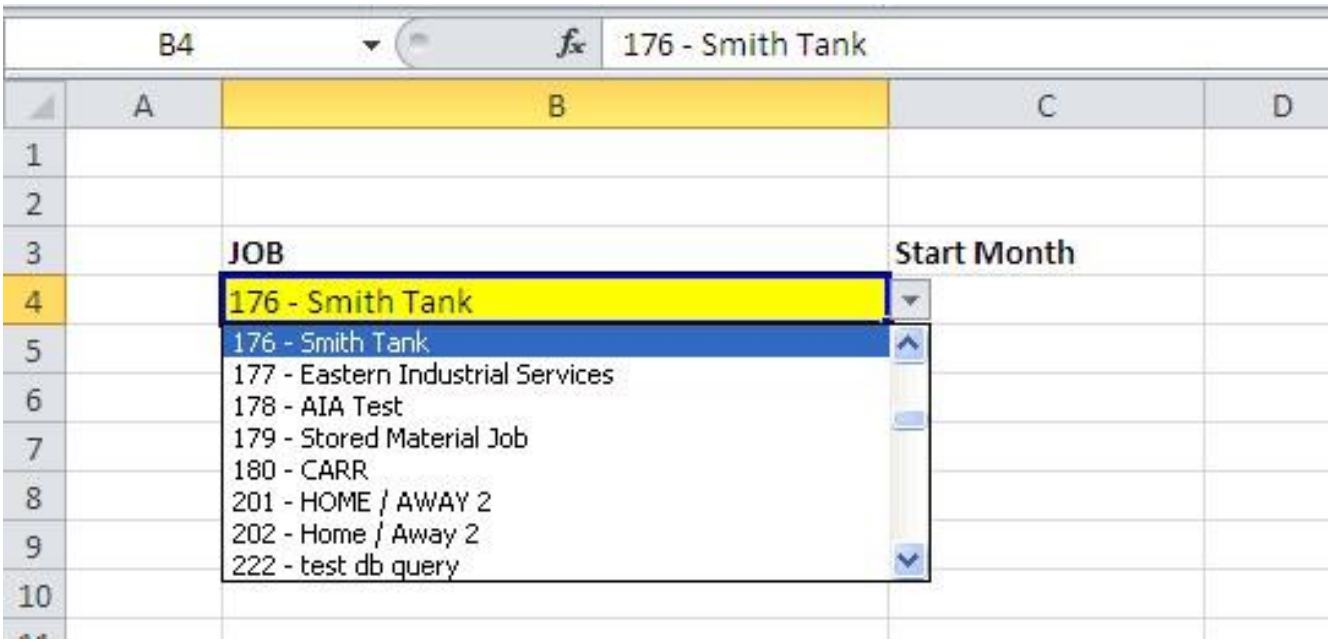


We can now set validation for the range of values that we have selected.

The SOURCE will be the NAMED RANGE value preceded by the “=” sign.



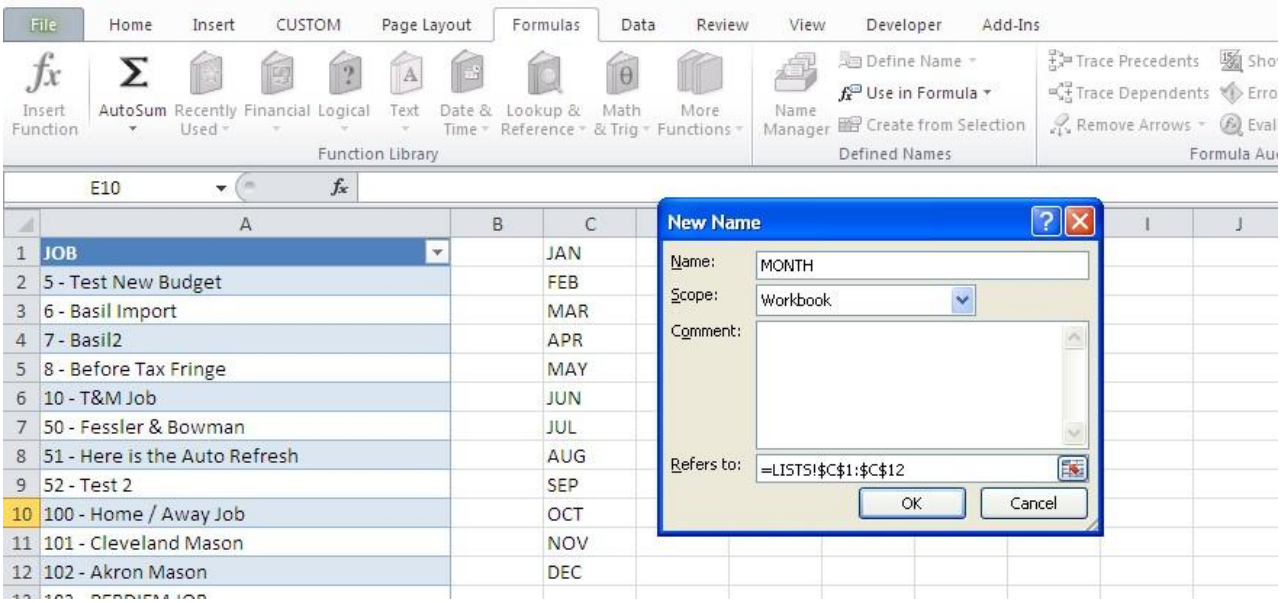
When the “In-Cell Dropdown” is selected, we have enabled a dropdown menu to select a value from the data set defined in the named Range.



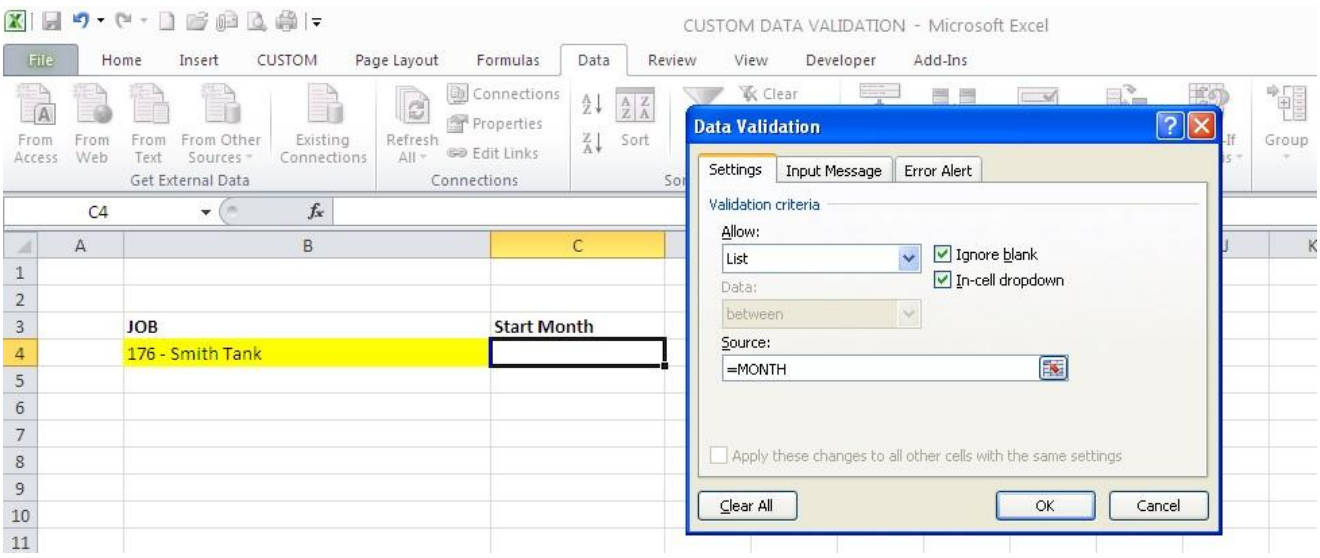
Selecting a finite range of cells for a named range:

In the previous example, we selected an entire column for the LIST / NAMED RANGE. In this example, we will define a named range for a specific set of cells.

Select the Range of cells that contain the data set. Since the data set does not contain a column heading, we will also have to set a name for the range. In this example, it will be titled “MONTH”.



Set the Data Validation on your cell to allow the **SOURCE: =MONTH**



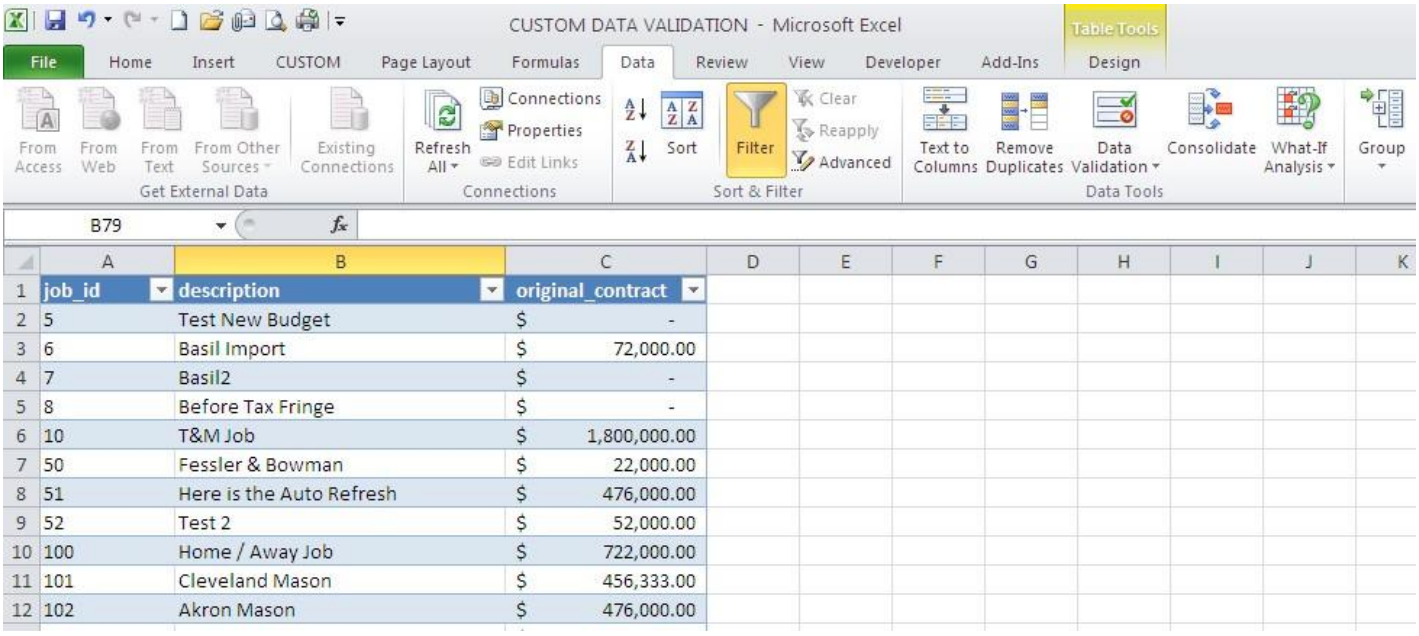
You now have a dropdown selection defined in the cell to choose a month.

CONDITIONAL FORMATTING

Conditional Formatting is another function that will allow the user to set “alerts” based on values contained within cells.

Basically, you will set criteria for the data set and then define the format of the cells.

