



**MICROSOFT  
EXCEL**

**COMPUTER  
AWARENESS**

**EPIISODE-18**



# Computer Awareness

Part 18

- Funsta Team

Lets Start





# Computer Awareness



- Part 1 Intro/Generation/ Classification of Computers
- Part 2 Computer Architecture & Memory
- Part 3 Computer Hardware
- Part 4 Computer Software and System Utilities
- Part 5 Number System
- Part 6 Computer Codes & Logic Gates
- Part 7 Introduction to Operating System
- Part 8 Operating System

Lets move on to  
Next Part





# Computer Awareness

- Part 9 Data Communication
- Part 10 Computer Networks & Network Topology
- Part 11 OSI Layers & Network
- Part 12 Database Management System (DBMS)
- Part 13 Relational Database Management System (RDBMS)
- Part 14 Internet And Its Services
- Part 15 Computer Security
- Part 16 Microsoft Word
- Part 17 Microsoft PowerPoint



Lets move on to  
Next Part



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4	Components of Microsoft Excel	17
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## Microsoft Excel

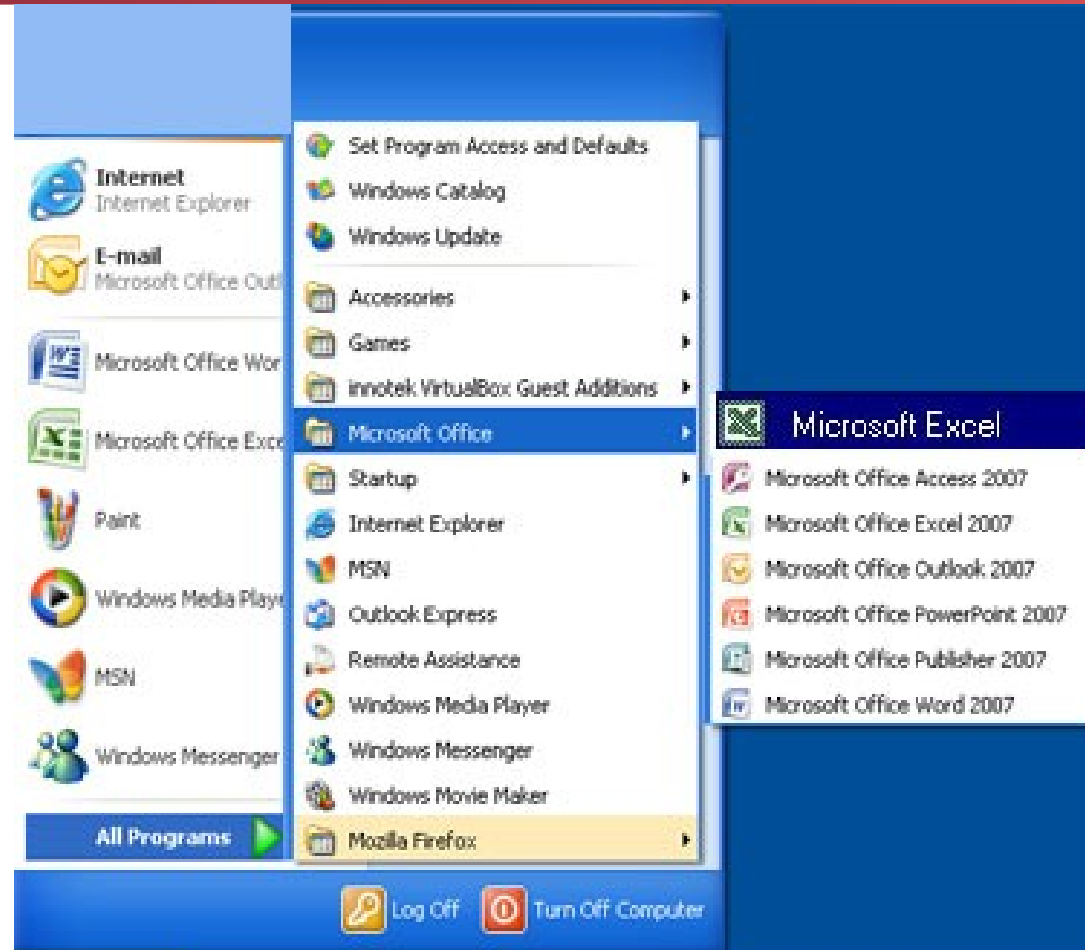


- ⟨…⟩ **Excel** is a handy software that can be **used** to store and organize many data sets.
- ⟨…⟩ Using its features and formulas, you can also use the tool to make sense of your data.
- ⟨…⟩ For example, you could use a spreadsheet to track data and automatically see sums averages and totals



