



Microsoft
EXCEL

Easy

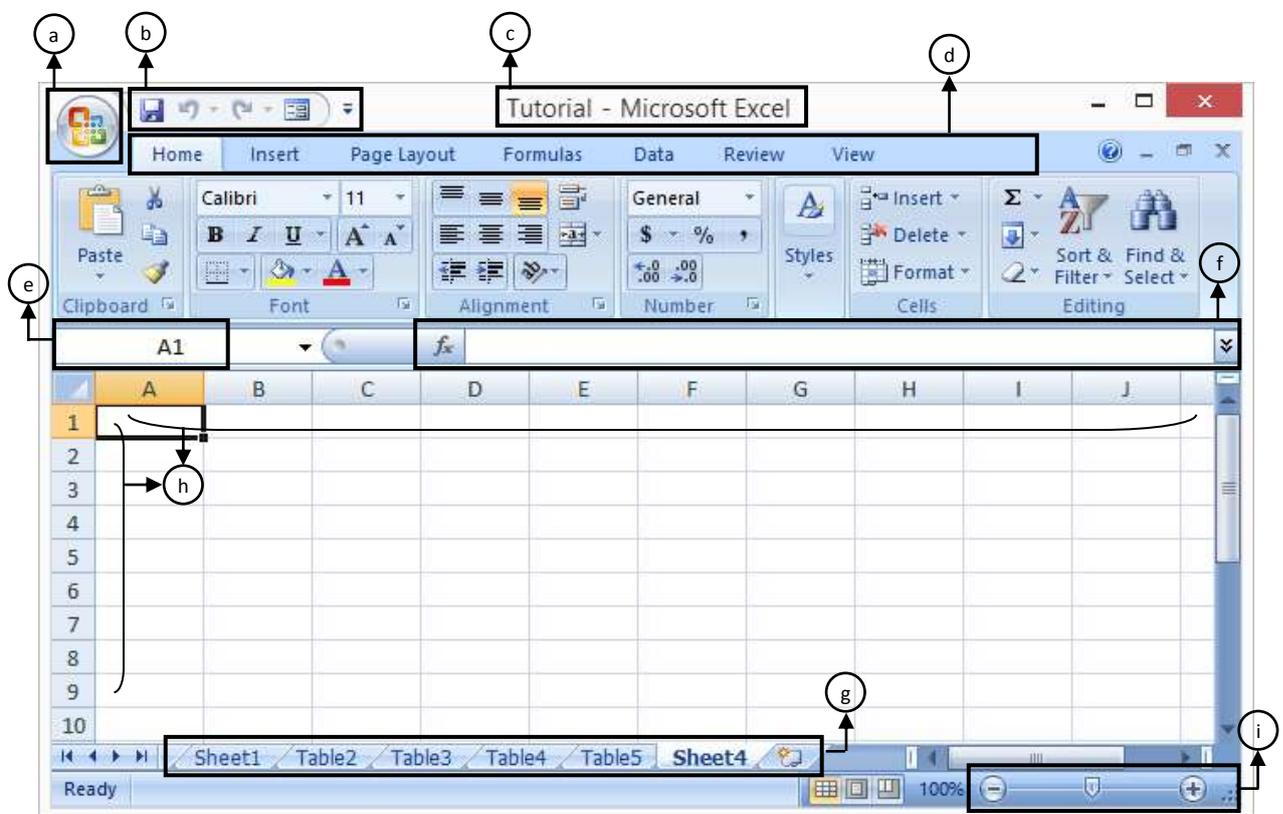
TABLE OF CONTENT

1.0	Introduction	1
2.0	Basic Formatting	3
2.1	Merge And Wrap	3
2.2	Text Formatting	3
2.3	Setting Up Row And Column	4
2.4	Row And Column Locking	6
2.5	Find And Replace	7
3.0	Sort And Filter	11
3.1	Sort	11
3.2	Data Filter	13
4.0	Managing Data	15
4.1	Remove Duplicate	15
4.2	Data Validation	17
5.0	Conditional Formatting	19
6.0	Graph And Chart	23
7.0	Cell Reference	26
8.0	Basic Formula & Logical Function	28
8.1	Basic Formula	28
8.2	Logical Function	31
9.0	Pivot Tables	33
10.0	Lookup	37
10.1	Hlookup	37
10.2	Vlookup	38
10.3	Match And Index	38

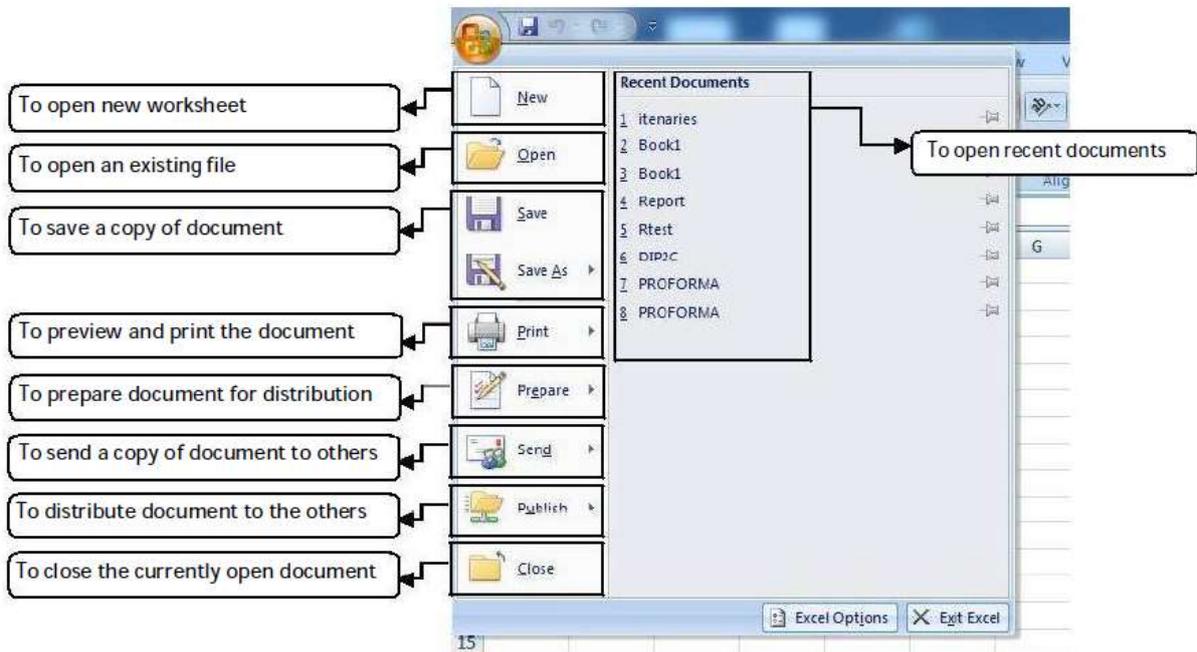
CHAPTER 1

1.0 INTRODUCTION

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. Microsoft Excel provides several layers of protection to control who can access and change your Excel files data. Besides, covered in formatting toolbar, conditional formatting and cell reference functions. Microsoft Excel also can create Simple Formulas and Functions. Chart created in Excel can be modified quite easily. Allow you to change the chart type, add in or remove legend and data table, and change text orientation.



- a. Main button to access the main menu in Microsoft Excel
- b. Quick Access Toolbar
- c. Title Bar represent the excel file name
- d. Tab for excel functions
- e. Cell name box
- f. Function box
- g. Worksheet tabs
- h. Rows and columns
- i. Zoom button



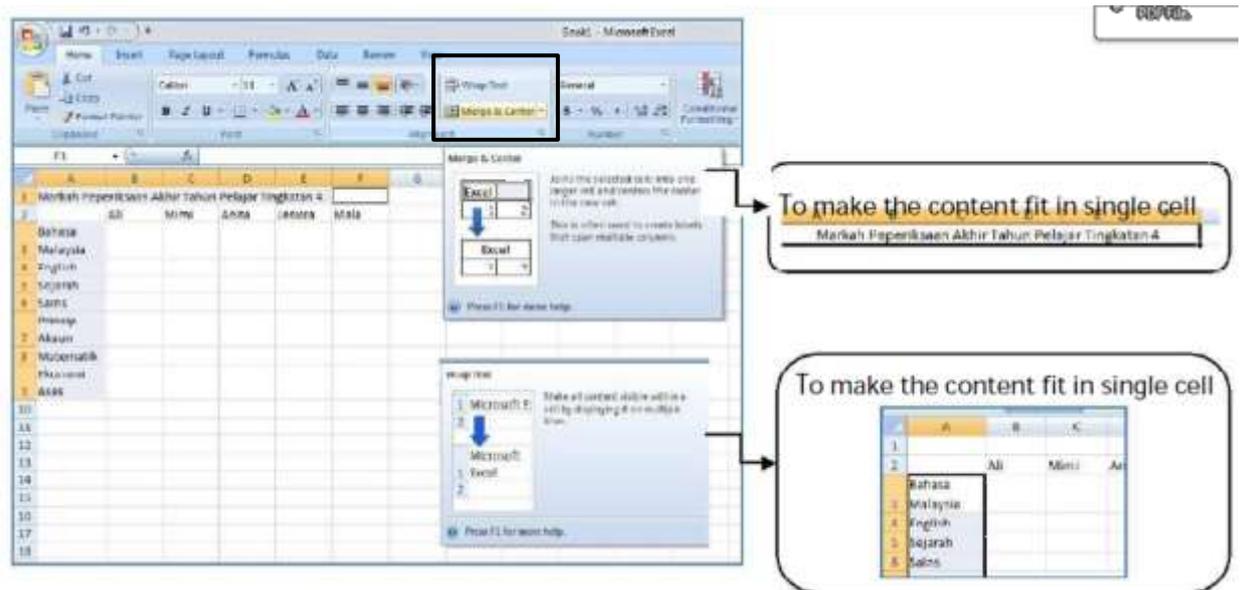
CHAPTER 2

2.0 BASIC FORMATTING

This topic will discuss on how to setup the basic format of the data in the worksheet.

2.1 MERGE AND WRAP

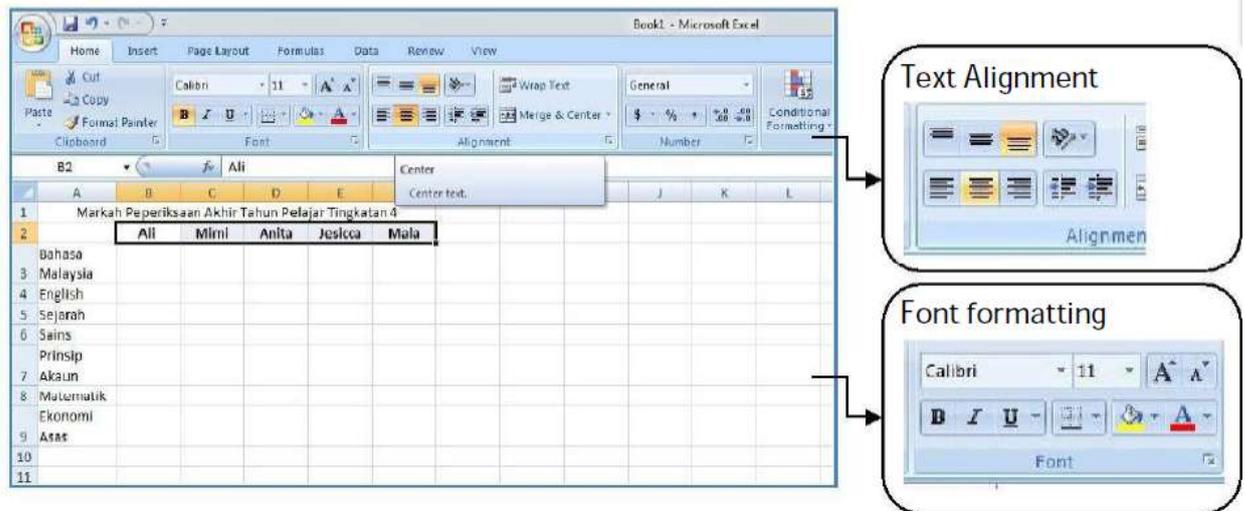
1. Click to select the cells and click on merge icon in order to merge the cell into one. So the selected cells or rows will be merge into single merged cell.
2. Click to select the cells and click on wrap text in order to make sure the content fit into single cell.