In this example, we will be looking at a data set that includes The Job numbers and their Original Contract Amount.



job_id	description	original_contract
5	Test New Budget	$ -
6	Basil Import	$ 72,000.00
7	Basil2	$ -
8	Before Tax Fringe	$ -
10	T&M Job	$ 1,800,000.00
50	Fessler & Bowman	$ 22,000.00
51	Here is the Auto Refresh	$ 476,000.00
52	Test 2	$ 52,000.00
100	Home / Away Job	$ 722,000.00
101	Cleveland Mason	$ 456,333.00
102	Akron Mason	$ 476,000.00

We will define the following criteria for the Conditional formatting:

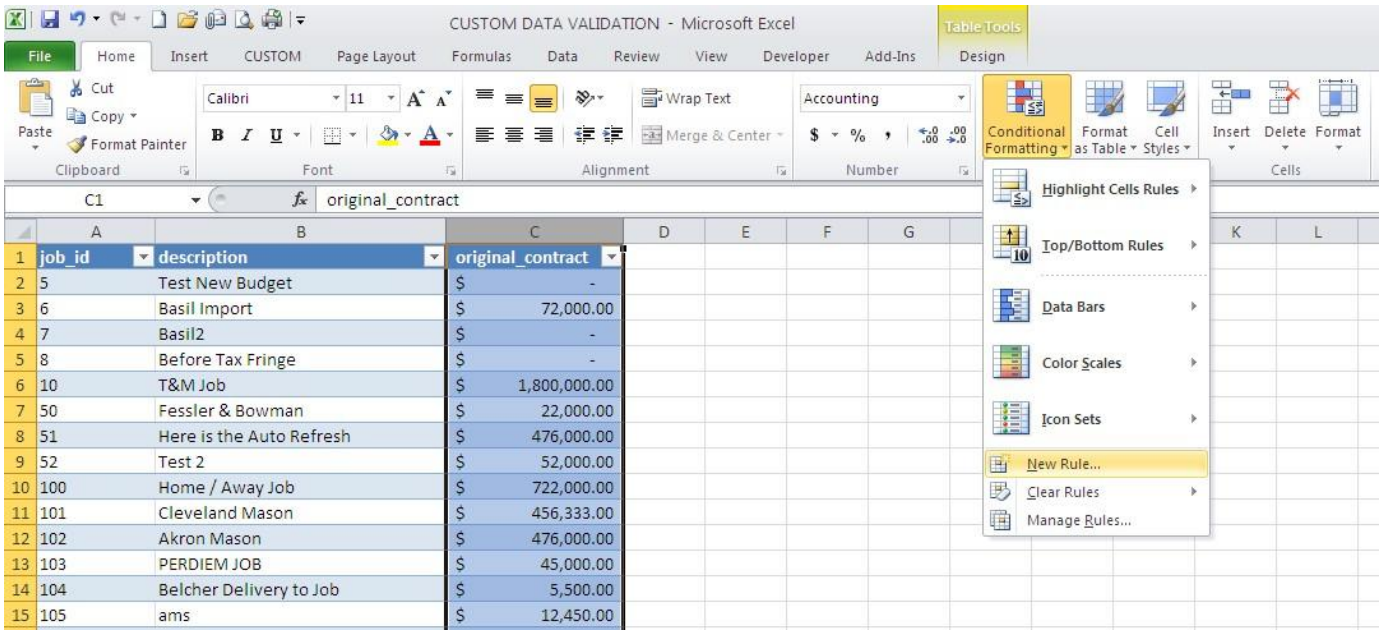
- Contract Amount = 0 : Color the Cell Red
- Contract Amount > $ 1,000,000 : Color the Cell Green with Yellow text
  Contract amount < $ 1,000,000 : Color the Cell Yellow with Black text

H11

	A	B	C	D	E	F
1	job_id	description	original_contract			
2	5	Test New Budget	$ -			
3	6	Basil Import	$ 72,000.00			
4	7	Basil2	$ -			
5	8	Before Tax Fringe	$ -			
6	10	T&M Job	$ 1,800,000.00			
7	50	Fessler & Bowman	$ 22,000.00			
8	51	Here is the Auto Refresh	$ 476,000.00			
9	52	Test 2	$ 52,000.00			
10	100	Home / Away Job	$ 722,000.00			
11	101	Cleveland Mason	$ 456,333.00			
12	102	Akron Mason	$ 476,000.00			
13	103	PERDIEM JOB	$ 45,000.00			
14	104	Belcher Delivery to Job	$ 5,500.00			
15	105	ams	$ 12,450.00			
16	107	Document Control Job	$ 15,647.00			
17	108	Lien Job	$ 870,000.00			
18	109	I/N test Job	$ 100,000.00			
19	110	PM Job	$ 1,100,000.00			
20	111	OCIP JOB - 100% OCIP	$ 92,664.00			

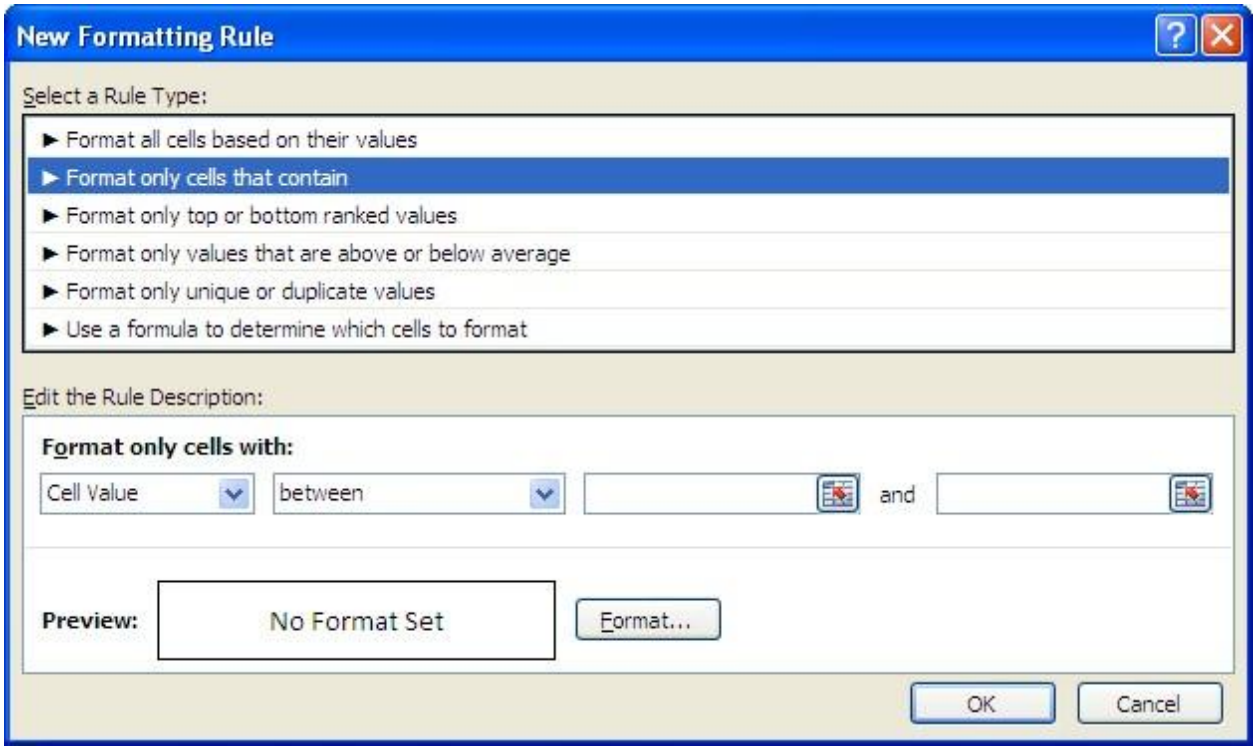
It is important to think about the order that the criteria will be defined for the conditional formatting, as a value of 0.00 is also less than 1,000,000. If you have problems with multiple formatting criteria, you may sequence the order in which the criteria is looked at.

To enable conditional formatting, select the range of cells that should be referenced. Access the HOME tab and select Conditional Formatting – NEW RULE.



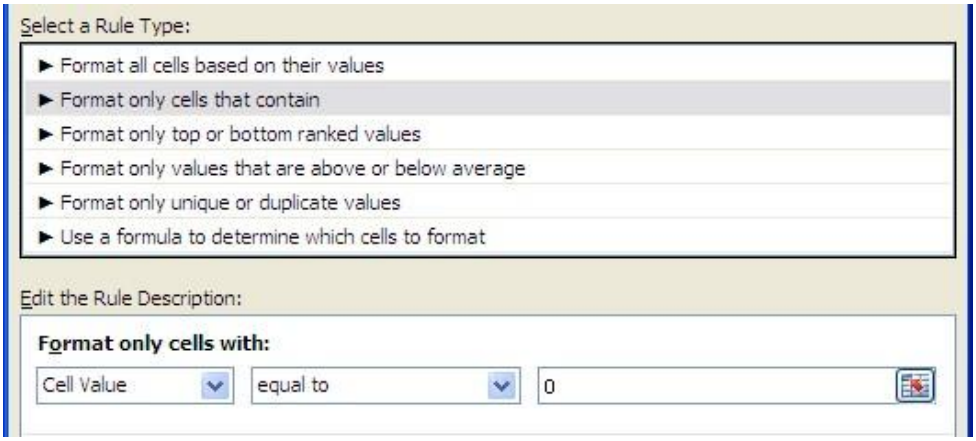
	A	B	C	D	E	F	G	K	L
1	job_id	description	original_contract						
2	5	Test New Budget	$ -						
3	6	Basil Import	$ 72,000.00						
4	7	Basil2	$ -						
5	8	Before Tax Fringe	$ -						
6	10	T&M Job	$ 1,800,000.00						
7	50	Fessler & Bowman	$ 22,000.00						
8	51	Here is the Auto Refresh	$ 476,000.00						
9	52	Test 2	$ 52,000.00						
10	100	Home / Away Job	$ 722,000.00						
11	101	Cleveland Mason	$ 456,333.00						
12	102	Akron Mason	$ 476,000.00						
13	103	PERDIEM JOB	$ 45,000.00						
14	104	Belcher Delivery to Job	$ 5,500.00						
15	105	ams	$ 12,450.00						

There are many options in the conditional formatting. We will focus on the “Format Cells That Contain” option.

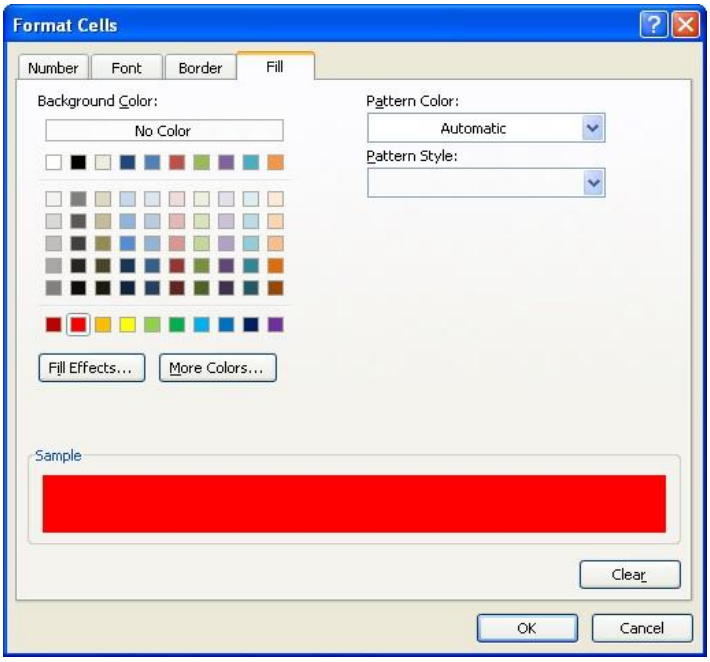


To create the first rule, we will select “format only cells with:”

Cell Value equals 0



Once the criteria is defined, select the FORMAT button to choose the behavior of the cell. This criteria will be defined as a cell filled in with red.



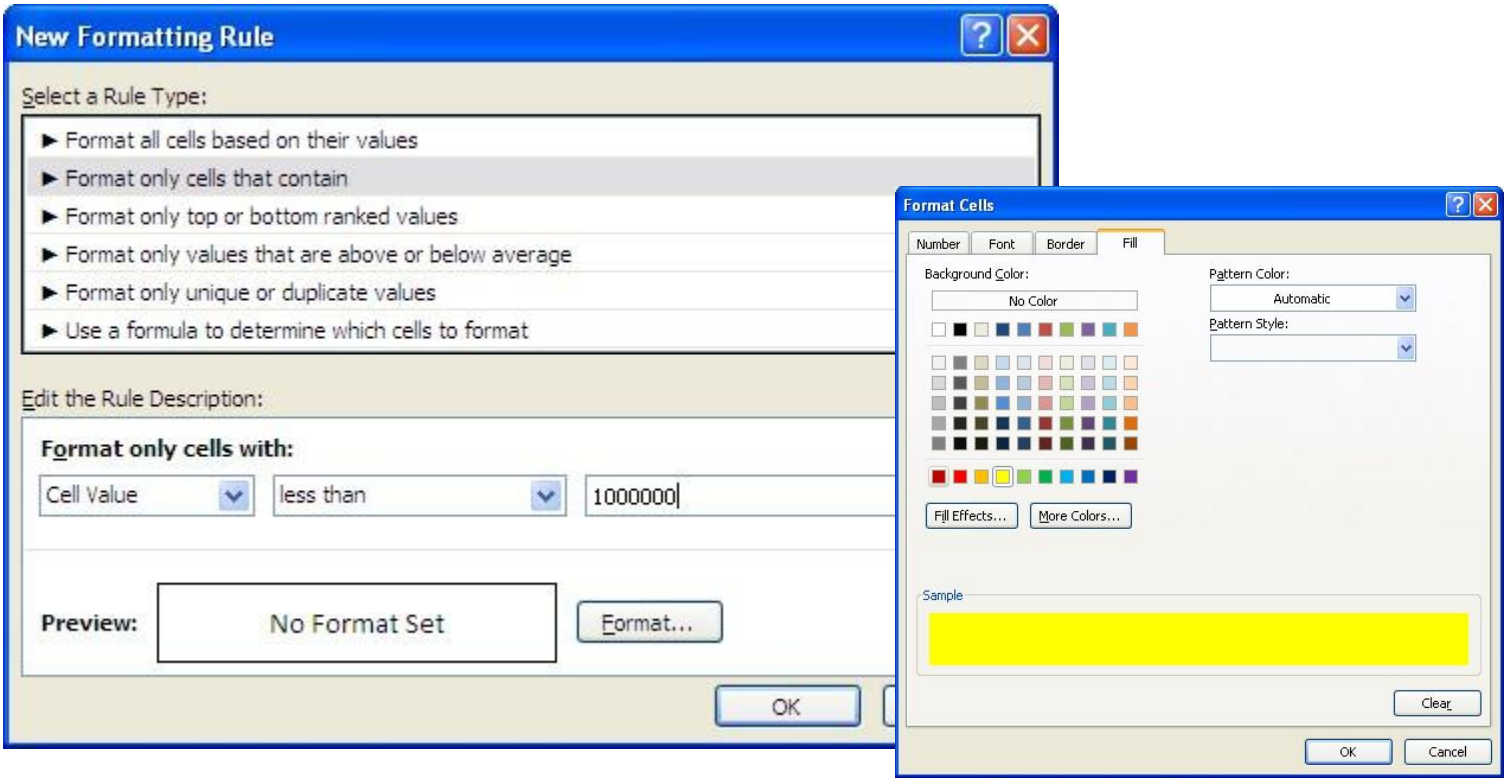
Click OK to save the criteria.