2.2 TEXT FORMATTING

Default setting when key in data into cell will be aligns bottom and left. The data can be aligning for how you want the data appear in your document.

1. Click and select cell or highlight the rows and column and select **Alignment** to align text horizontally top / middle / bottom
2. Besides the text also can be align in vertically left, center, right or justify based on the document requirement.



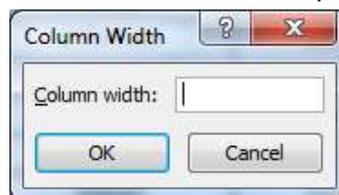
2.3 SETTING UP ROW AND COLUMN

Set up the row height and column width

1. Highlight the selected row and right click on row panel, **Row Height** windows will pop-up and you are required to enter the row size

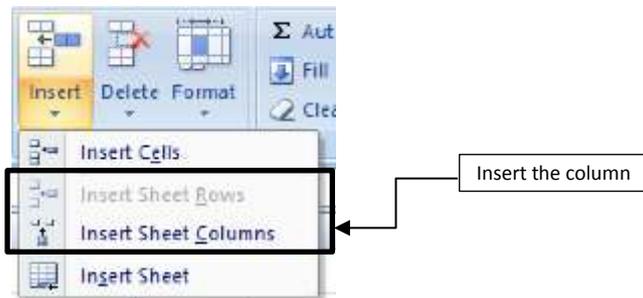
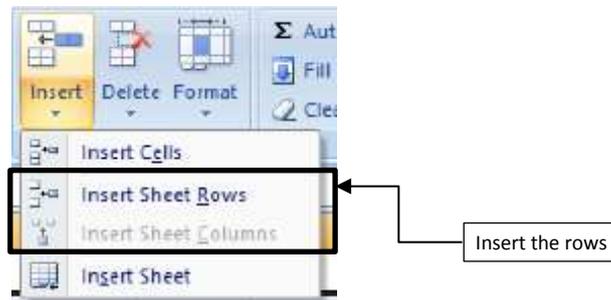


2. Highlight the selected column and right click on column panel, Column Width windows will pop-up and enter the column size as required.

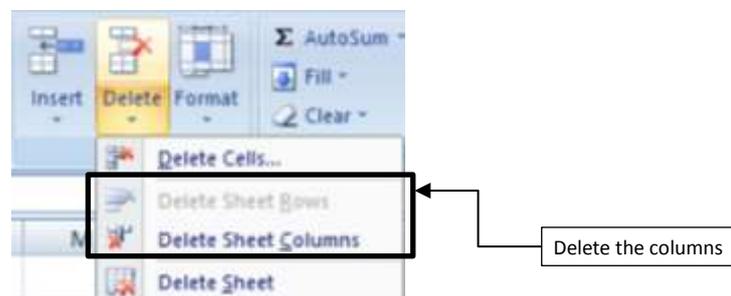
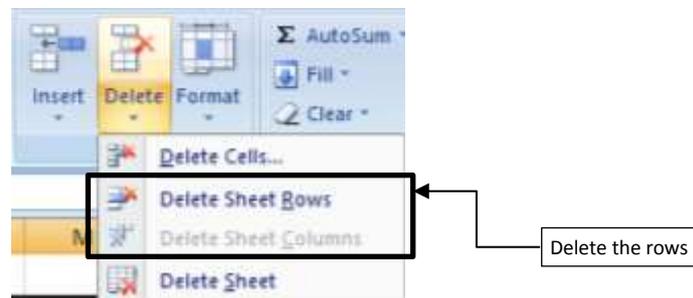


Insert and Delete row / column

1. Highlight the selected row / column and right click or click Insert Sheet Rows / Insert Sheet Columns in order to insert sheet row / column



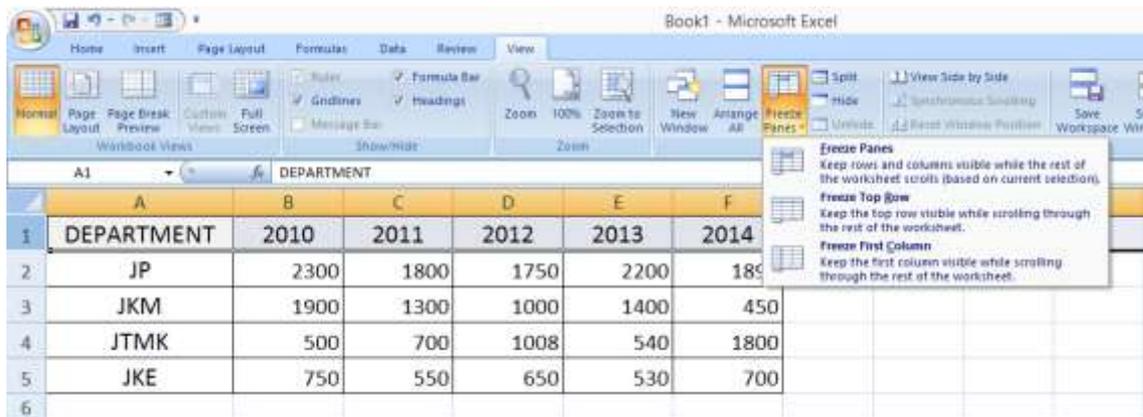
2. Highlight the selected row / column and right click or click Delete Sheet Rows / Delete Sheet Columns in order to delete sheet row / column



2.4 ROW AND COLUMN LOCKING

Lock the row and column in order to keep rows and column visible while the rest of worksheet can be scrolls

1. Highlight and select row or column to be freeze
2. Go to VIEW and select **Freeze Panes**
3. **Freeze Top Row** and **Freeze First Column** used to freeze the top row and the most left column in worksheet



2.5 FIND AND REPLACE

Replacing the data in worksheet using find and replace functions by typing the certain data to be search and click button search to search and replace

1. Highlight the data column/ row to be replace
2. Click Ctrl + F or **Home > Editing > Find & Select.**



Figure 2.10 Find & Select function

3. Find and Replace windows pop-up and enter Find value and Replace value
4. Click Find All to show the list of data and click Replace All

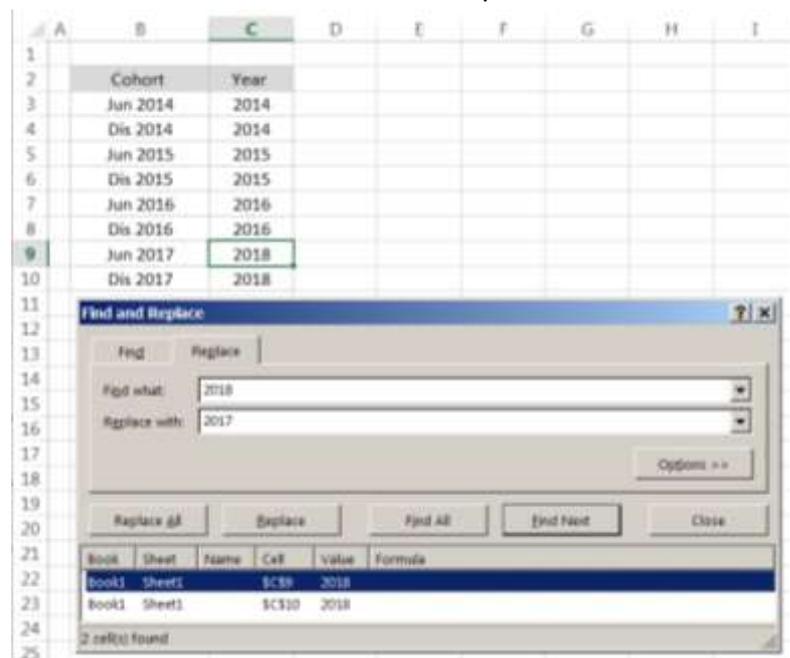


Figure 2.11 Find and Replace windows

5. New pop-ups windows appear to inform user the data has been replaced

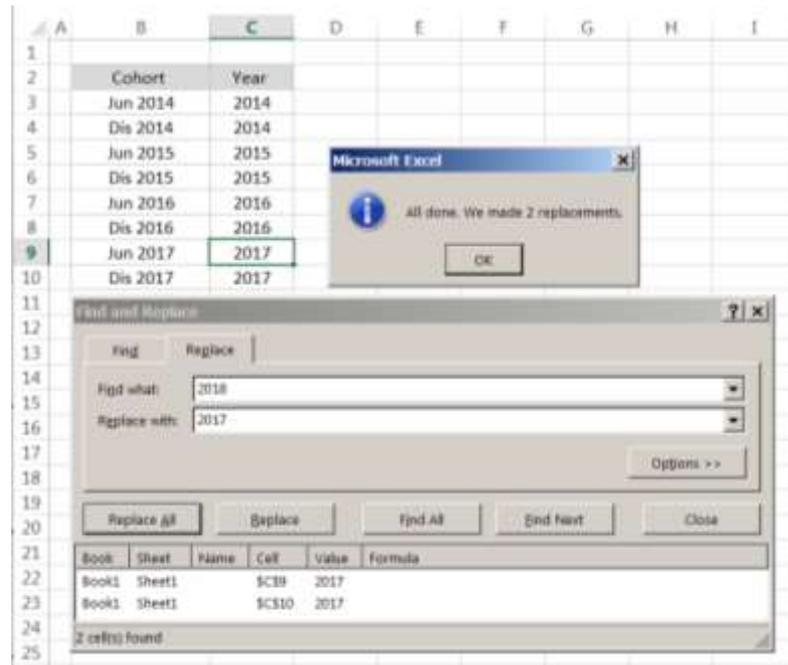


Figure 2.12 Pop-up information windows for find and replace

6. The highlighted data only will be replaced

Find and Replace the data with an option (to change data with cell color)

1. Highlight the selected data in column or row to be replace
2. Ctrl + F > Enter Find value and Replace value in Find and replace windows > Click on Option button