H16

	A	B	C	D	E	F	G	H	I
1	job_id	description	original_contract						
2	5	Test New Budget	$ -						
3	6	Basil Import	$ 72,000.00						
4	7	Basil2	$ -						
5	8	Before Tax Fringe	$ -						
6	10	T&M Job	$ 1,800,000.00						
7	50	Fessler & Bowman	$ 22,000.00						
8	51	Here is the Auto Refresh	$ 476,000.00						

Highlight the entire column again and Select Conditional Formatting – NEW RULE again.

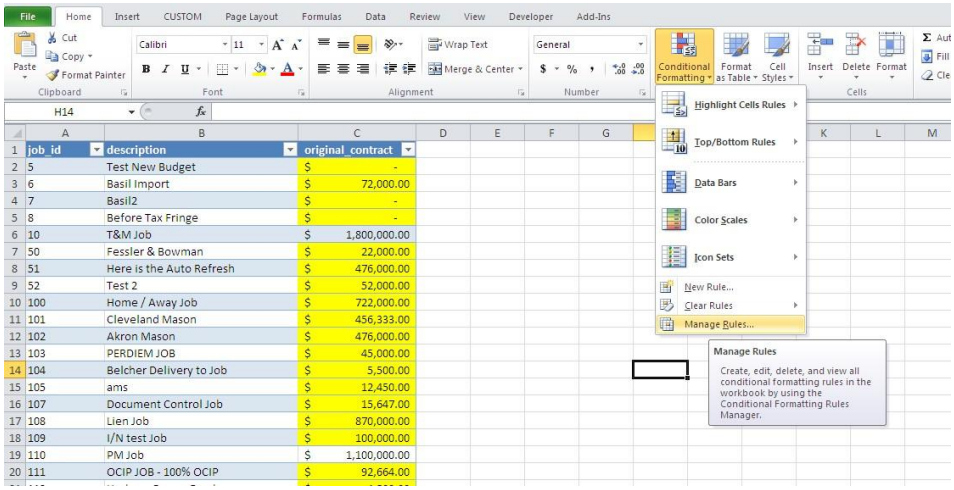
Format these cells to fill with yellow.



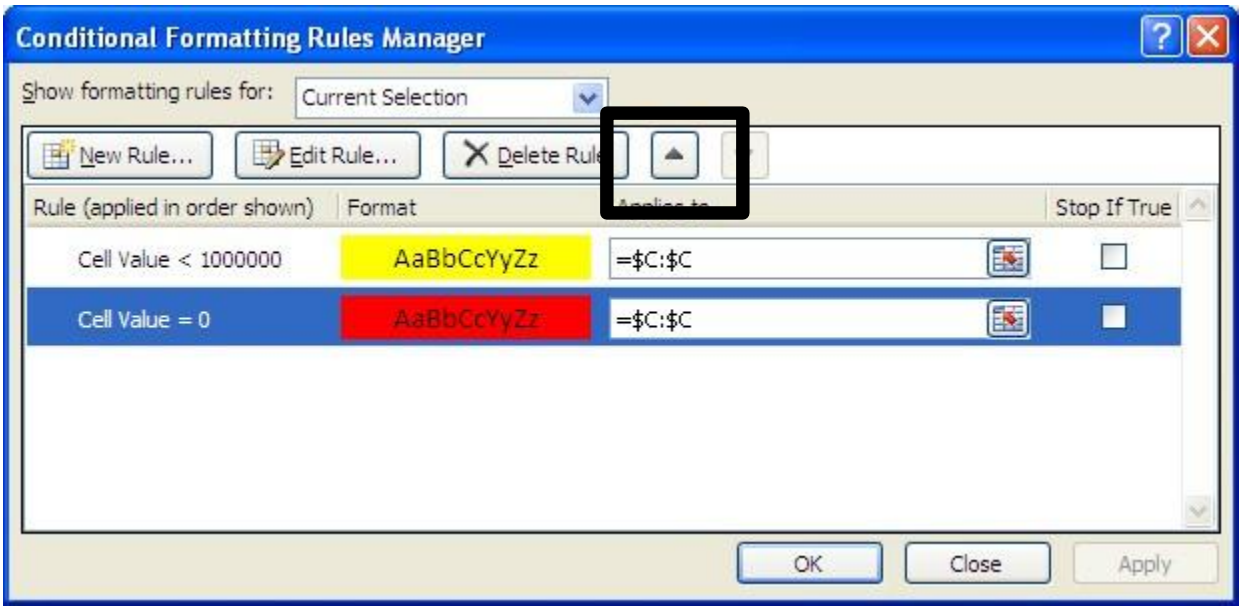
OOPS: You will see that we trumped our last rule, now any value less than 1,000,000 will show as a cell filled with yellow.

	job_id	description	original_contract
2	5	Test New Budget	$ -
3	6	Basil Import	$ 72,000.00
4	7	Basil2	$ -
5	8	Before Tax Fringe	$ -
6	10	T&M Job	$ 1,800,000.00
7	50	Fessler & Bowman	$ 22,000.00
8	51	Here is the Auto Refresh	$ 476,000.00
9	52	Test 2	$ 52,000.00
10	100	Home / Away Job	$ 722,000.00
11	101	Cleveland Mason	$ 456,333.00

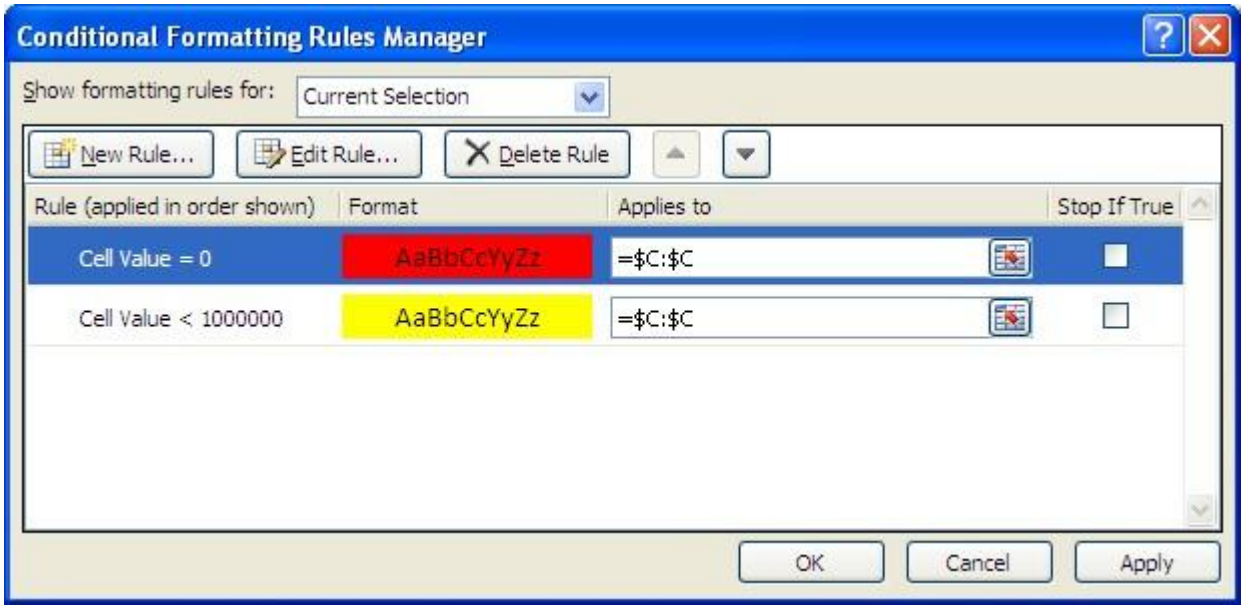
We can solve this situation by selecting Conditional Formatting – Manage Rules



The Conditional formatting should show the Cell Value = 0 FIRST, then Cell Value < 1,000,00 as a second criteria.



Highlight the rule and click the UP arrow in the toolbar to rearrange the rules.

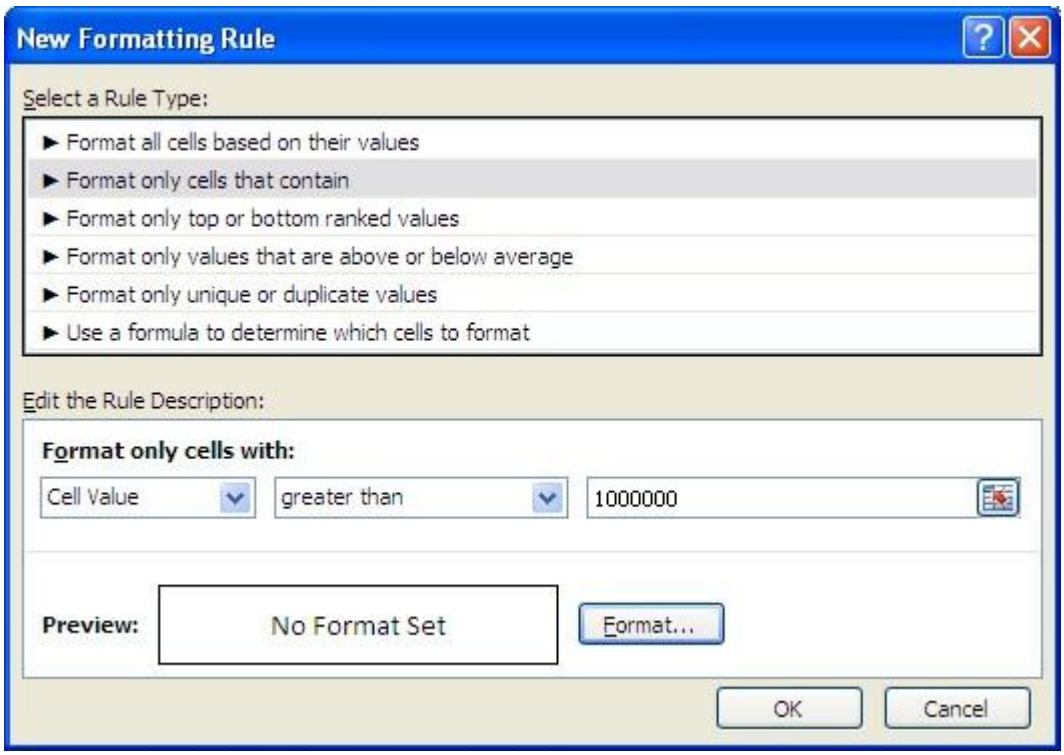


With the hierarchy properly defined properly, we now have both rules in effect.

	A	B	C	D	E	F	G
1	job_id	description	original_contract				
2	5	Test New Budget	$ -				
3	6	Basil Import	$ 72,000.00				
4	7	Basil2	$ -				
5	8	Before Tax Fringe	$ -				
6	10	T&M Job	$ 1,800,000.00				
7	50	Fessler & Bowman	$ 22,000.00				
8	51	Here is the Auto Refresh	$ 476,000.00				
9	52	Test 2	$ 52,000.00				
10	100	Home / Away Job	$ 722,000.00				
11	101	Cleveland Mason	$ 456,333.00				
12	102	Akron Mason	$ 476,000.00				
13	103	PERDIEM JOB	$ 45,000.00				

Our third rule will allow us to define the formatting for all values over $1,000,000.

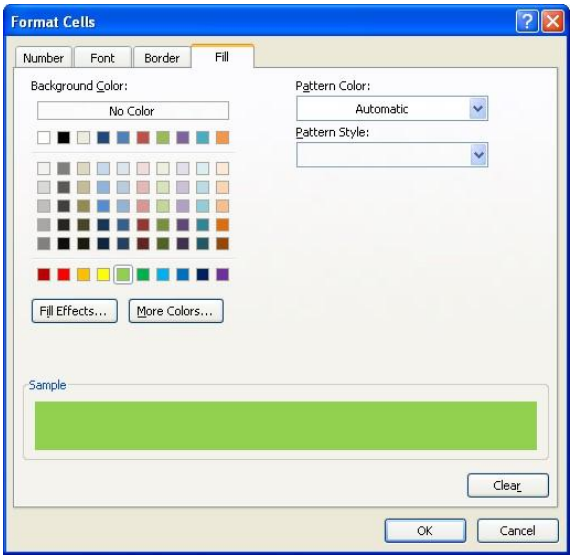
Again, highlight all of the data in the desired column and select conditional formatting – new rule.

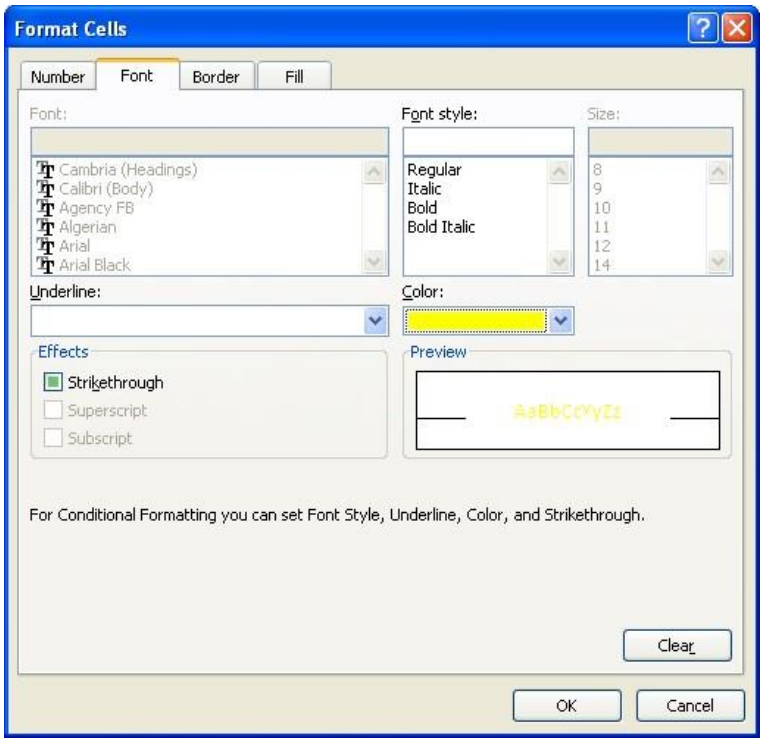


Formatting as follows:

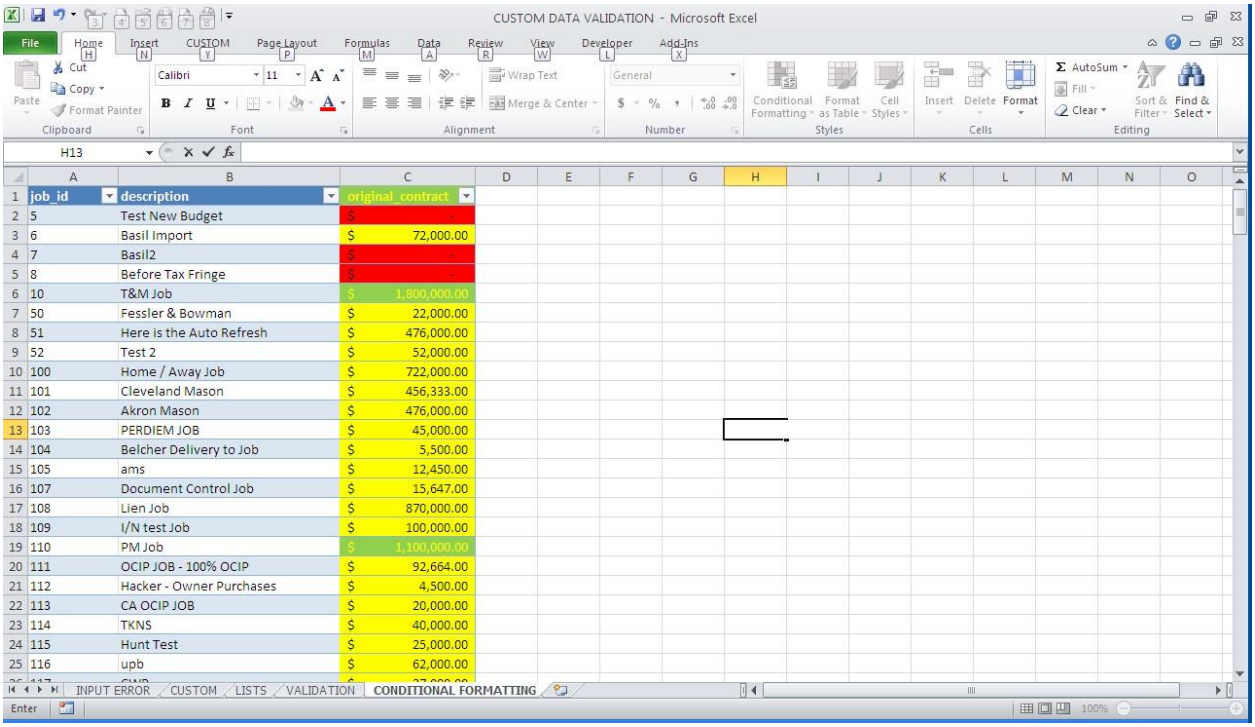
Fill the Cell GREEN

Color the text YELLOW



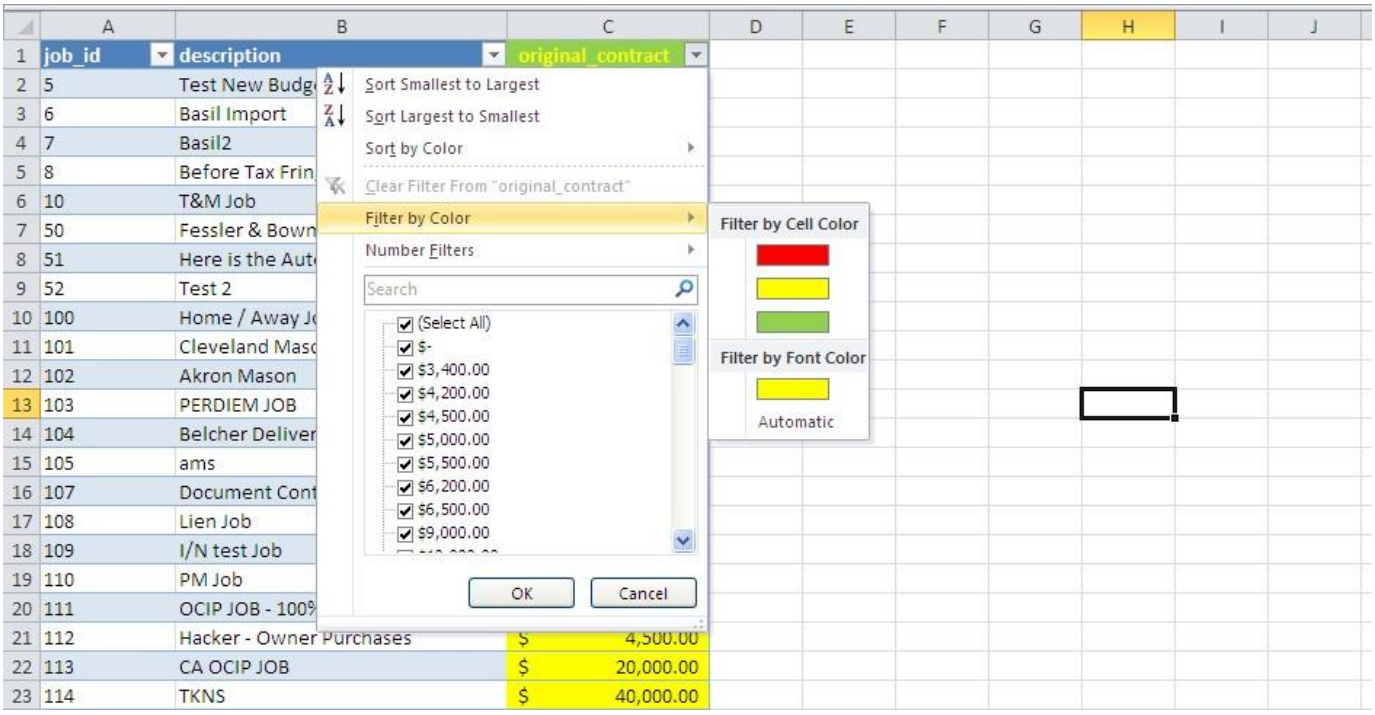


Here are the results based on our rules:



job_id	description	original_contract
5	Test New Budget	$ -
6	Basil Import	$ 72,000.00
7	Basil2	$ -
8	Before Tax Fringe	$ -
10	T&M Job	$ 1,800,000.00
50	Fessler & Bowman	$ 22,000.00
51	Here is the Auto Refresh	$ 476,000.00
52	Test 2	$ 52,000.00
100	Home / Away Job	$ 722,000.00
101	Cleveland Mason	$ 456,333.00
102	Akron Mason	$ 476,000.00
103	PERDIEM JOB	$ 45,000.00
104	Belcher Delivery to Job	$ 5,500.00
105	ams	$ 12,450.00
107	Document Control Job	$ 15,647.00
108	Lien Job	$ 870,000.00
109	I/N test Job	$ 100,000.00
110	PM Job	$ 1,100,000.00
111	OCIP JOB - 100% OCIP	$ 92,664.00
112	Hacker - Owner Purchases	$ 4,500.00
113	CA OCIP JOB	$ 20,000.00
114	TKNS	$ 40,000.00
115	Hunt Test	$ 25,000.00
116	upb	$ 62,000.00

You may now use the Auto filter options to filter values based on their cell properties:

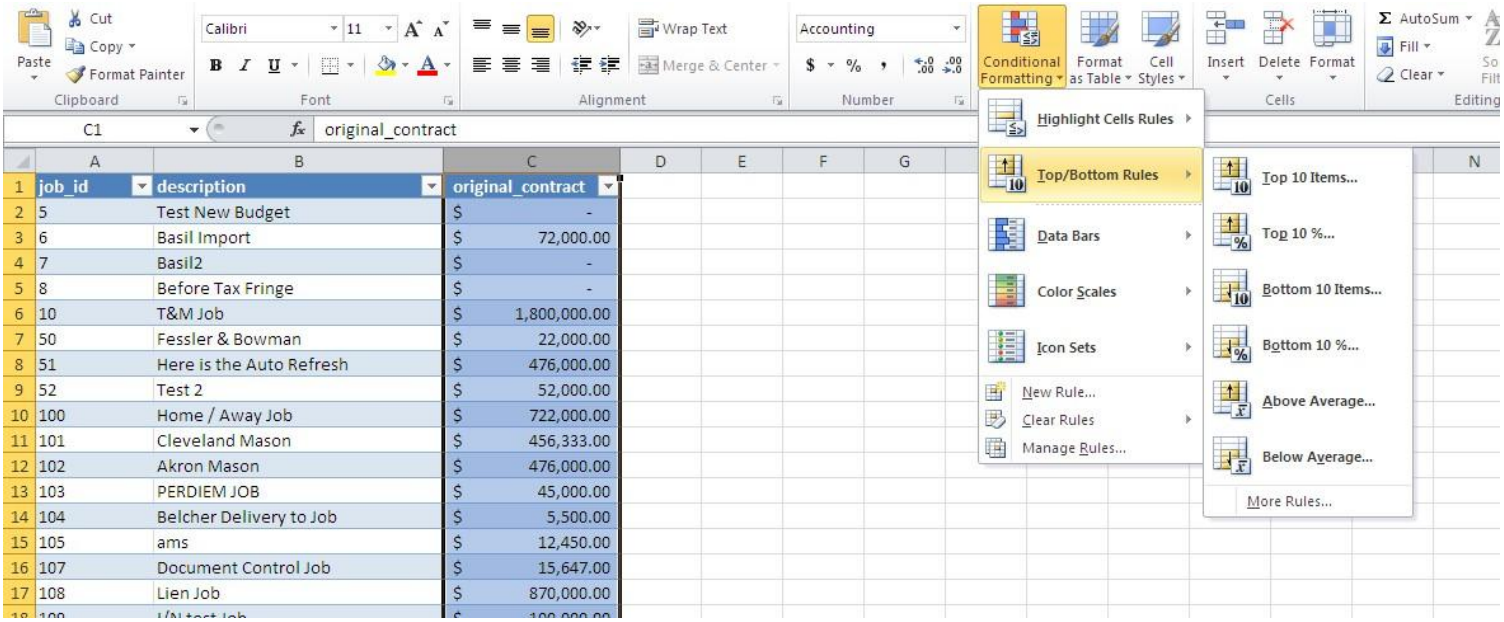


Formatting for the Top or Bottom Ranked Values:

There are a number of predefined rules that you may use when searching for data.

The TOP/BOTTOM rules are a good way to specify your top $ Contracts.

Select conditional formatting – Top/Bottom Rules – Top 10 Items



If you select a default from the dropdown, you will be able to select predefined formats from a list.

	A	B	C	D	E	F
1	job_id	description	original_contract			
2	5	Test New Budget	$ -			
3	6	Basil Import	$ 72,000.00			
4	7	Basil2	$ -			
5	8	Before Tax Fringe	$ -			
6	10	T&M Job	$ 1,800,000.00			
7	50	Fessler & Bowman	$ 22,000.00			
8	51	Here is the Auto Refresh	$ 476,000.00			
9	52	Test 2	$ 52,000.00			
10	100	Home / Away Job	$ 722,000.00			
11	101	Cleveland Mason	$ 456,333.00			
12	102	Akron Mason	$ 476,000.00			
13	103	PERDIEM JOB	$ 45,000.00			
14	104	Belcher Delivery to Job	$ 5,500.00			
15	105	ams	$ 12,450.00			
16	107	Document Control Job	$ 15,647.00			
17	108	Lien Job	$ 870,000.00			
18	109	I/N test Job	$ 100,000.00			
19	110	PM Job	$ 1,100,000.00			
20	111	OCIP JOB - 100% OCIP	$ 92,664.00			
21	112	Hacker - Owner Purchases	$ 4,500.00			
22	113	CA OCIP JOB	$ 20,000.00			

PivotTables

PivotTables are a powerful tool in Excel that will allow you to quickly summarize, sort, filter, and analyze data. They can handle large amounts of data in lists and tables by organizing data, on the fly, different rows and columns. This is faster, and more flexible for analyzing you data, as you don't need to rely on formulas.