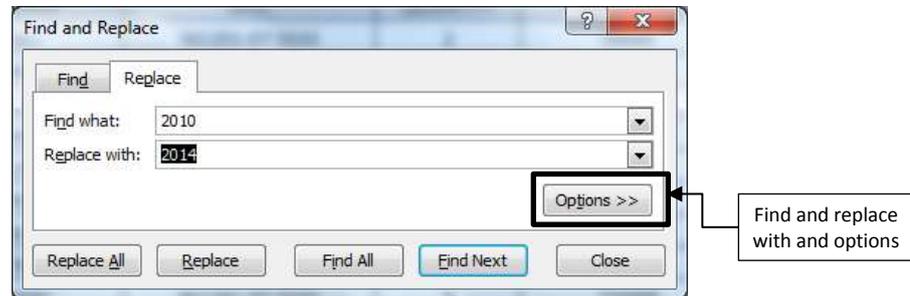


Figure 2.13 Find and Replace windows with an options

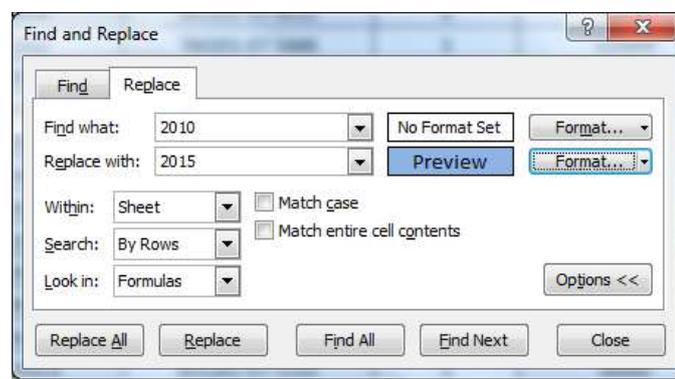


Figure 2.14 Replace stabs to change with color

3. Format button > select Fill colour > click OK

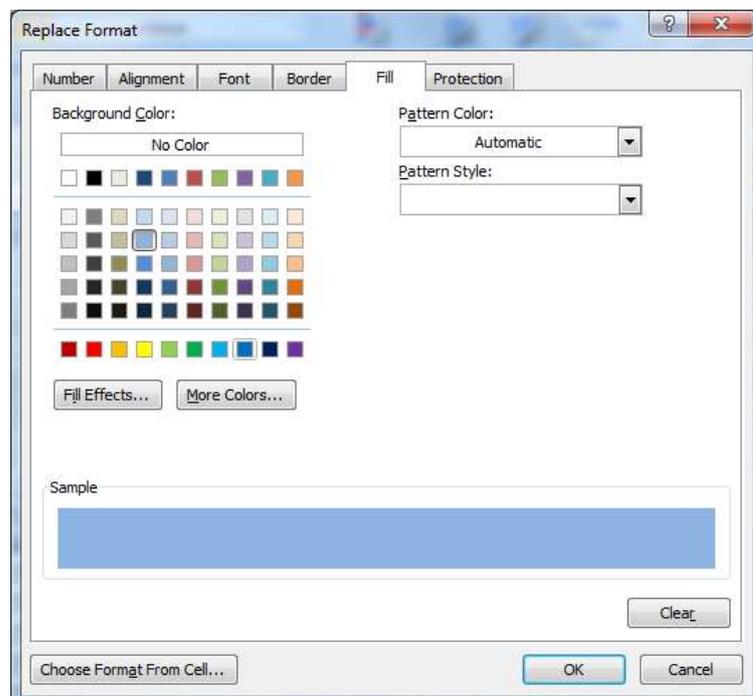


Figure 2.15 Select color from color palette

4. The selected data will change the values and colour

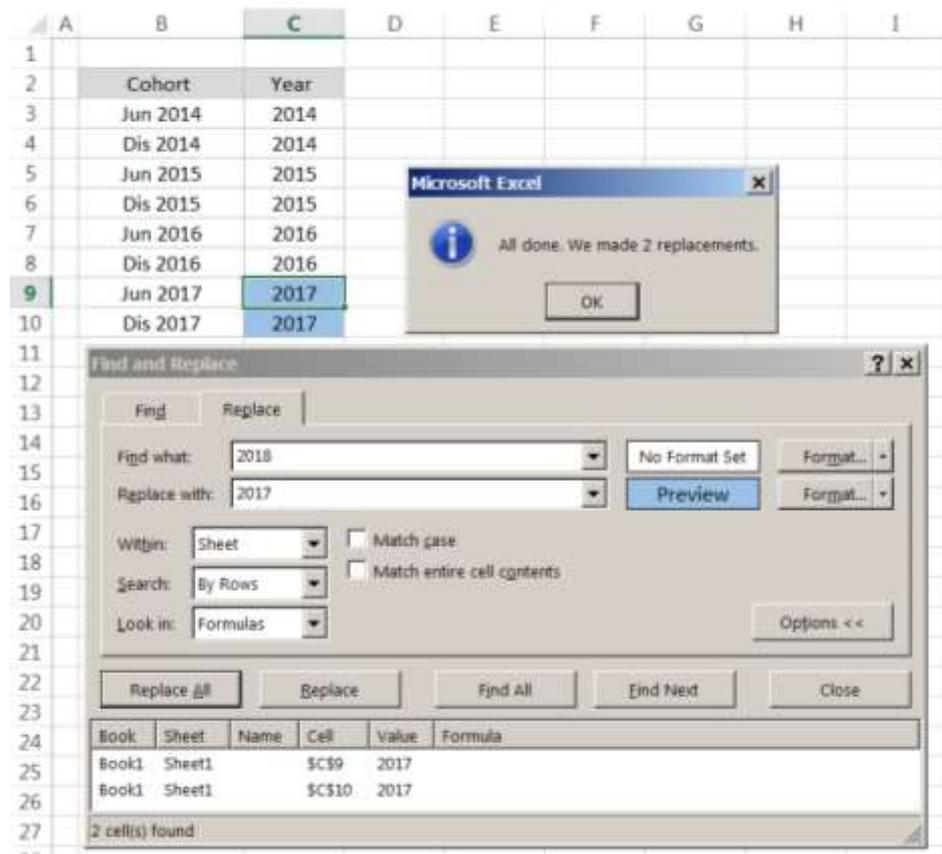


Figure 2.16 Pop-up information windows for find and replace the data with cell color

CHAPTER 3

3.0 SORT AND FILTER

3.1 SORT

Sort the data by ascending and descending the data based on document requirement

1. Highlight the selected data > select **Sort & Filter** icon
 - a. Sort A to Z – sort data ascendingly
 - b. Sort Z to A – sort data descendingly



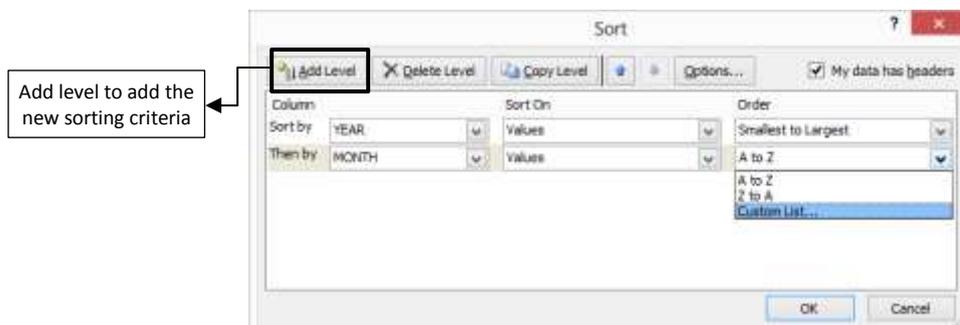
Custom Sort to sort data ordered by colour

1. Highlight the selected data > select **Sort & Filter** icon > **Custom Sort**
2. In **Sort** windows > select customize the selection data and colour

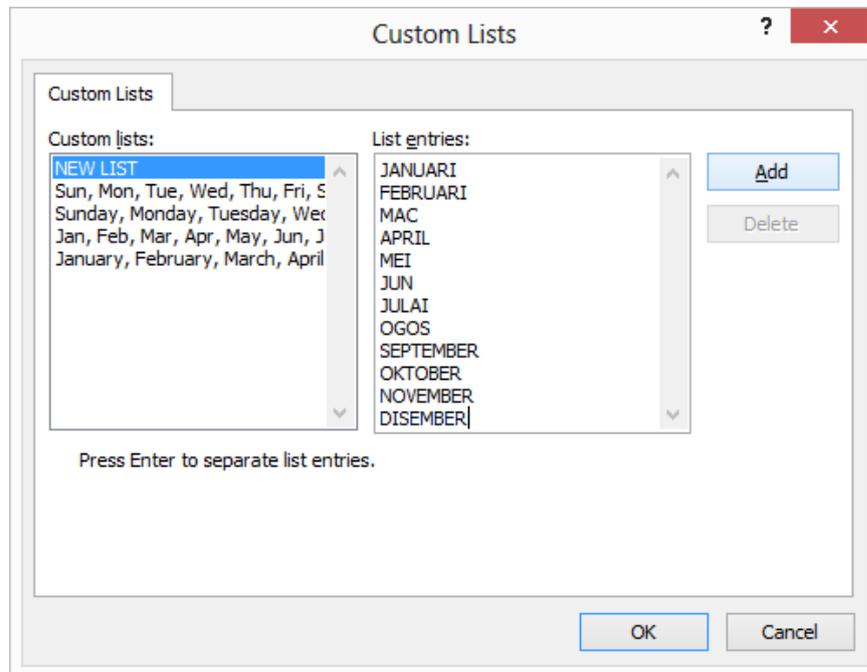


Custom Sort to sort by more than one criteria (eg: year and month)

1. Highlight data > select **Sort & Filter** icon > **Custom Sort**
2. In **Sort** window > select 1 data > Click Add Level to add 2nd data to be sorted



3. Custom Lists window and select the existing list or create new List entries on order to cater the table data > click Add to add the new list > OK



3.2 DATA FILTER

Data Filter will filter the range of data and the drop down arrow in header used to select data

1. Highlight the selected data > go to **Data** > and select **Filter**

Book1 - Microsoft Excel

Home Insert Page Layout Formulas Data Review View

From Access From Web From Text From Other Sources Existing Connections Refresh All Properties Edit Links Connections Sort & Filter Filter Clear Reapply Advanced Text to Columns Remove Duplicates Data Validation Cons

	A	B	C		
1	TYPE	SALES PERSON	NRIC	QUA	
2	HONDA	ZAID	561201-07-5533		
3	MITSUBISHI	AMINAH	850201-07-5446		
4	CHEVROLET	BASYIRAH	770201-07-5446		
5	TOYOTA	JAMIL	831201-07-5133		
6	LEXUS	CHUAH	661201-07-51333		
7	PERODUA	DAMIA	780201-07-5446	1	54,000.00
8	VOLVO	ELFIN	791201-07-5133	6	130,000.00
9	VOLKSWAGEN	FATIN	800201-07-5446	2	230,000.00
10	PROTON	GAYAH	810201-07-5446	5	60,000.00
11	LEXUS	HADI	811201-07-5535	3	132,000.00
12	NISSAN	INDARAN	821201-07-5133	6	78,000.00
14	PERODUA	KAMAL	841201-07-5133	5	54,000.00

Filter (Ctrl+Shift+L)

Enable filtering of the selected cells.

Once filtering is turned on, click the arrow in the column header to choose a filter for the column.

Press F1 for more help.