For example, you could have a spreadsheet that contains information on salespeople, products sold, regions, items sold, etc. Using a PivotTable, you can quickly organize the data so different relationships are visible (e.g. Who is the top salesperson? What product has sold the most?).

Salesperson	Product	Region	Customer	Date	Item Cost	No.Items	Total Cost
Vaughn, Harlon	Captain Recliner	NE	B&B Spaces	01/03/11	$ 340.95	9	$ 3,068.55
Norman, Rita	Media Armoire	SE	Home USA	01/03/11	$ 340.95	2	$ 681.90
Christensen, Jill	Bamboo End Table	NW	Ellington Designs	01/04/11	$ 79.99	7	$ 559.93
Norman, Rita	Bamboo Coffee Table	SE	Ellington Designs	01/05/11	$ 168.95	3	$ 506.85
Byrd, Asa	Bamboo End Table	SE	B&B Spaces	01/05/11	$ 79.99	12	$ 959.88
Owen, Robert	Chameleon Couch	SW	Ellington Designs	01/07/11	$ 799.95	13	$ 10,399.35
Maynard, Susan	Bamboo End Table	NE	Home USA	01/08/11	$ 79.99	10	$ 799.90
Norman, Rita	Chameleon Couch	SE	Home USA	01/08/11	$ 799.95	2	$ 1,599.90
Norman, Rita	Media Armoire	SE	Home USA	01/08/11	$ 340.95	6	$ 2,045.70
Norman, Rita	Media Armoire	SE	B&B Spaces	01/11/11	$ 340.95	13	$ 4,432.35

Figure 1 - Sample Sales Spreadsheet

Note: When working with PivotTables, the data should contain your titles in a single row, and the table should not contain any empty cells.

Creating PivotTables

The following will show you how to create a PivotTable using the sample sales spreadsheet as an example:

1. In the *Ribbon*, Click the **Insert** tab.

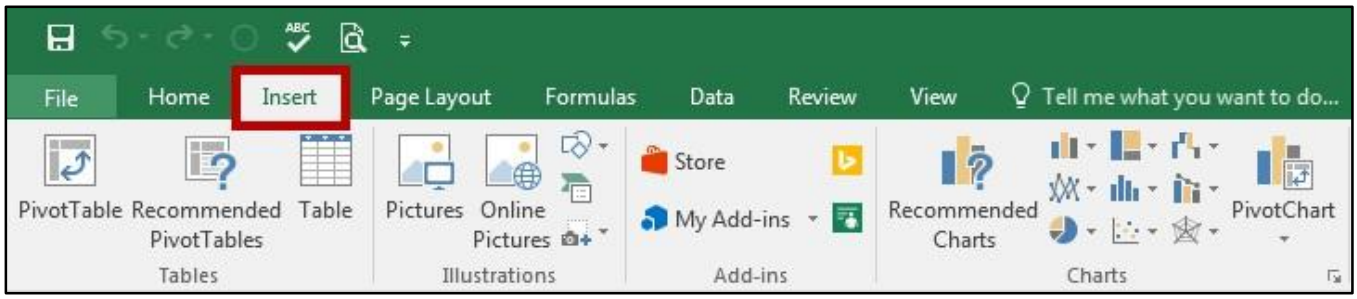


Figure 2 - Insert Tab

2. Under the *Tables* grouping, Click **PivotTable**.

Figure 3 - PivotTable

3. The *Create PivotTable* window will appear. Excel will automatically select the data it thinks you want to use to create your *PivotTable*.

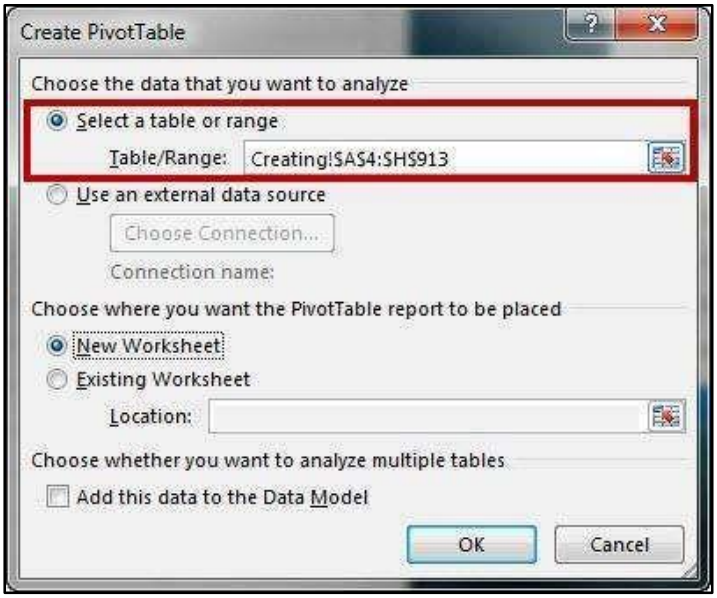


Figure 4 - Create PivotTable Window

Note: To select a different range from what Excel has suggested, Click the **cell selection** box and use the mouse to select a new range.

4. Under *Choose where you want the PivotTable report to be placed*, select **New Worksheet**.

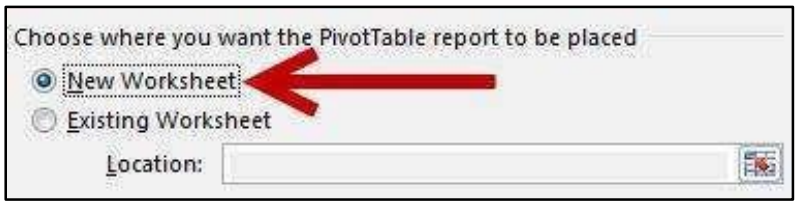


Figure 5 - Create PivotTable on a New Worksheet

5. Click **OK**.

6. The *PivotTable* will be created in a new worksheet.

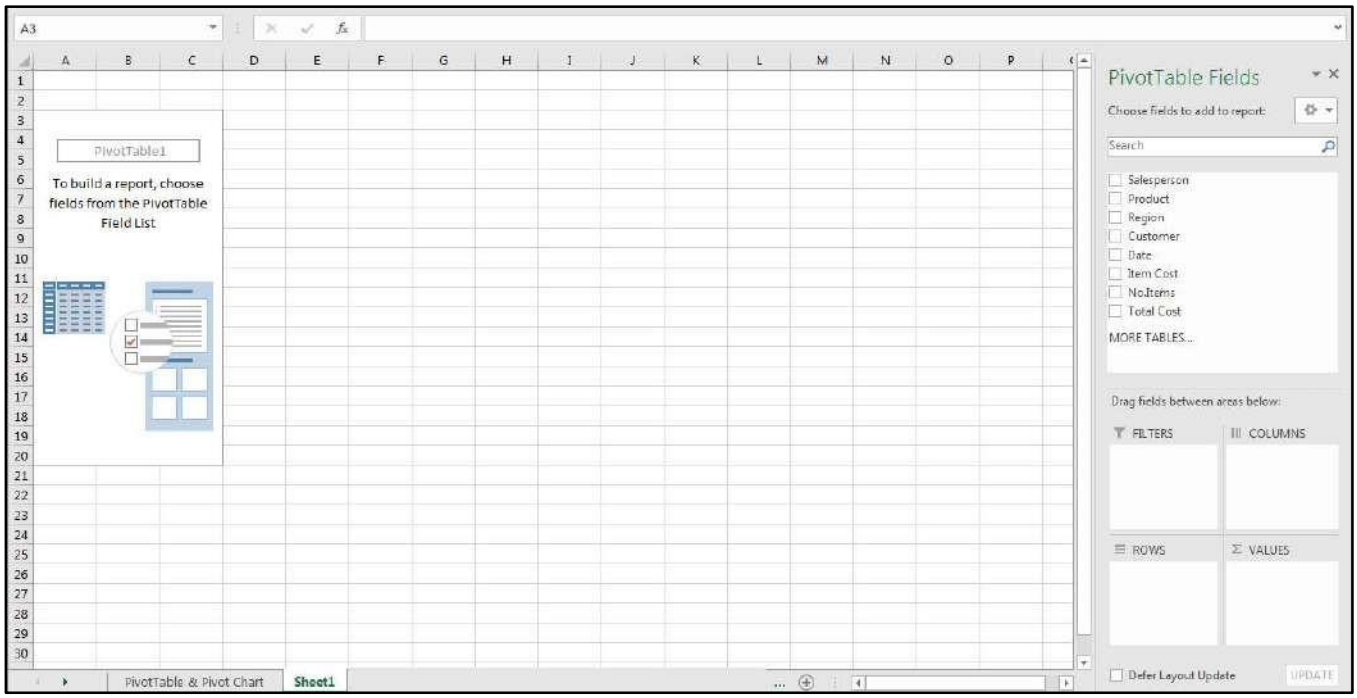


Figure 6 - New PivotTable Worksheet

7. The *PivotTable Fields* will appear on the right side of the screen.

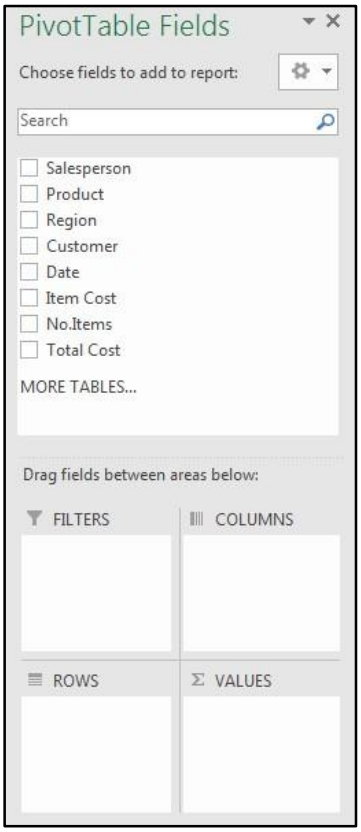


Figure 7 - PivotTable Fields

Analyzing Data with PivotTables

After creating your PivotTable, the *PivotTable Fields* list will display the data ranges that you selected, and four areas that will make up your PivotTable (Filters, Columns, Rows, and Values). You can quickly move fields in and out of these areas to view your data in different ways.

For example, we want to use the PivotTable to analyze the data and determine how many sales a salesperson has made of each product.

1. Drag-and-drop your **fields** into the *filter, column, rows, and values* boxes.
    a. **Filters** area fields are shown as top-level report filters above the *PivotTable* (See **Error! R eference source not found.**).
    b. **Columns** area fields are shown as *Column Labels* at the top of the *PivotTable* (See **Error! R eference source not found.**).
    c. **Rows** area fields are shown as *Row Labels* on the left side of the *PivotTable* (See **Error! R eference source not found.**).
    d. **Values** area fields are shown as summarized numeric values in the *PivotTable* (See **Error! R eference source not found.**).

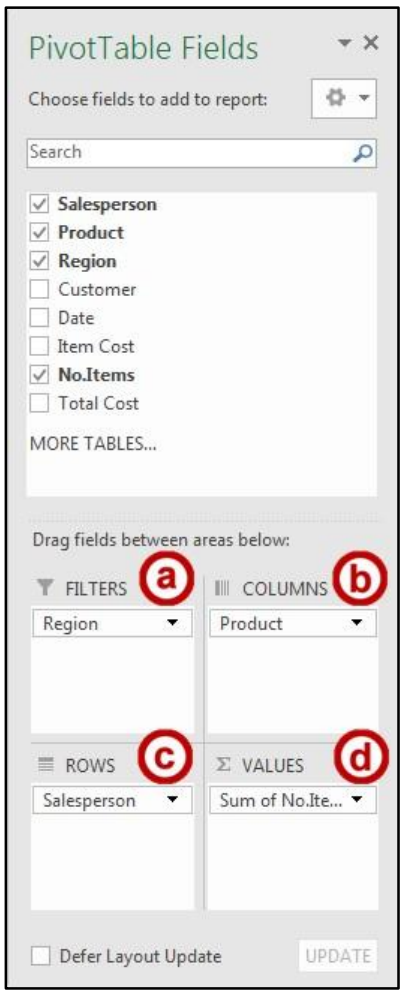


Figure 8 - Select PivotTable Fields

2. The PivotTable will change to show the fields in their respective locations, showing total sales for each sales person by product.