2. Choose data to be appear in table

	A	B
1	TYPE	SALES PERSON
		RAH
		RAH
		IL
		RAH
		IA
		D
		N
		N
		RAH
		I
		AN
		IL
		AL
		RAH

Sort A to Z

Sort Z to A

Sort by Color

Clear Filter From "TYPE"

Filter by Color

Text Filters

(Select All)

CHEVROLET

HONDA

LEXUS

MITSUBISHI

NISSAN

PERODUA

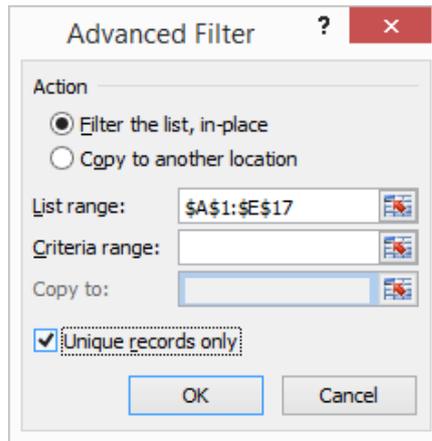
PROTON

TOYOTA

VOLKSWAGEN

OK Cancel

3. Advance filter will appear the selected data



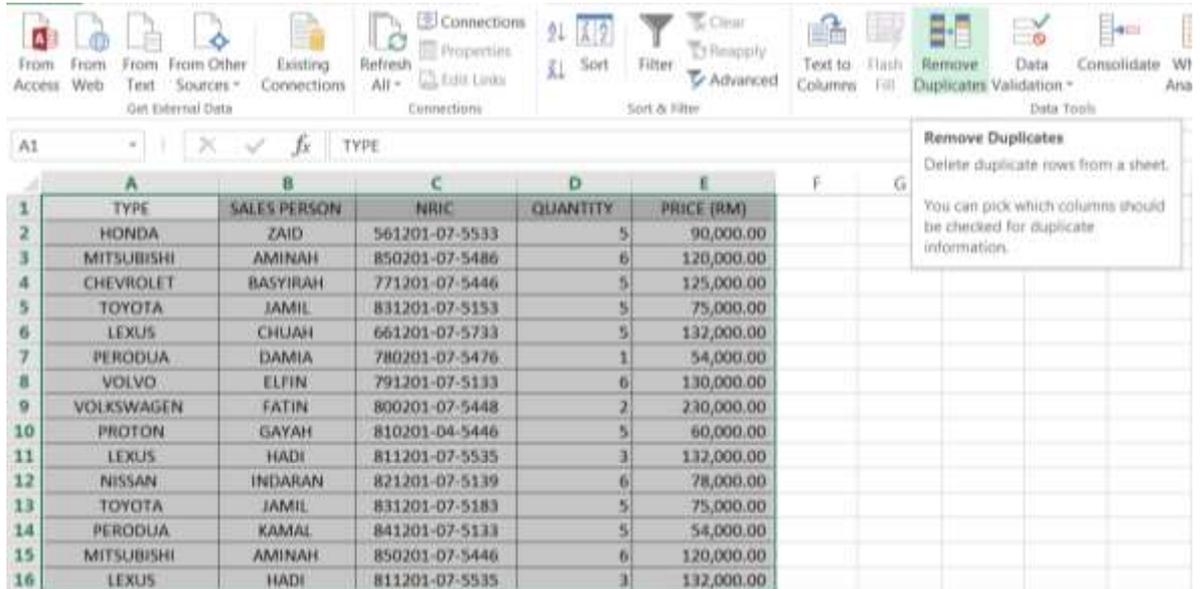
CHAPTER 4

4.0 MANAGING DATA

4.1 REMOVE DUPLICATE

Delete the duplicate data by removing the row in order to avoid redundancy

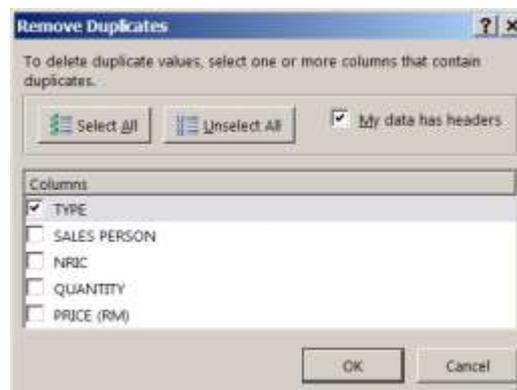
1. Highlight the selected cells > go to **Data** > select **Remove Duplicates**



The screenshot shows the Microsoft Excel interface with the 'Remove Duplicates' dialog box open. The dialog box has a title bar 'Remove Duplicates' and a close button. Below the title bar, it says 'To delete duplicate values, select one or more columns that contain duplicates.' There are two buttons: 'Select All' and 'Unselect All'. A checkbox labeled 'My data has headers' is checked. Below this, there is a list of columns with checkboxes: 'TYPE' (checked), 'SALES PERSON', 'NRIC', 'QUANTITY', and 'PRICE (RM)'. At the bottom of the dialog box are 'OK' and 'Cancel' buttons. In the background, the Excel spreadsheet is visible with columns A through G and rows 1 through 16. The data in the spreadsheet is as follows:

	A	B	C	D	E	F	G
1	TYPE	SALES PERSON	NRIC	QUANTITY	PRICE (RM)		
2	HONDA	ZAID	561201-07-5533	5	90,000.00		
3	MITSUBISHI	AMINAH	850201-07-5486	6	120,000.00		
4	CHEVROLET	BASYIRAH	771201-07-5446	5	125,000.00		
5	TOYOTA	JAMIL	831201-07-5153	5	75,000.00		
6	LEXUS	CHUAH	661201-07-5733	5	132,000.00		
7	PERODUA	DAMIA	780201-07-5476	1	54,000.00		
8	VOLVO	ELFIN	791201-07-5133	6	130,000.00		
9	VOLKSWAGEN	FATIN	800201-07-5448	2	230,000.00		
10	PROTON	GAYAH	810201-04-5446	5	60,000.00		
11	LEXUS	HADI	811201-07-5535	3	132,000.00		
12	NISSAN	INDARAN	821201-07-5139	6	78,000.00		
13	TOYOTA	JAMIL	831201-07-5183	5	75,000.00		
14	PERODUA	KAMAL	841201-07-5133	5	54,000.00		
15	MITSUBISHI	AMINAH	850201-07-5446	6	120,000.00		
16	LEXUS	HADI	811201-07-5535	3	132,000.00		

2. In Remove Duplicates windows, select column to validate the duplicates data



3. Popup windows to acknowledge user the number of data been deleted

	A	B	C	D	E	F	G	H
1	TYPE	SALES PERSON	NRIC	QUANTITY	PRICE (RM)			
2	HONDA	ZAID	561201-07-5533	5	90,000.00			
3	mitsubishi	AMINAH	850201-07-5486	6	120,000.00			
4	CHEVROLET	BASYIRAH	771201-07-5446	5	125,000.00			
5	TOYOTA	JAMIL	831201-07-5153	5	75,000.00			
6	LEXUS	CHUAH	661201-07-5733	5	132,000.00			
7	PERODUA	DAMIA	780201-07-5476	1	54,000.00			
8	VOLVO	ELFIN	791201-07-5133	6	130,000.00			
9	VOLKSWAGEN	FATIN	800201-07-5448	3	330,000.00			
10	PRONON	GAYAH	810201-04-5446					
11	NISSAN	INDARAN	821201-07-5139					
12								
13								
14								
15								
16								

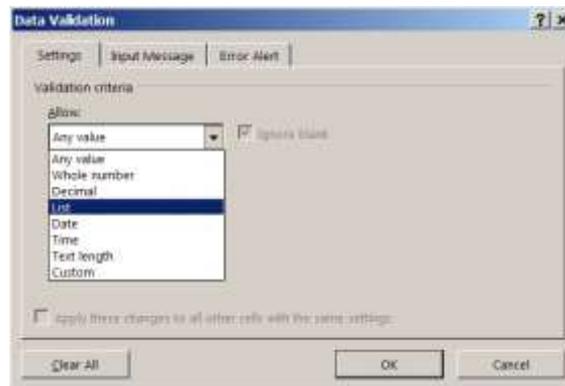


A Microsoft Excel confirmation dialog box is overlaid on the bottom right of the spreadsheet. The dialog box has a blue title bar that says "Microsoft Excel" and a close button (X). It contains an information icon (i) on the left and the text "5 duplicate values found and removed; 30 unique values remain." in the center. Below the text is an "OK" button. At the bottom of the dialog box, there is a link that says "View this information help/1".

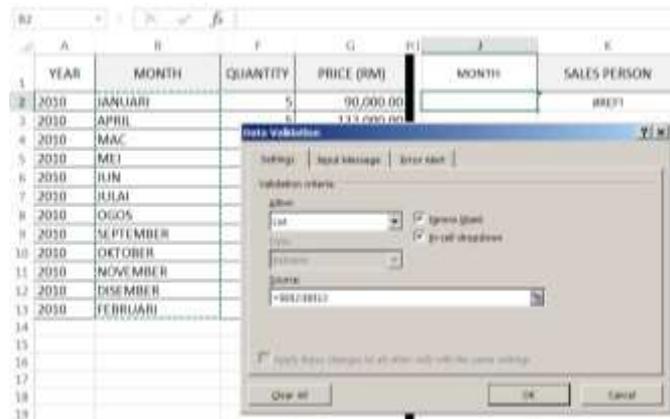
Figure 4.3 Confirmation windows

4.2 DATA VALIDATION

1. Setting data list in data validation
 - a. Go to Data > Data Validation > List



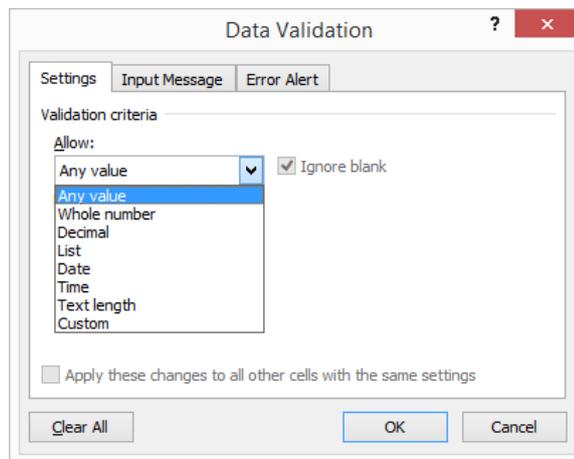
- b. In Data Validation pop-up window, select List and select the Source to be in List and click OK



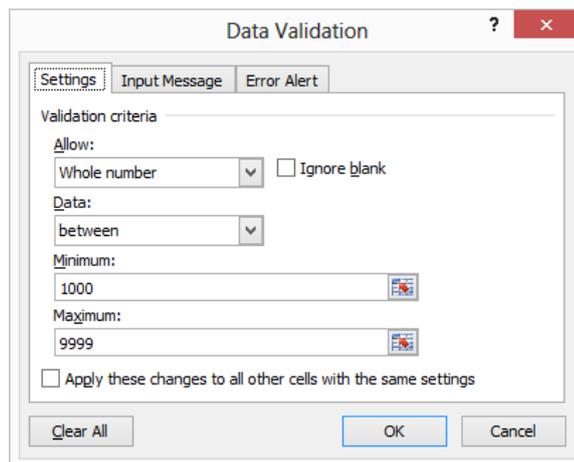
- c. List will be appear as in selected data

MONTH	SALES PERSON	NRIC	QUANTITY	PRICE (RM)
JANUARI	MEP1	850203850446	5	120000
APRIL				
MAR				
MEI				
JUN				
JULAI				
OGOS				
SEPTEMBER				

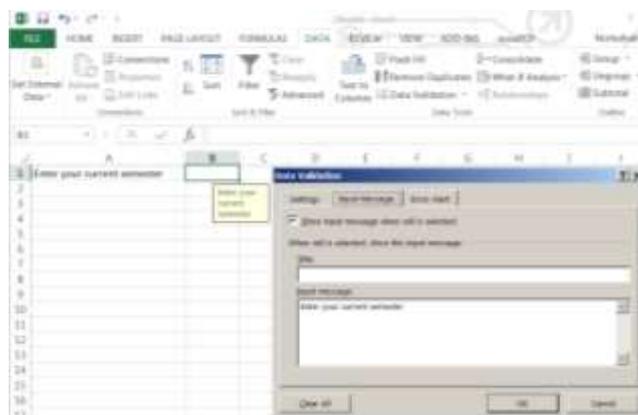
2. Setting up range data that can validate the user entered data
 - a. Highlight selected column / row > go to **Data** > and select **Validation Data** windows



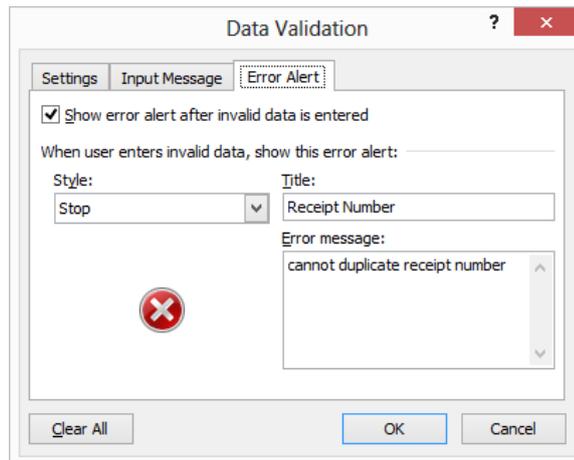
- b. Set up the minimum and maximum number



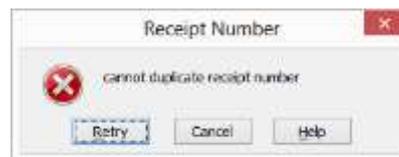
- c. In **Input Message** tab, the message can be input to inform user the information should be entered in the cells.



- d. In Error Alert tab the message for error will be set up in this tab to warning the user who enter the data wrongly



- e. The pop up window that appear when data entered wrongly. There are three types of Error Alert
- Stop



- Warning



- Information



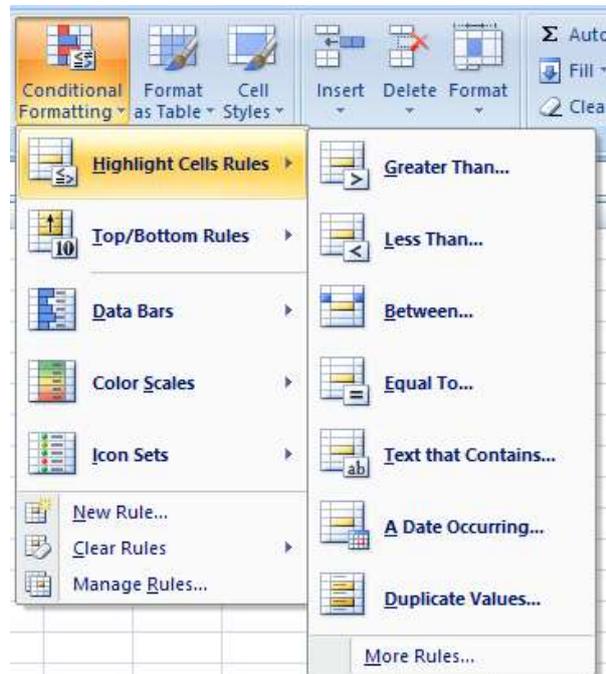
CHAPTER 5

5.0 CONDITIONAL FORMATTING

Conditional Formatting is to highlight cell with color in order to differentiate the result



1. Highlight cell rules with value *between*
 - a. To Highlight Cells Rules with certain options

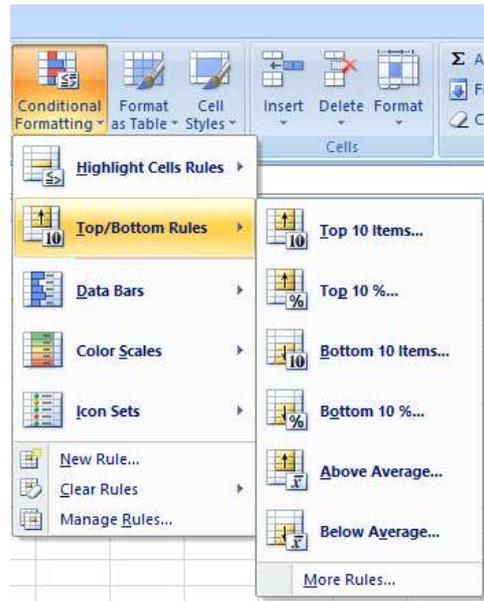


- b. Fill the cells with certain color setting (between option)

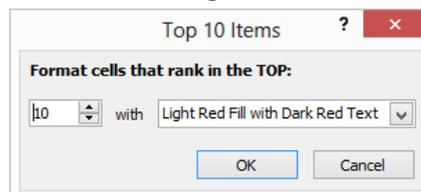


2. Top/ Bottom Rules with 10 top value

- a. Top/ Bottom Rules with an options



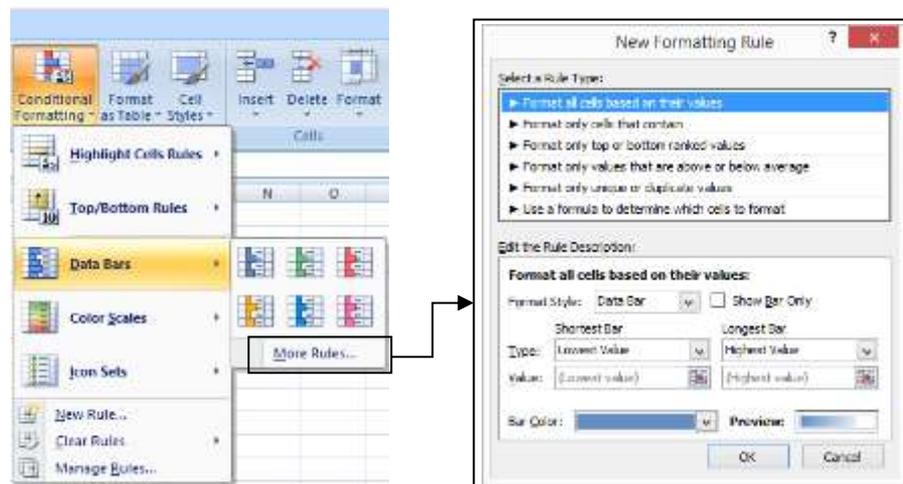
- b. Fill the cells with certain color setting



3. Data Bars / Color Scale / Icon Set

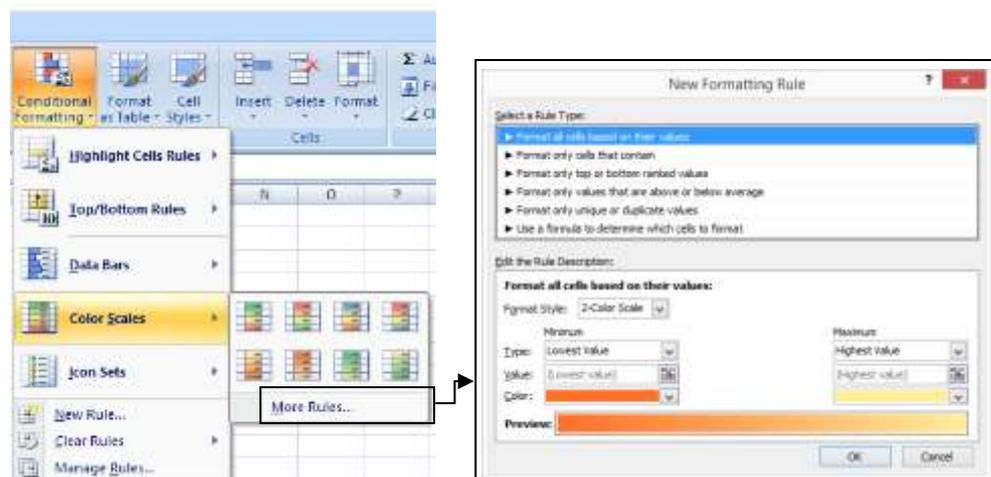
a. Data bars

Color Bars will be set up based on the value in selected rows or columns



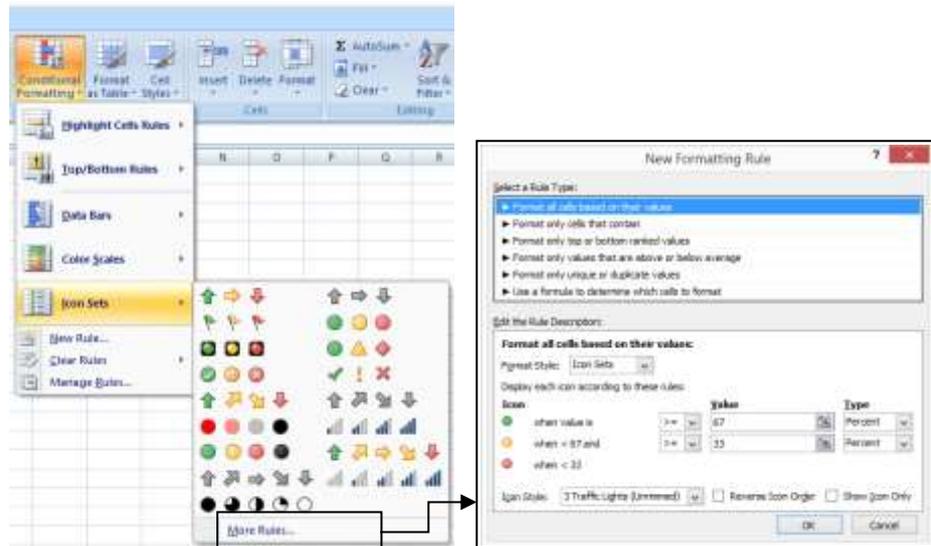
b. Color scales

Color scales can be set up besides the color shades will be based on minimum and maximum value in cells



c. Icon Sets

Icon sets is similar as color scales whereby the icons can be set up based on the cells value

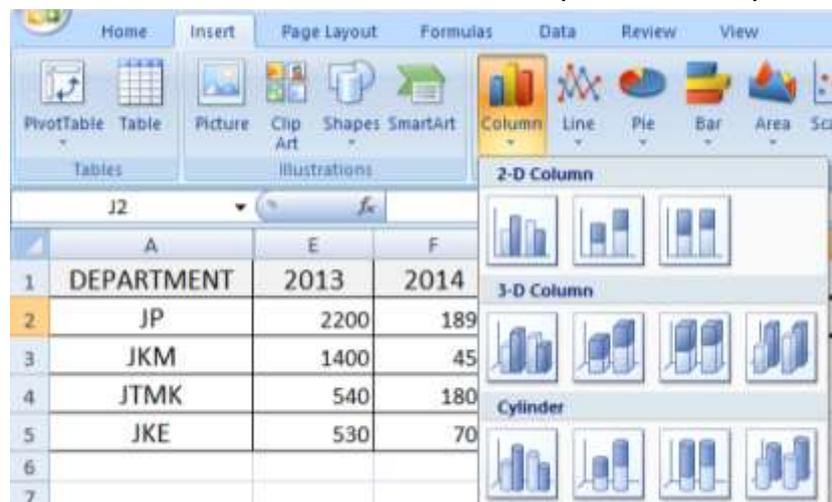


CHAPTER 6

6.0 GRAPH/ CHART

Here is a step by step guides for creating graphs/charts:

1. Adding graph / chart.
 - a. Key in the data below. Click on any cell within the data containing the information that you wish to display as a chart.
 - b. Click **Insert** > Click the **Column** icon on the Standard toolbar. This will display the 2-D Column as show below. You can select any Column that you wish to create.