Region	(All)					
Sum of No.Items	Column Labels					
Row Labels	Bamboo Coffee Table	Bamboo End Table	Captain Recliner	Chameleon Couch	Media Armoire	Grand Total
Arnold, Cole	154	104	138	121	91	608
Byrd, Asa	150	69	155	101	110	585
Christensen, Jill	209	118	151	117	183	778
Kelly, Icelita	19	150	90	174	166	599
Leon, Emily	154	124	80	105	169	632
Livingston, Lynette	79	122	74	107	142	524
Lucas, John	77	130	75	172	62	516
Maynard, Susan	147	145	125	116	212	745
McCullough, Scott	93	62	72	90	121	438
Norman, Rita	134	145	79	128	172	658
Owen, Robert	157	120	150	249	170	846
Vaughn, Harlon	239	199	214	199	217	1068
Grand Total	**1612**	**1488**	**1403**	**1679**	**1815**	**7997**

Figure 9 - PivotTable Results

Filtering the PivotTable

The following shows how to filter information within a *PivotTable*:

1. Next to a *Field Header*, click the **drop-down** arrow.

Region	(All)			
Sum of No.Items	Column Labels			
Row Labels	Bamboo Coffee Table	Bamboo End Table	Captain Recliner	Chameleon Couch
Arnold, Cole	154	104	138	121
Byrd, Asa	150	69	155	101
Grand Total	**304**	**173**	**293**	**222**

Figure 10 - Drop-Down Button

2. A *Drop-down* menu will appear with values for the field listed below.

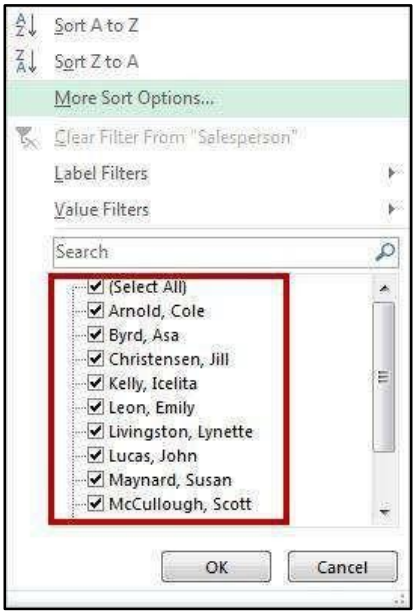


Figure 11 - Filter Values

3. Click the **checkboxes** to select/deselect values that you want to filter for.
4. Click **OK** to apply your filter.
5. A *filter* icon will appear next to the *drop-down* arrow to indicate a filter has been applied to the field.

Region	(All)			
Sum of No.Items	**Column Labels**			
Row Labels	**Bamboo Coffee Table**	**Bamboo End Table**	**Captain Recliner**	**Chameleon Couch**
Arnold, Cole	154	104	138	121
Byrd, Asa	150	69	155	101
Grand Total	**304**	**173**	**293**	**222**

Figure 12 - Filter Applied

6. To remove the filter, click the **drop-down** arrow.

7. The *drop-down* menu will appear. Click **Clear Filter From** to remove the filter.

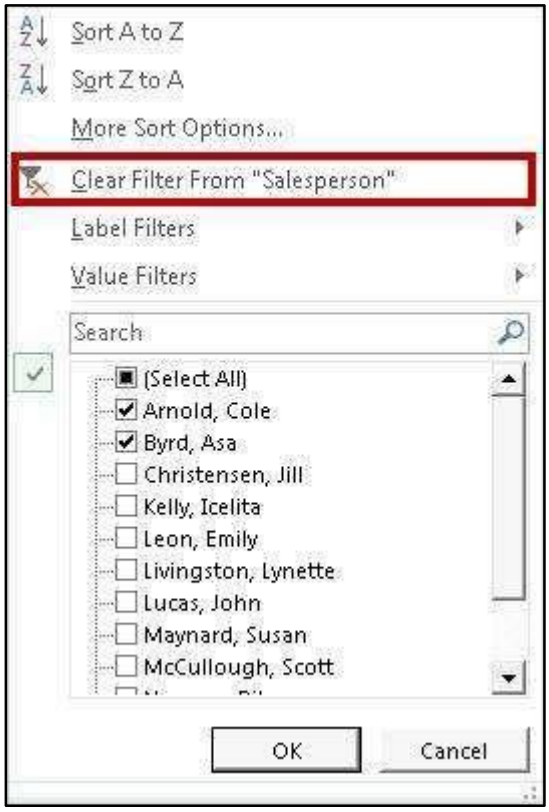


Figure 13 - Clear Filter From

PivotCharts

Similar to *PivotTables*, PivotCharts can be used to quickly summarize, sort, filter, and analyze large amounts of data, and display that data as a visual representation. After creating your PivotTable, you can create a PivotChart using a variety of available charts (e.g. Pie, Line, Bar) that uses the same field settings.

Creating PivotCharts

The following will show you how to create a PivotChart from an existing PivotTable:

1. Highlight the **data** you want to use for your PivotChart.
2. In the *Ribbon*, Click the **Insert** tab.

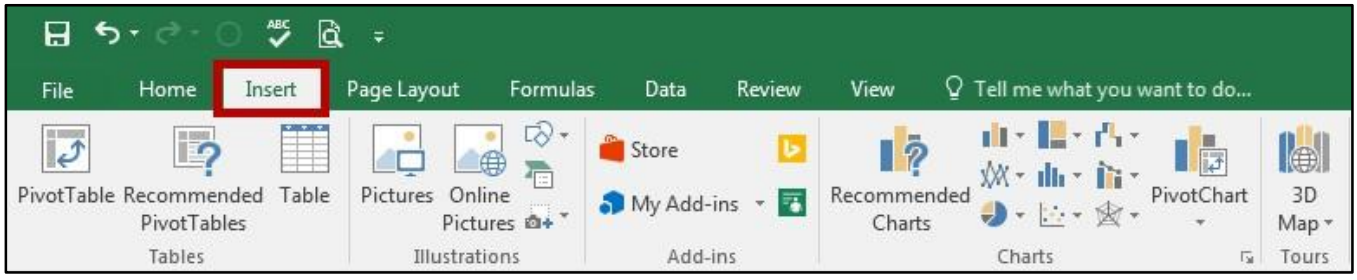


Figure 14 - Insert Tab

3. Under the *Charts* grouping, click **PivotChart**.

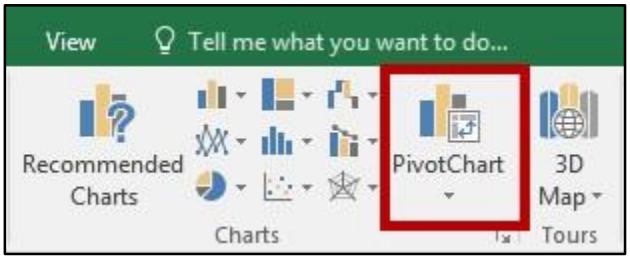


Figure 15 - PivotChart

4. The *Create PivotChart* window appears to allow you to change the data range, choose where you want the PivotChart to be placed, and choose whether or not you want to analyze multiple tables. Make your selections and click **OK**. In this example, a new worksheet will be created.

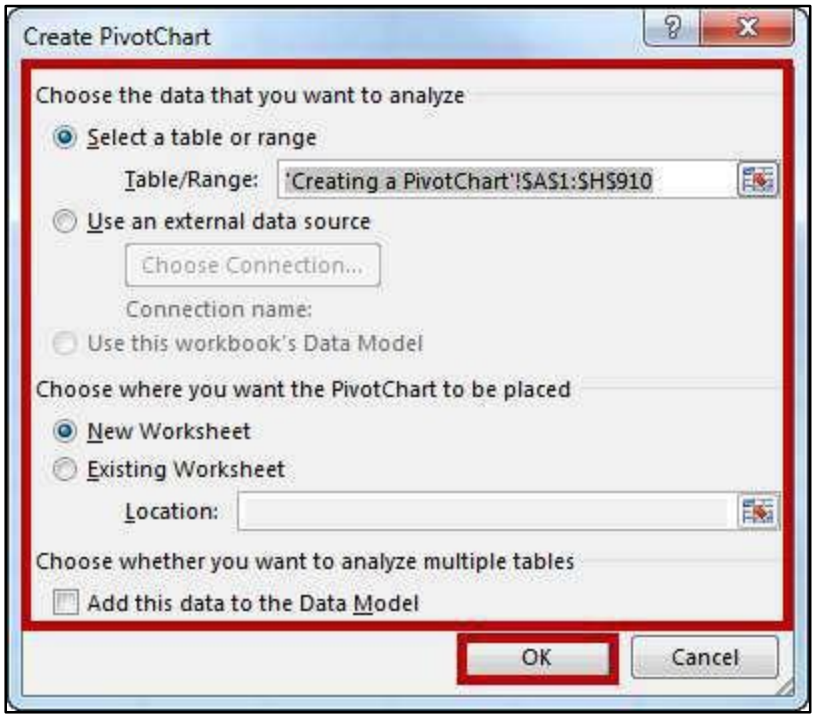


Figure 16 - Create PivotChart Options

5. The *PivotChart* will be placed into your workbook on a new worksheet.

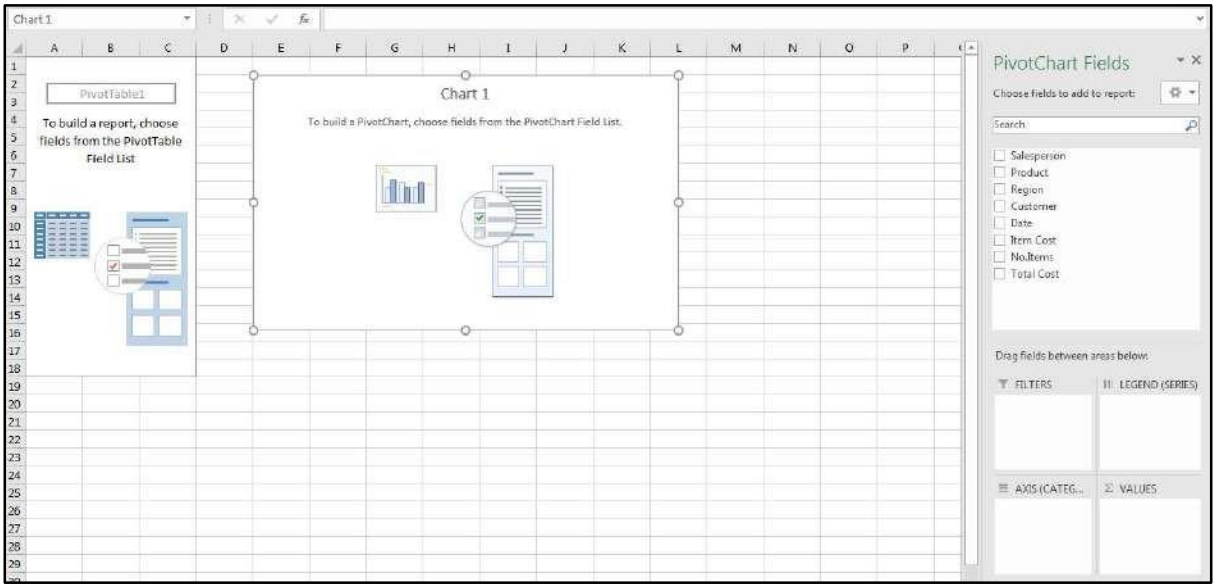


Figure 17 - New PivotChart Worksheet

6. The *PivotChart Fields* will appear on the right side of the screen.

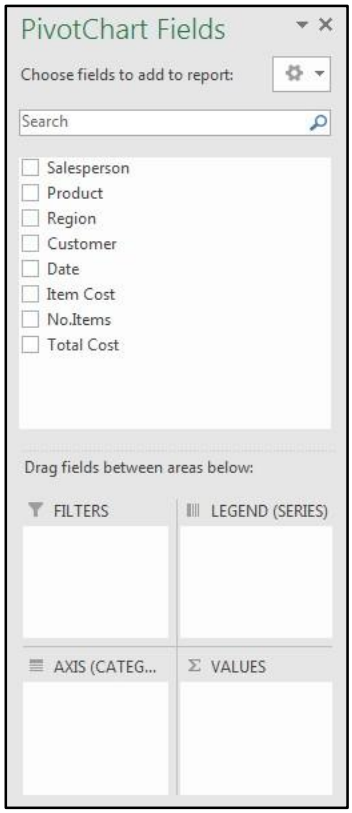


Figure 18 - PivotChart Fields

Note: You can alter the information that is displayed the same way as with PivotTables. See *Analyzing Data with PivotTables* for more information.

7. To change the chart type, click the **chart** and click the **Change Chart Type** in the Data grouping on the Design tab.

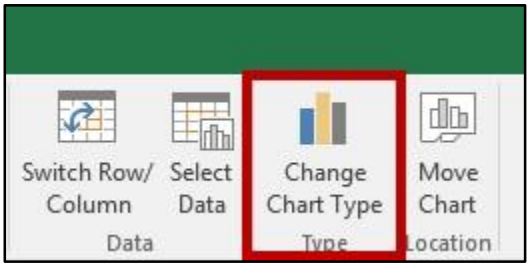


Figure 19 - Change Chart Type

8. Click a **Chart Type** (see Figure 20).
9. Click the **Chart Style** you want to use (see Figure 20).
10. Click **OK** to save the selection (see Figure 20).