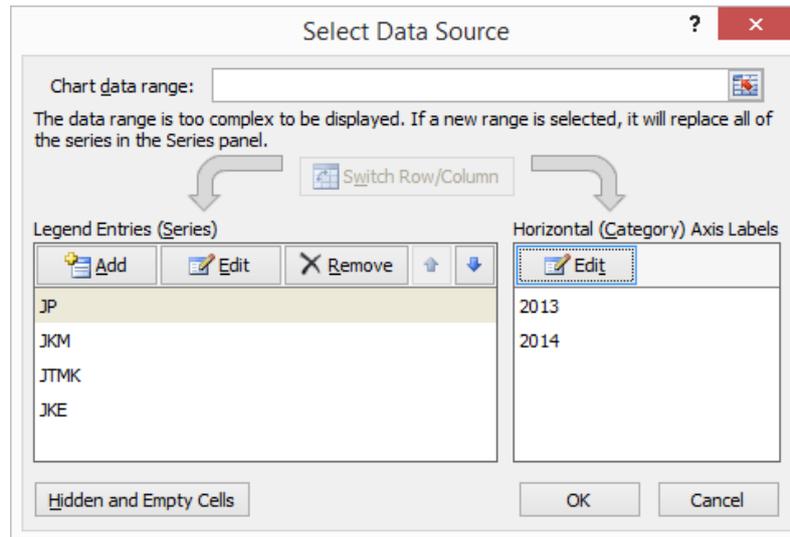
Select/ Reselect Data Source of Chart.

Once the chart is created, you can still change the chart ranges by tweaking the values manually. If you want to re-select your chart data source you can do with a single click option.

The *Select Data* option is included in the Design chart tab, which can be used after selecting the chart area. Once the tab appears on the ribbon, just click Select Data option from Data group to display the Data Source dialog to modify the data range by defining the columns and rows range.

You can select the data source using the mouse, or manually enter the fields you want to enter. In addition, you can also see the hidden and empty cells.

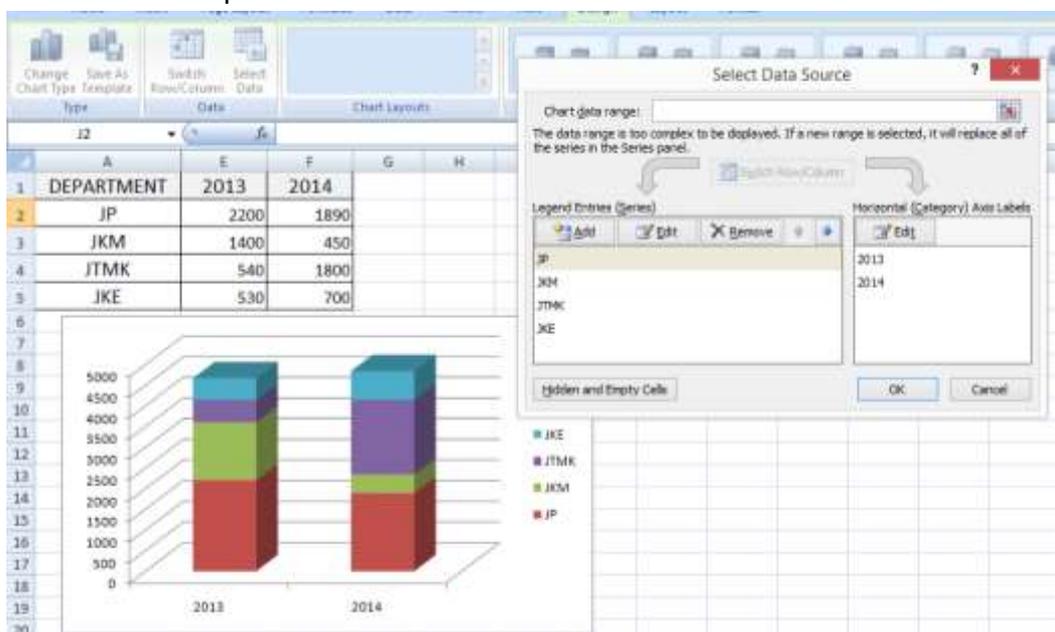
In order to select the chart data source, select the chart and heading > **Design** tab and > click **Select Data** > Insert data in **Select Data Sources** window.



Select Data Source dialog will appear. Here, you can change the data source, edit horizontal and vertical axis.

Click Hidden and Empty Cells button opens a dialog Hidden and Empty Cells Settings, allowing you to enable/disable show data in rows and columns hidden options, and show empty cells in the source data as gaps or zeroes. Once finished, click OK, you will see a changing data source is displayed in the chart.

2. The chart develop based on the data insert into the Data Sources window.



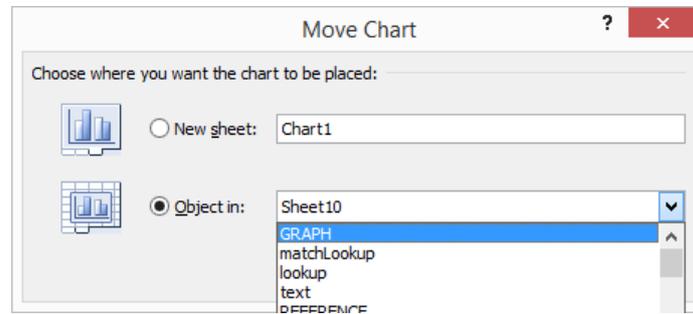
3. Determine the location of the chart .

You can choose to place the chart on an existing worksheet as an object, or you can place it on a new worksheet. Two options for you to choose:

New sheet: It will place the chart in the new worksheet.

Object in: It will place the chart in the existing worksheet or graph.

Right click chart > Move Chart > Select the new location to place the chart.



CHAPTER 7

7.0 CELL REFERENCE

7.1 RELATIVE REFERENCE

1. By default, Excel using relative reference. Look at the formula in cell I6 below. Cell I6 references (points to) cell I3 and cell I4. Both references are relative.
2. When copied across multiple cells, they change based on the relative position of rows and columns. For example, if you copy the formula **=A1+B1** from row 1 to row 2, the formula will be **=A2+B2**.
3. Relative references are especially convenient when you have to **repeat** the same calculation on multiple rows or columns.

	C	D	E	F	G	H	I	J	K	L	
1							JAN				
2						Sales	Total Sales(RM)	Discount	After less	Total+GST	
3						2	398.00	39.80	358.2	379.69	
4						5	345.00	34.50	310.5	329.13	
5											
6		Feb	Mac				=I3+I4	74.30	668.70	708.82	
7		15%	20%								

7.2 ABSOLUTE REFERENCE

1. Do not change when copied or filled. You can use an absolute reference to keep a row and/or column **constant**.
2. An absolute reference is designated in a formula by the adding a **dollar sign (\$) in front of the column letter and row number of cell**. It can precede the column reference, the row reference, or both.
3. To create an absolute reference to cell J3, place a \$ symbol in front of the column letter and row number of cell C7 (\$C\$7).
4. Or you can use F4 to create absolute reference.

	A	B	C	D	E	F	G	H	I	J	K	L
1		Types	Price						Jan			
2		Bag	199					Sales	Total Sales (RM)	Discount	After less	Total + GST
3		T-shirt	69				Bag	2	398.00	39.80	358.20	379.69
4		Jeans	159				T-shirt	5	345.00	34.50	310.50	329.13
5							Jeans	1	159.00	15.90	143.10	151.69
6		Month	Jan	Feb	Mac				902.00	90.20	811.80	860.51
7		Discount	10%	15%	20%							

CHAPTER 8

8.0 BASIC FORMULA & LOGICAL FUNCTION

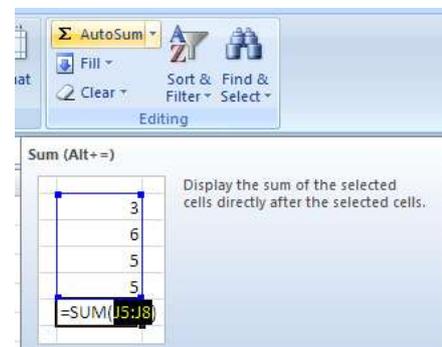
8.1 BASIC FORMULA

1. SUM

To sum a range of cells, use the SUM function.

- a. Highlight cells data with extra one blank cells > click Autosum icon and get the result

	F	G
	QUANTITY	PRICE (RM)
	2	54000
	5	68000
	2	60000
	6	75000
	3	125000
	6	180000
	8	225000
	5	60000
	4	225000
	5	66000
	7	132000
	5	60000



- b. Use SUM function

	C	F	J
	TYPE	QUANTITY	
14	PERODUA	2	=SUM(F14:F25) 58
15	PEUGEOT	5	
16	PROTON	2	
17	TOYOTA	6	
18	CHEVROLET	3	
19	MAZDA	6	
20	BMW	8	
21	PROTON	5	
22	BMW	4	
23	HYUNDAI	5	
24	LEXUS	7	
25	PROTON	5	

c. SUMIF function

SUMIF(range, criteria, [sum_range])				
	A	B	C	D
1	Sales Person	TYPE	QUANTITY	PRICE (RM)
2	Alex	HONDA	5	90,000
3	Masshi	MITSUBISHI	6	120,000
4	Alex	CHEVROLET	5	125,000
5	Voon	TOYOTA	5	75,000
6	Masshi	LEXUS	5	132,000
7	Alex	PERODUA	1	54,000
8	Alex	HONDA	5	90,000
9	Masshi	VOLVO	6	130,000
10	Daus	VOLKSWAGEN	2	230,000
11	Daus	PROTON	5	60,000
12	Masshi	LEXUS	3	132,000
13	Alex	NISSAN	6	78,000
14	Voon	TOYOTA	5	75,000
15	Voon	PERODUA	5	54,000
16	Masshi	MITSUBISHI	6	120,000
17	Alex	LEXUS	3	132,000
18				
19	Total car			73
20	More than 3 cars			64
21	Number of cars by Type			
22		TOYOTA		=SUMIF(B2:B17,B22,C17)

d. SUMIFS function

SUMIFS(sum_range, criteria_range1, criteria1, [criteria_range2, criteria2], ...)				
	A	B	C	D
1	Sales Person	TYPE	QUANTITY	PRICE (RM)
2	Alex	HONDA	5	90,000
3	Masshi	MITSUBISHI	6	120,000
4	Alex	CHEVROLET	5	125,000
5	Voon	TOYOTA	5	75,000
6	Masshi	LEXUS	5	132,000
7	Alex	PERODUA	1	54,000
8	Alex	HONDA	5	90,000
9	Masshi	VOLVO	6	130,000
10	Daus	VOLKSWAGEN	2	230,000
11	Daus	PROTON	5	60,000
12	Masshi	LEXUS	3	132,000
13	Alex	NISSAN	6	78,000
14	Voon	TOYOTA	5	75,000
15	Voon	PERODUA	5	54,000
16	Masshi	MITSUBISHI	6	120,000
17	Alex	LEXUS	3	132,000
18				
23	Total sales by car by salesman			
24		VOLKSWAGEN		
25		Daus		=SUMIFS(D2:D17,B2:B17,B24,A2:A17,B25)
26				

e. SUMPRODUCT function

SUM		=SUMPRODUCT(C2:C17,D2:D17)		
A	B	SUMPRODUCT(array1, [array2], [array3], [array4], ...)		
1	Sales Person	TYPE	QUANTITY	PRICE (RM)
2	Alex	HONDA	5	90,000
3	Masshi	MITSUBISHI	6	120,000
4	Alex	CHEVROLET	5	125,000
5	Voon	TOYOTA	5	75,000
6	Masshi	LEXUS	5	132,000
7	Alex	PERODUA	1	54,000
8	Alex	HONDA	5	90,000
9	Masshi	VOLVO	6	130,000
10	Daus	VOLKSWAGEN	2	230,000
11	Daus	PROTON	5	60,000
12	Masshi	LEXUS	3	132,000
13	Alex	NISSAN	6	78,000
14	Voon	TOYOTA	5	75,000
15	Voon	PERODUA	5	54,000
16	Masshi	MITSUBISHI	6	120,000
17	Alex	LEXUS	3	132,000
18				
19	Total car		73	
20	Total Sales		=SUMPRODUCT(C2:C	

2. MOD

Function returns the remainder of two numbers after division

a. Highlight the numbers and identify number to divide

SUM		=IF(MOD(B2,2)=1,"LELAKI","PEREMPUAN")		
A	B	D	IF(logical_test, [value_if_true], [value_if_false])	
1	No	NRIC	JANTINA	Nama Penuh
2	1	890512045522	=IF(MOD(B2,2)=1	IZZAH BINTI MAHAT
3	2	870101045533	LELAKI	MOHD KHAMIS BIN NORDIN @ MAD ALI

3. COUNT

To count cells based on one criteria

a. COUNT - count number cell that contain value

F2		=COUNT(B2:B17)	
A	B	C	F
1	Type	Quantity	
2	PROTON AZIA	10	Count
3	PEUGEOT		10
4	PROTON PERDANA	5	
5	HONDA		
6	PERODUA	10	
7	HYUNDAI	3	
8	LEXUS		
9	CHEVROLET	2	
10	AUDI		
11	MAZDA	5	
12	MITSUBISHI	4	
13	BMW	2	
14	VOLKSWAGEN		
15	VOLVO	2	
16	NISSAN	1	
17	TOYOTA		

b. COUNTBLANK - count cell without value

F3		=COUNTBLANK(B2:B17)	
A	B	C	F
1	Type	Quantity	
2	PROTON AZIA	10	
3	PEUGEOT		Countblank
4	PROTON PERDANA	5	6
5	HONDA		
6	PERODUA	10	
7	HYUNDAI	3	
8	LEXUS		
9	CHEVROLET	2	
10	AUDI		
11	MAZDA	5	
12	MITSUBISHI	4	
13	BMW	2	
14	VOLKSWAGEN		
15	VOLVO	2	
16	NISSAN	1	
17	TOYOTA		

c. COUNT the number of occurrence text in range

* wildcard

? number character count

F4		=COUNTIF(A2:A17,"PROTON*")	
	A	B	F
1	Type	Quantity	
2	PROTON AZIA	10	
3	PEUGEOT		
4	PROTON PERDANA	5	Countif 2
5	HONDA		
6	PERODUA	10	
7	HYUNDAI	3	
8	LEXUS		
9	CHEVROLET	2	
10	AUDI		
11	MAZDA	5	
12	MITSUBISHI	4	
13	BMW	2	
14	VOLKSWAGEN		
15	VOLVO	2	
16	NISSAN	1	
17	TOYOTA		

d. COUNT logical value

F5		=COUNTIF(A2:A17,"PROTON *")+COUNTIF(A2:A17,"PERODUA")	
	A	B	F
1	Type	Quantity	
2	PROTON AZIA	10	
3	PEUGEOT		
4	PROTON PERDANA	5	
5	HONDA		Countif 3
6	PERODUA	10	
7	HYUNDAI	3	
8	LEXUS		
9	CHEVROLET	2	
10	AUDI		
11	MAZDA	5	
12	MITSUBISHI	4	
13	BMW	2	
14	VOLKSWAGEN		
15	VOLVO	2	
16	NISSAN	1	
17	TOYOTA		

Figure 8.7 Count Logical Value

4. COUNTIFS – To count cells based on multiple criteria

	A	B	C	E	F	G	H
1	Type	Quantity					
2	PROTON AZIA	10					
3	PEUGEOT						
4	PROTON PERDANA	5					
5	HONDA						
6	PERODUA	10	Countifs		2		
7	HYUNDAI	3					
8	LEXUS						
9	CHEVROLET	2					
10	AUDI						
11	MAZDA	5					
12	MITSUBISHI	4					
13	BMW	2					
14	VOLKSWAGEN						
15	VOLVO	2					
16	NISSAN	1					
17	TOYOTA						

8.2 LOGICAL FUNCTION

The IF function checks whether a condition is satisfied, and returns one value if TRUE and another value if FALSE.

1. If... if and.. if or

	A	B	D	E
1	SUBJECT	GRADE	if	
2	history	80	PASS	=IF(B2 > 50,"PASS","FAIL")
3	science	30		
4			if and	
5			FAIL	=IF(AND(B2 > 50,B3>50),"PASS","FAIL")
6			t AND t = TRUE	
7			f AND f = FALSE	
8				
9			if or	
10			PASS	=IF(OR(B2 > 50,B3>50),"PASS","FAIL")
11			t OR f = TRUE	
12			f OR t = TRUE	
13			f OR f = FALSE	
14				

Figure 8.9 COUNTIF –count with multiple criteria

a. If function

Return result PASS if value more than 50

E3		=IF(SUM(C3,D3)>50,"pass","fail")					
A	B	OSOS		E	F	G	
MATRIC NUM	NAME	CarryMarks	FinalExam	IF	AND	OR	
3	F001	ZAID	48	48	pass	pass	pass
4	F002	AMINAH	45	45	pass	pass	pass
5	F003	BASYIRAH	25	25	fail	fail	fail
6	F004	CHUAH	17	38	pass	fail	fail
7	F005	DAMIA	43	50	pass	pass	pass
8	F006	ELFIN	18	22	fail	fail	fail
9	F007	FATIN	38	45	pass	fail	pass
10	F008	GAYAH	35	24	pass	fail	fail
11	F009	HADI	60	41	pass	pass	pass
12	F010	INDARAN	20	17	fail	fail	fail

=IF(SUM(C3,D3)>50,"pass","fail")

b. If and function

Return result PASS for both value TRUE and return result FAIL for both value FALSE

		OSOS		IF	AND	OR
MATRIC NUM	NAME	CarryMarks	FinalExam			
F001	ZAID	48	48	pass	pass	pass
F002	AMINAH	45	45	pass	pass	pass
F003	BASYIRAH	25	25	fail	fail	fail
F004	CHUAH	17	38	pass	fail	fail
F005	DAMIA	43	50	pass	pass	pass
F006	ELFIN	18	22	fail	fail	fail
F007	FATIN	38	45	pass	fail	pass
F008	GAYAH	35	24	pass	fail	fail
F009	HADI	60	41	pass	pass	pass
F010	INDARAN	20	17	fail	fail	fail

`=IF(AND(C3>40,D3>40),"pass","fail")`

c. If or function

Return result PASS if any of result are TRUE and return result FAIL if both value are FALSE

		OSOS		IF	AND	OR
MATRIC NUM	NAME	CarryMarks	FinalExam			
F001	ZAID	48	48	pass	pass	pass
F002	AMINAH	45	45	pass	pass	pass
F003	BASYIRAH	25	25	fail	fail	fail
F004	CHUAH	17	38	pass	fail	fail
F005	DAMIA	43	50	pass	pass	pass
F006	ELFIN	18	22	fail	fail	fail
F007	FATIN	38	45	pass	fail	pass
F008	GAYAH	35	24	pass	fail	fail
F009	HADI	60	41	pass	pass	pass
F010	INDARAN	20	17	fail	fail	fail

`=IF(OR(C3:C12>40,D3:D12>40),"pass","fail")`

d. if with mod

	C	D	MOD(number, divisor)	F	G	H
1						
2	TYPE	SALES PERSON	NRIC	QUANTITY	PRICE (RM)	Jantina
3	AUDI	QUSYAIRI	841201015553	5	190000	=IF(MOD(E3,2)
4	AUDI	XIAN	700201075446	2	190000	Perempuan
5	BMW	HANIF	761201078511	2	225000	Lelaki
6	BMW	JAMAL	811201085533	4	225000	Lelaki
7	CHEVROLET	BASYIRAH	770201075446	5	125000	Perempuan
8	CHEVROLET	ELINA	760201085446	3	125000	Perempuan
9	CHEVROLET	WAN	691201015533	6	125000	Lelaki

`=IF(MOD(E3,2)=1,"Lelaki","Perempuan")`

2. Nested if function

a. Using nested if to validate data in cells

		=IF(P2>4,"Excellent",IF(P2>3,"Good","Warning Letter"))						
A	C	K	L	M	N	O	P	Q
1	Name	1-Aug	2-Aug	3-Aug	4-Aug	5-Aug	Total Hour	Status
2	1 AINAN MIDRARA BINTI HAMAT FAUZI	1	1	1	1	1	5	Excellent
3	2 NAJWA AIMAN BINTI MOHAMAD SOFI	1		1			2	Warning Letter
4	3 MUHAMMAD AIMAN BIN ZAINUDIN	1	1	1	1	1	5	Excellent
5	4 YEOH KAI ZHENN	1	1	1			3	Warning Letter
6	5 NORAIN BINTI MOHAMAD NASIR						0	Warning Letter
7	6 MUHAMAD NAJMI BIN MUHAMAD ZABIDI	1	1		1	1	4	Good
8	7 SITI KAMILA AMIRA BINTI KHOSIM						0	Warning Letter
9	8 NAQIB BIN NAJMI	1	1		1		3	Warning Letter
10	9 YEGASHSRI A/P GUNASEELAN	1	1	1	1	1	5	Excellent
11	10 NUR ASMALIENDA BINTI MOHD FATHIL		1		1	1	3	Warning Letter

=IF(P2>4,"Excellent",
IF(P2>3,"Good","Warning Letter"))

b. Nested if with average

		=IF(AVERAGE(K2:O2)>75,"A",IF(AVERAGE(K2:O2)>50,"B",IF(AVERAGE(K2:O2)>35,"C","D")))							
A	C	K	L	M	N	O	P	Q	R
1	Name	Lab1	Lab2	Lab3	Lab4	Lab5			
2	1 AINAN MIDRARA BINTI HAMAT FAUZI	90	90	90	82	50	A		
3	2 NAJWA AIMAN BINTI MOHAMAD SOFI	83	83	83	90	70	A		
4	3 MUHAMMAD AIMAN BIN ZAINUDIN	82	90	75	77	52	B		
5	4 YEOH KAI ZHENN	92	95	87	82	80	A		
6	5 NORAIN BINTI MOHAMAD NASIR	83	92	77	80	53	A		
7	6 MUHAMAD NAJMI BIN MUHAMAD ZABIDI	70	92	97	75	50	A		
8	7 SITI KAMILA AMIRA BINTI KHOSIM	58	78	70	72	57	B		
9	8 NAQIB BIN NAJMI	97	98	87	82	73	A		
10	9 YEGASHSRI A/P GUNASEELAN	80	68	68	87	53	B		
11	10 NUR ASMALIENDA BINTI MOHD FATHIL	40	50	30	35	20	D		

=IF(AVERAGE(K2:O2)>75,"A",
IF(AVERAGE(K2:O2)>50,"B",
IF(AVERAGE(K2:O2)>35,"C","D")))

CHAPTER 9

9.0 PIVOT TABLES

A pivot table allows you to extract the significance from a large, detailed data set.