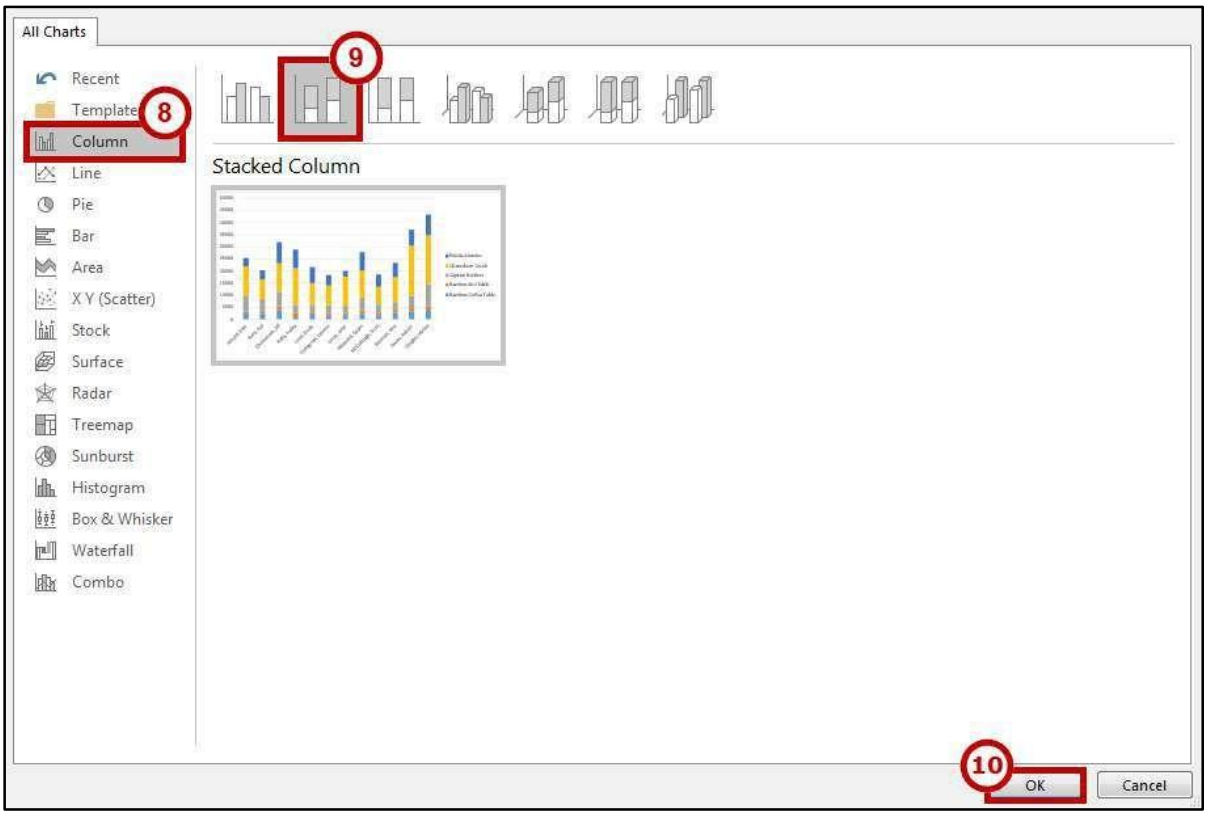


Figure 20 - New Chart Selection

Filtering the PivotChart

The following shows how to filter information within a *PivotChart*:

1. Next to a *Field Header*, click the **drop-down** arrow.

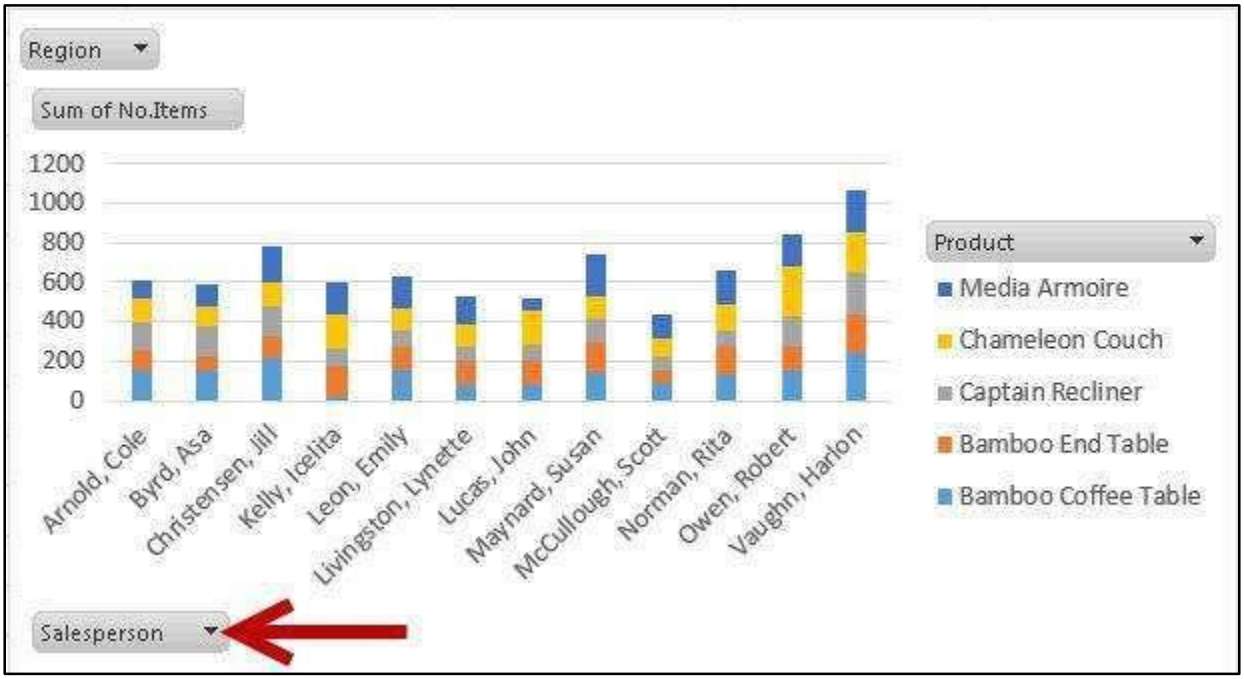


Figure 21 - Drop-Down Button

2. A *Drop-down* menu will appear with values for the field listed below.

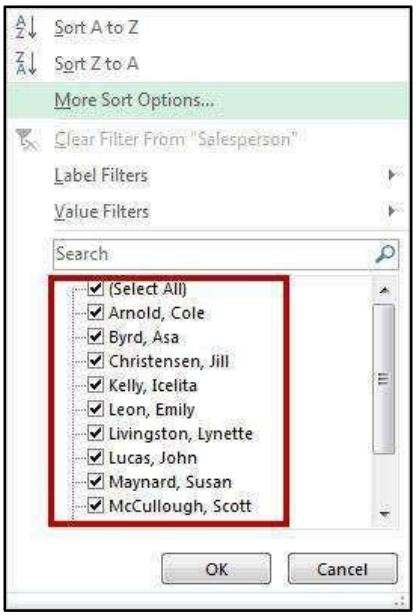


Figure 22 - Filter Values

3. Click the **checkboxes** to select/deselect values that you want to filter for.
4. Click **OK** to apply your filter.

5. A *filter* icon will appear next to the *drop-down* arrow to indicate a filter has been applied to the field.

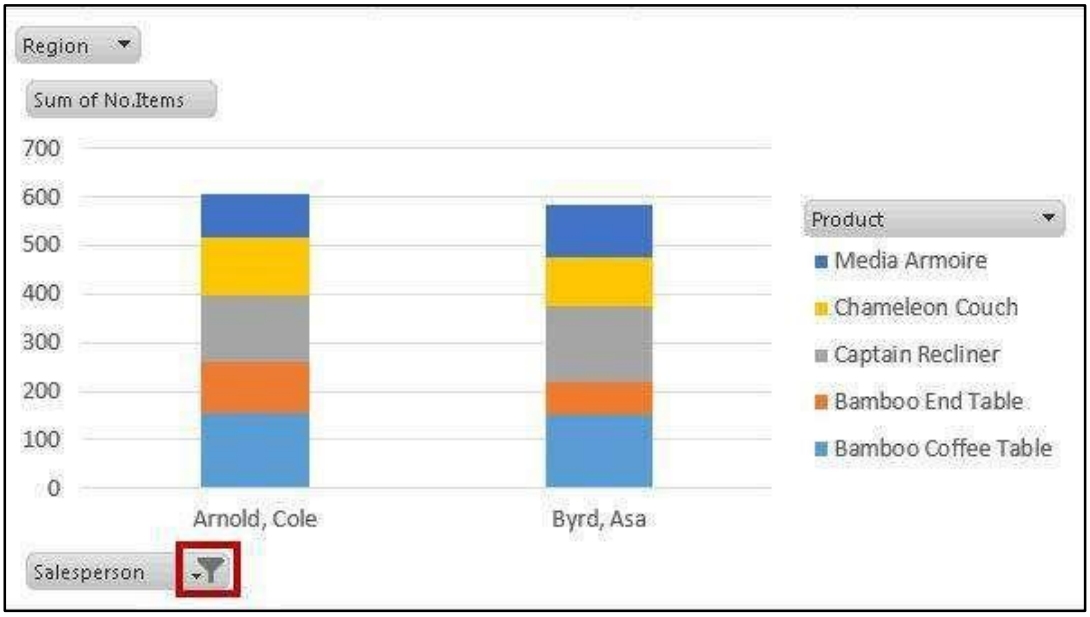


Figure 23 - Filter Applied

6. To remove the filter, Click the **drop-down** arrow.
7. The *drop-down* menu will appear. click **Clear Filter From** to remove the filter.

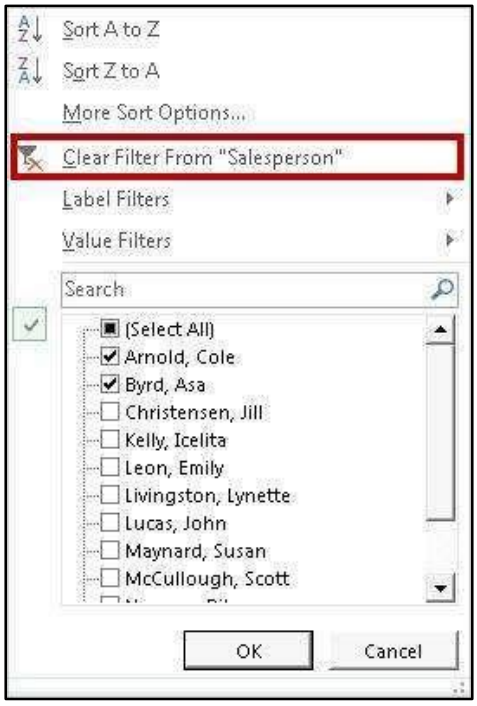


Figure 24 - Clear Filter From

Using Slicers to Filter Data

Slicers can provide greater control over your PivotTable or PivotChart when you are analyzing your data. Slicers work similar to filtering your information, but allows you to insert tables that you can use to

quickly select values to filter/unfilter. They will show what is currently shown/not shown at a glance. Slicers can also be adjusted to change their size and color to make them more presentable.

Inserting Slicers into your PivotTable or PivotChart

The following explains how to insert Slicers into your *PivotTable*:

1. Click within your **PivotTable** to select it.
2. In the *Ribbon*, Click the **Insert** tab.

Figure 25 - Insert Tab

3. Under the *Filters* grouping, click **Slicer**.

Figure 26 – Slicer

4. The *Insert Slicers* window will appear with a list of your available fields.

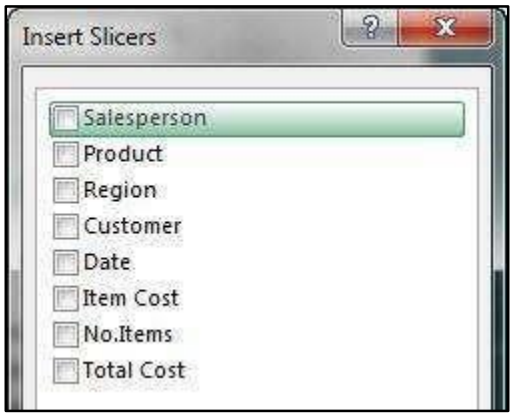


Figure 27 - Insert Slicers Window

5. Click the **checkboxes** next to the field(s) you want to create slicers for.
6. Click **OK**.
7. The **slicers** will be inserted into your spreadsheet.

Figure 28 - Slicers Inserted

8. Click and drag the **slicers** to reposition them as necessary.
9. To apply a filter from one of the slicers, click one of the **values**.

Figure 29 - Using a Slicer

Note: To select multiple values, hold down the **shift** key while clicking your values.

10. To remove values from your slicer, click the **Clear Filter** icon in the upper-right hand corner of the slicer.

Figure 30 - Clear Filter from Slicer

Additional Slicer Options

When a Slicer is selected, the *Slicer Tools – Options* tab will be available in the *Ribbon*. From this tab, you can change the Slicer caption, style, and size of the buttons and window. The following explains how to access the *Slicer Tools – Options* tab:

1. Click the **Slicer**.
2. In the *Ribbon*, click the **Slicer Tools – Options** tab.

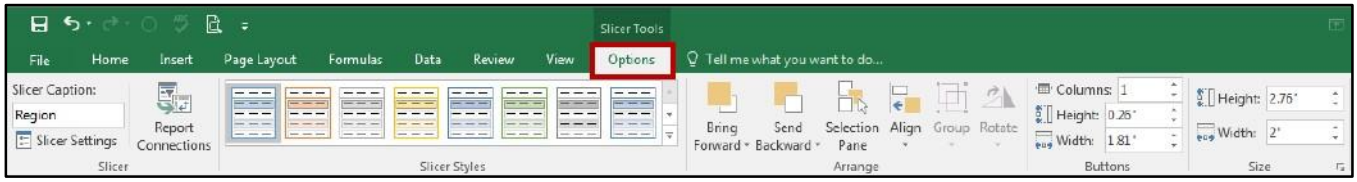


Figure 31 - Slicer Tools - Options Tab

3. Additional Slicer tools will be displayed. From here you can alter the slicer captions, styles, button, and window size.

Figure 32 - Additional Slicer Tools

Additional Help

Our website: nsthagunna.com.np

YouTube Channel: https://www.youtube.com/@nirajansth

Facebook Page: https://www.facebook.com/nirajansth100

Some Excel Practice Questions:

1.Datedif

Details	B3	C3
Name	Date of Birth	Today
Nirajan	1/15/2057	2/28/2078
Gita	3/5/2056	2/28/2078
Raju	6/5/2073	2/28/2078
Sita	3/1/2051	2/28/2078
Barun	3/2/2051	2/28/2078
Arun	3/3/2051	2/28/2078

Age		
Year	Month	Day
21	1	21

Age:

Year: =DATEDIF(B3,C3,"Y") **Month:** =DATEDIF(B3,C3,"YM")
Day:=DATEDIF(B3,C3,"MD")

Detials
Nirajan is 21year 1 Month 21 Day

Details:=CONCATENATE(A3," ","is"," ",E3,"year"," ",F3," ","Month"," ",G3," ","Day")

2. Index:

SNO	Products	Sales (2076)	Sales (2077)
1	Keyboard	13038	6741
2	Mouse	3893	9070
3	Monitor	885	14925
4	Printer	9981	7714
5	CPU	10470	8238
6	Earphone	9708	9995

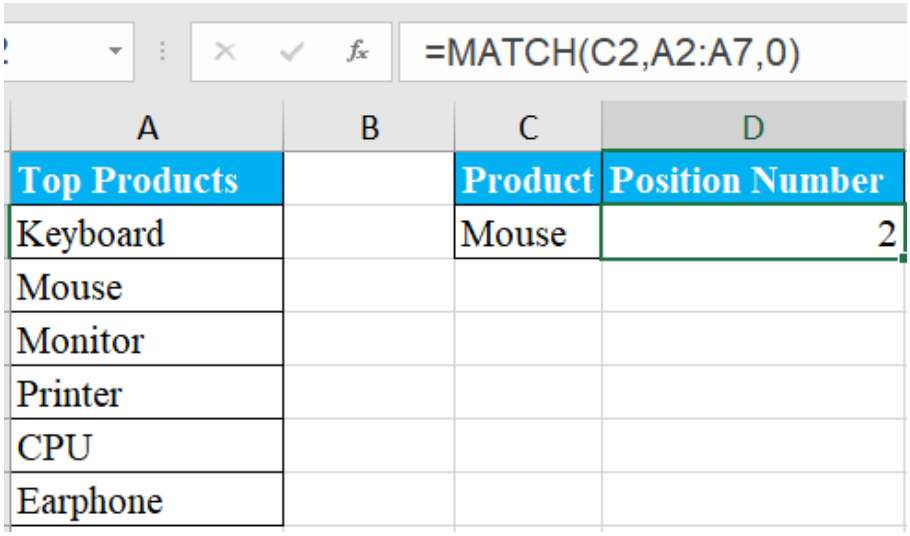
Value	Serial Number
Earphone	6

Value	Row Number	Column Number
CPU	5	2

Value: =INDEX(B3:B8,G3)

Value: =INDEX(A3:D8,G6,H6)

3. Match:



	A	B	C	D
1	Top Products		Product	Position Number
2	Keyboard		Mouse	2
3	Mouse			
4	Monitor			
5	Printer			
6	CPU			
7	Earphone			

4.

CARC			
Canada			
Ref No #	Items Name	Vendor Codes	Sales
1	biscuit	301	$ 100.00
2	bread	302	$2,500.00
3	bread	301	$ 300.00
4	rice	305	$1,400.00
5	rice	305	$2,000.00
6	biscuit	301	$1,000.00
7	bread	302	$ 52.00
8	rice	304	$1,230.00
9	biscuit	303	$6,200.00
10	rice	303	$ 500.00

1. calculate sum of sales
2. insert pivot table
3. Make folloing table and insert line chart

Days	income	expenses
Sunday	5000	2000
Monday	6000	2300
Tuesday	3000	3200

5.

3. Calculate the result sheet given below. **[10]**

S.N	Name	English	Nepali	Math	Total	Division	Result

Criteria:-

To be pass at least 35 marks should be obtained in each subject.

Division for passed students is distinction for above 80%, 1st for above 60%, 2nd for above 50% and otherwise 3rd division.

6.

4. Calculate the Electricity using in MS excel. **[10]**

Nepal Electricity Authority Kathmandu Nepal					
Miter No	Name	Previous Reading	Current Reading	Consumed Unit	Bill Amount
1	Neema	4520	4585		
2	Gita	5800	5872		
3	Mohan	3210	3400		
4	Kamal	4500	4612		
5	Anil	7800	8100		

Calculate

- Unit Consumed
- Amount

  Condition
  - If unit is less than or equal to 20 unit, RS 80
  - If unit is greater than 20 unit, amount 7.7 for extra unit
  - If unit is grater than 250, amount is 9.9 for extra unit.

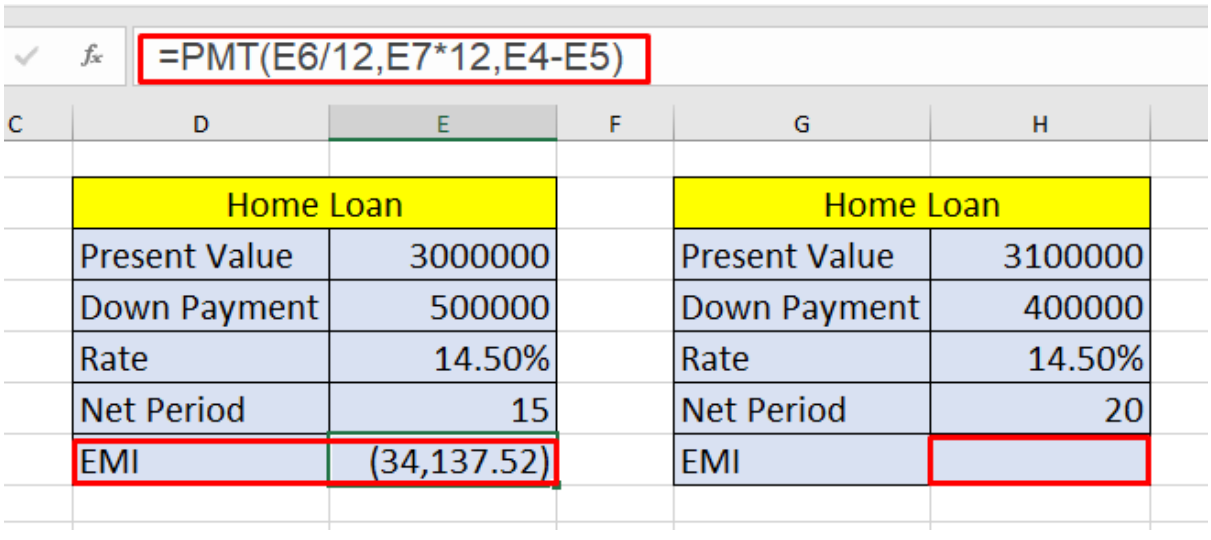
7.

4. Prepare the following operation in spreadsheet program. **[10]**

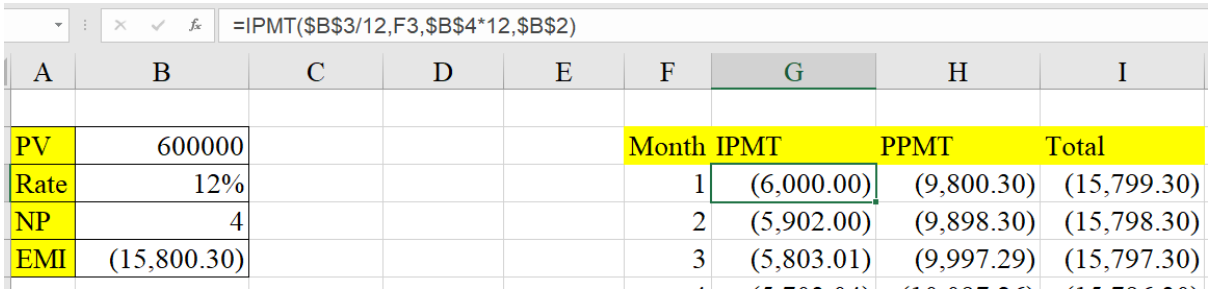
S.N.	Name	Post	Salary	PF	Total	Grand Total
1.	Arjun	Manager	35000			
2.	Rohan	Accountant	28000			
3.	Sohan	Admin	32000			
4.	Pawan	Salesman	20000			
5.	Shyam	helper	15000			

- Calculate the PF(Provident Fund) 12% if salary is less than 20000, 15% if salary is less than 30000 otherwise 18%.
- Create the bar chart shows the Salary and Total salary.

8. PMT



9. IPMT, PPMT



	A	B	C	D	E	F	G	H	I
	PV	600000				Month	IPMT	PPMT	Total
	Rate	12%				1	(6,000.00)	(9,800.30)	(15,799.30)
	NP	4				2	(5,902.00)	(9,898.30)	(15,798.30)
	EMI	(15,800.30)				3	(5,803.01)	(9,997.29)	(15,797.30)

IPMT: `=IPMT($B$3/12,F3,$B$4*12,$B$2)`

PPMT: `=PPMT($B$3/12,F3,$B$4*12,$B$2)`

10.

11.

Prepare the following operation in spreadsheet program. **[10]**

S.N	Name	Mark			Total Marked	Result	Division
		Math	Physics	Chemistry			
1.	Mohan	46	56	65			
2.	Manish	85	65	74			
3.	Ashamita	70	60	50			
4.	Anjali	65	60	87			
5.	Amit	54	57	59			

- Calculate the total mark
- Result:- if each subject mark is greater than 35, "pass", "Fail".
- Division:- Average is greater than or equal to 65 than "First" total mark is greater than or equal 50, "second", Total mark greater than or equal 35,"Third".

11.

Prepare the following task in excel. **[10]**

a. Enter the following data in your worksheet and save it as Excel_YourSymbolNumber in your folderin desktop. [2]

Loan Amount	325000
Loan Dura on in Year	9
Rate	
Interest	

b. Enter formula for the rate so that it will be 15% if loan Dura on is less than 4 years and loan Amount is more than one lacks, otherwise it should be 9%. [2]

c. Calculate interest = loan amount × loan dura on × rate / 100 [1]

d. Change the value of loan Dura on as necessary to get 95000 in interest. [2]

e. Apply thick line boarder around the table and single thin line for the inner lines. [1]

f. Enter "Interest Calculation" as header and set page number as the bottom center of page. [2]

12.

4. Perform following calculation in Ms-excel. **[10]**

Place	Target	Production	Achievement	Grade
Jhapa	4800	6000	125%	
Manahari	7000	5700	90%	
Sapatari	12000	10800	100%	
Biratnagar	17000	13000	115%	

Criteria:-

a. Calculate Grade. A+ for more than 100% achievement; A for 100% achievement and B for below 100% achievement.

b. Create a bar chart to show the target and production of three places under observation.

13.

3. Create following table and calculate the following Condition. **[10]**

S.N	Name	Post	Salary	VAT	Salary with vat
Grand Total					

Criteria :-

a. Keep suitable entry data.

b. vat of all 13%

c. Find salary with VAT.

d. Find Grand Total of all.

e. Column chart in show label in 3D.

14.

B. Perform following tasks in Excel. [10 marks]

1. Enter following data in your worksheet and save it as Excel_YourSymbolNumber in your folder in desktop. [2]

Loan Amount	135000
Loan Duration in Years	7
Rate	
Interest	

2. Enter formula for the rate so that it will be 14% if Loan Duration is less than 5 years and Loan Amount is more than one lacks, otherwise it should be 8% [2]

3. Calculate Interest = Loan Amount x Loan Duration x Rate / 100 [1]

4. Change the value of Loan Duration as necessary to get 80000 in Interest. [2]

5. Apply thick line boarder around the table and single thin line for the inner lines. [1]

6. Enter "Interest Calculation" as header and set page number at the bottom center of page. [2]