Create Pivot Table in blank sheet

1. Open blank sheet > Insert > PivotTable



2. Highlight data in Create PivotTable windows

	A	B	C	D	E	F	G
1	YEAR	MONTH	TYPE	OWNER	NRIC	QUANTITY	PRICE (RM)
2	2013	APRIL	AUDI	QUEY			
3	2013	NOVEMBER	AUDI	XIAI			
4	2014	JULAI	BMW	HAN			
5	2014	SEPTEMBER	BMW	JAM			
6	2014	MEI	CHEVROLET	ELIN			
7	2015	OKTOBER	CHEVROLET	WAI			
8	2013	MAC	CHEVROLET	BASYR			
9	2013	MAC	HONDA	PATRI			
10	2013	JANUARI	HONDA	ZAI			
11	2014	OKTOBER	HYUNDAI	KHO			
12	2013	JULAI	HYUNDAI	TAF			
13	2014	NOVEMBER	LEXUS	LIM			
14	2013	APRIL	LEXUS	CHUA			
15	2013	SEPTEMBER	LEXUS	HAC			
16	2014	JUN	MAZDA	FITRIY			
17	2015	SEPTEMBER	MAZDA	VEE			
18	2013	JANUARI	MITSUBISHI	NORM			
19	2013	FEBRUARI	MITSUBISHI	AMIN			
20	2013	FEBRUARI	NISSAN	OMA			

Create PivotTable ? X

Choose the data that you want to analyze

Select a table or range

Table/Range:

Use an external data source

Connection name:

Choose where you want the PivotTable report to be placed

New Worksheet

Existing Worksheet

Location:

3. In PivotTable Tools, Choose field to be insert in report

The screenshot shows a PivotTable in Microsoft Excel. The PivotTable is structured as follows:

YEAR	(All)					
Sum of PRICE (RM)	Column Labels					
Row Labels	JUN	APRIL	SEPTEMBER	NOVEMBER	DISEMBER	FEBRU
AUDI		190000		190000		
BMW			225000			
CHEVROLET						
HONDA						
HYUNDAI						
LEXUS		132000	132000	132000		
MAZDA	180000		180000			
MITSUBISHI						120
NISSAN						78
PERODUA					54000	
PEUGEOT					68000	68
PROTON					60000	
TOYOTA		75000		75000		
VOLKSWAGEN		230000				
VOLVO		130000				
Grand Total	540000	397000	537000	397000	182000	266

The PivotTable Field List task pane on the right shows the following configuration:

- Choose fields to add to report:
 - YEAR
 - MONTH
 - TYPE
 - OWNER
 - PRICE (RM)
- Drag fields between areas below:
 - Report Filter: YEAR
 - Column Labels: MONTH
 - Row Labels: TYPE
 - Values: Sum of PRICE (RM)

Create Chart from Pivot Table

1. Choose data > **Insert** > select **chart** to represent the PivotTable data

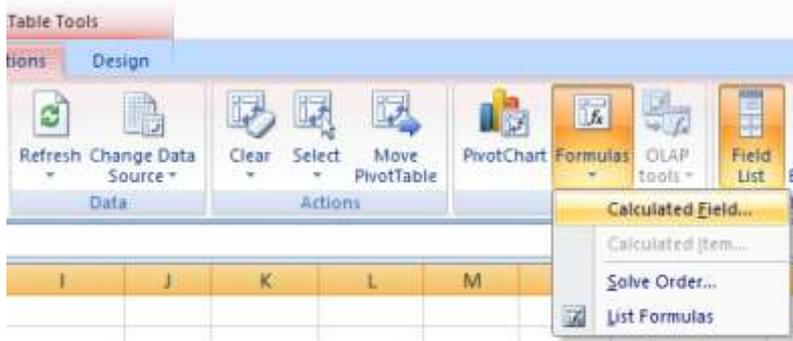
The screenshot shows a PivotTable and a PivotChart in Microsoft Excel. The PivotTable is structured as follows:

YEAR	2015									
Sum of PRICE (RM)	TYPES									
MONTH	AUDI	CHEVROLET	HONDA	HYUNDAI	MAZDA	MITSUBISHI	NISSAN	PERODUA	PEUGEOT	PROTON
JANUARI										
FEBRUARI										
MAR			90,00							
APRIL	190,000.00									
MEI										
JUN										
JULAI										
OGOS										
SEPTEMBER										
OKTOBER		125,000.00								
NOVEMBER	190,000.00									
DISEMBER										
Grand Total	380,000.00	125,000.00	90,00							

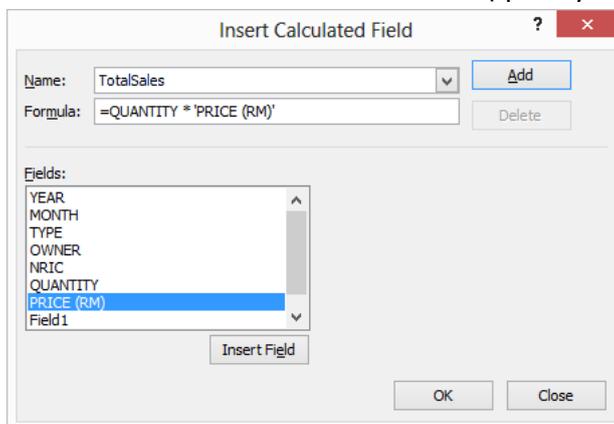
The PivotChart is a column chart showing the sum of prices for each month across all car models. The Y-axis represents the sum of prices (0.00 to 250,000.00) and the X-axis represents the months (JANUARI to DESEMBER). The chart shows that the highest sum of prices occurs in June, followed by November and October.

Use formula in calculate data for Pivot Table

1. In **PivotTable Tools > Formula > Calculated Field**



2. Insert Calculated Field > select value (quantity * price) > Add the value

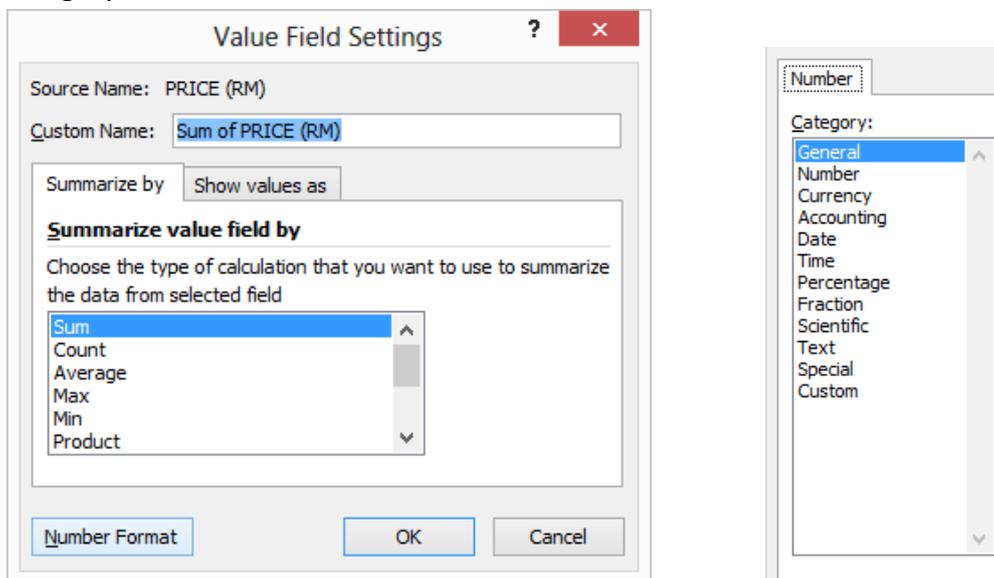


Format number in Pivot Table

1. In PivotTable Tools > Field Settings



2. In Value Field Settings windows > click on Number Format > choose the number category.



CHAPTER 10

10.0 LOOKUP

To look up a value or a series of values from a large database and append a column to a table using data from a larger database

10.1 HLOOKUP

1. Look up value in horizontal column

1
3
 =HLOOKUP (lookup value , table_array , row_index_num , [range_lookup])
2
4

B9 =HLOOKUP(A9,A1:F5,2,0)

DEPARTMENT	2010	2011	2012	2013	2014
JP	2300	1800	1750	2200	1890
JKM	1900	1300	1000	1400	450
JTMK	500	700	1008	540	1800
JKE	750	550	650	530	700

YEAR	JP	JKM	JTMK	JKE
2013	2200	1400	540	530

10.2 VLOOKUP

1. Look up value in vertical row

$$=VLOOKUP(\text{lookup value}, \text{table_array}, \text{col_index_num}, [\text{range_lookup}])$$

1
3

2
4

C15 =VLOOKUP(B15,B1:F11,2,0)

MATRIC NUM	NAME	CO	OSOS	NS
F001	ZAID	56	12	45
F002	AMINAH	77	55	51
F003	BASYIRAH	88	47	54
F004	CHUAH	24	48	47
F005	DAMIA	31	44	95
F006	ELFIN	89	98	51
F007	FATIN	54	54	41
F008	GAYAH	78	21	12
F009	HADI	63	25	54
F010	INDARAN	21	45	68

MATRIC NUM	NAME	CO	OSOS	NS
F010	INDARAN	21	45	68

10.3 MATCH and INDEX

The MATCH function returns the position of a value in a given range.

The INDEX function returns a specific value in a two-dimensional range.

1. Lookup two dimensional range
2. Get data combination of both Vlookup and Hlookup using MATCH and INDEX

J10

	A	B	C	D	E	F	G
1	DEPARTMENT	2010	2011	2012	2013	2014	
2	JP	2300	1800	1750	2200	1890	
3	JKM	1900	1300	1000	1400	450	
4	JTMK	500	700	1008	540	1800	
5	JKE	750	550	650	530	700	
6							
7							
8	YEAR	2011	2				
9	DEPARTMENT	JTMK	3				
10	STUDENT	1000	=INDEX(B2:F5,MATCH(B8,B1:F1,0),MATCH(B9,A2:A5,0))				
11	STUDENT	1000	=INDEX(B2:F5,C8,C9)				
12							