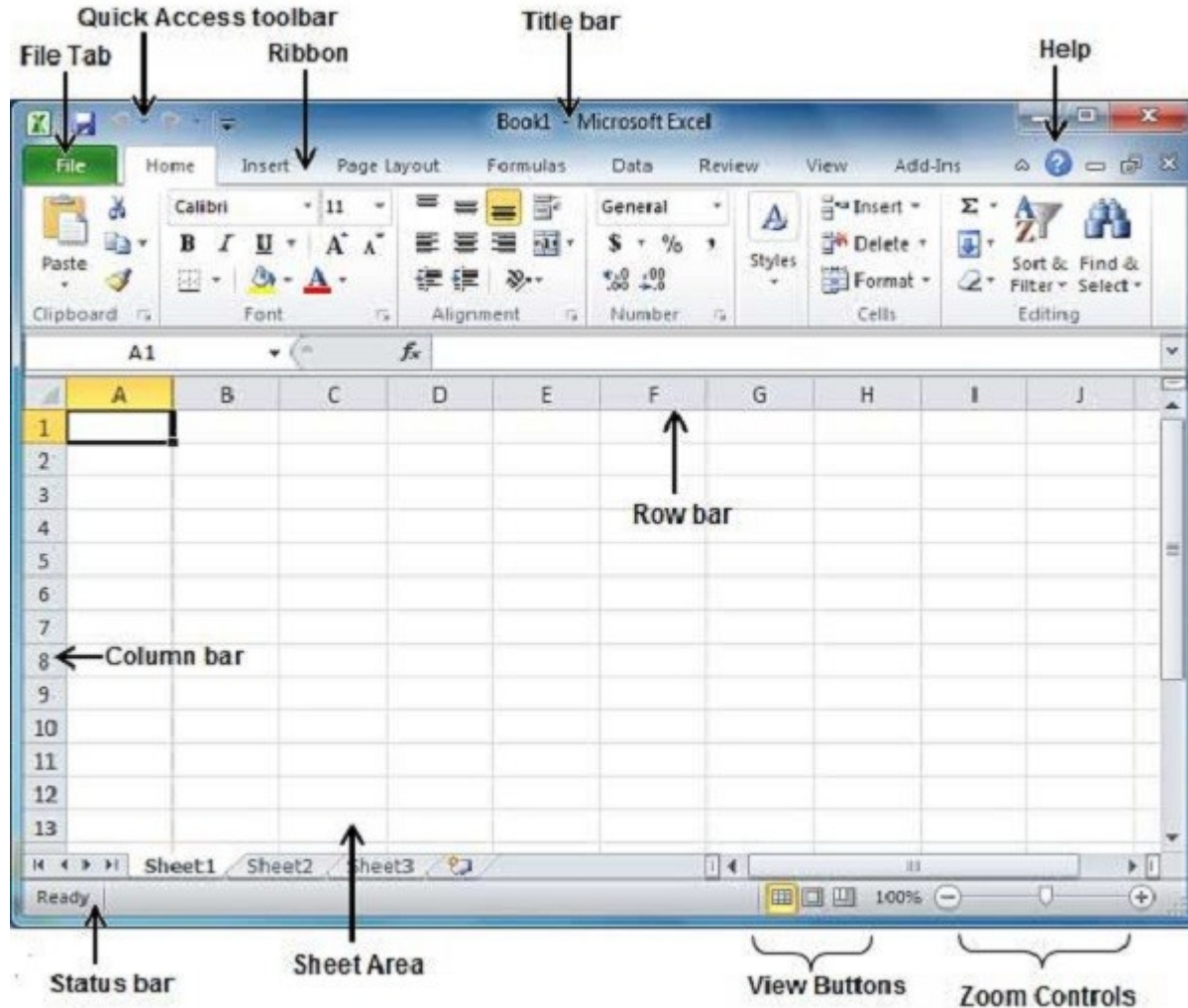


# Starting Excel





# Basic of Spreadsheet



Basic of Spreadsheet





# Basic of Spreadsheet

Spreadsheet

Worksheet

Workbook

Row

Column

Cell  
Pointer

Formula

Cell  
Address





The screenshot shows an Excel spreadsheet with the following data:

1	Check number	Date	Description	Amount
2	100	2/23/2015	Water bill	\$45.00
3	101	3/24/2015	Power bill	\$67.00
4	102	4/20/2015	Internet Bill	\$50.00
5				
6				
7				
8			Total:	\$162.00
9			Check Balance:	\$523.00
10			Available:	\$361.00
11				
12				
13				
14				
15				
16				
17				
18				

Labels in the image:

- Column header:** Points to the header row (row 1).
- Selected Cell:** Points to cell D8.
- Column:** Points to the vertical range of cells in column D.
- Column and Row Separators:** Points to the grid lines between columns and rows.
- Row Header:** Points to the header row (row 1).
- Row:** Points to the horizontal range of cells in row 16.
- Sheet tabs:** Points to the tabs at the bottom of the window.

Basics of Spreadsheet

# Spreadsheet



A **spreadsheet** is a file that exists of cells in rows and columns and can help arrange, calculate and sort data.



Data in a **spreadsheet** can be numeric values, as well as text, formulas, references and functions.

# Worksheet



- ↔ A **worksheet** is a collection of cells where you keep and manipulate the data.
- ↔ Each **Excel** workbook can contain multiple **worksheets**.

# Workbook



A **workbook** is a **file** that contains one or more worksheets to help you organize data.



You can create a new **workbook** from a blank **workbook** or a template



# Row

- ↔ **Row** runs horizontally.
- ↔ Each **row** is identified by **row** number, which runs vertically at the left side of the sheet.
- ↔ **Total number of Rows - 1,048,576 rows**

## Column



- ⏪ In Microsoft **Excel**, a **column** runs vertically in the grid layout of a worksheet. Vertical **columns** are numbered with alphabetic values such as A, B, C.
- ⏪ Each **column** in the worksheet has its own **column** number which is used as part of a cell reference such as A1, A2, or M16. ...
- ⏪ **Columns** run vertically downward across the worksheet and ranges from A to XFD - 1 to 16384.
- ⏪ **Total number of Columns - 16384 columns**

## Cell Pointer



A **cell pointer** is used to point the active **cell** in **MS-Excel** work sheet.



A **cell** is a box of the worksheet which is made by the common points of row and columns and which used for input the data.



An active **cell** is a **cell** of the worksheet which is indicating by the mouse to fill the data.



# Formula



- ⟨⋯⟩ A **formula** is an expression which calculates the value of a cell.
- ⟨⋯⟩ Functions are predefined **formulas** and are already available in **Excel**.
- ⟨⋯⟩ For example, =A1+A2+A3, which finds the sum of the range of values from cell A1 to cell A3.

## Cell Address



- ⟷ A **cell reference**, or **cell address**, is an alphanumeric value used to identify a specific **cell** in a spreadsheet.
- ⟷ Each **cell reference** contains one or more letters followed by a number.
- ⟷ The letter or letters identify the column and the number represents the row.



# Components of Microsoft Excel

Components of Microsoft Excel

Office Logo Button

Tabs

Charts

Components of a Chart

Types of Charts



## Office Logo Button



The **Office button** is found in the top-left corner of **Excel**, Word, and other **Office** 2007 program windows and looks like the picture.



When the **Office button** is clicked, many of the same options you'd see in the file menu, such as New, Open, Save, Print, etc., can be found.

Screenshot of  
Office Logo  
Button

Back to  
Components of  
Microsoft Excel

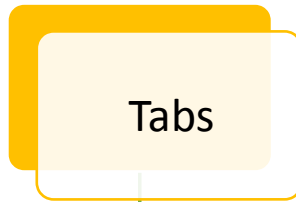
# Office Logo Button



Explanation of Office Logo Button



# Tabs



- Status Bar
- Formula Bar
- Clipboard
- Alignment
- Tables
- Function Library
- Formula Addressing
- The Macros

Back to  
Components of  
Microsoft Excel

## Status Bar



The **Status Bar** is the area at the very bottom in **Excel** where various information about the current mode or any special keys that are engaged can be seen.



You can also select different worksheet views and zoom in and out on the worksheet from the **status bar**.



Ready mode which is **Excel's** default general **status**.

Screenshot of  
Status Bar

Back to  
Tabs



# Status Bar

C6    ✕    ✓    fx    48.78

Year	Chrome	IE	Firefox	Safari	Other
2012	33.23	33.74	24.15	6.17	2.71
2013	42.63	29.25	20.82	4.84	2.46
2014	48.78	23.19	19.57	5	3.46
2015	54.37	18.88	17.54	5.06	4.15
2016	61.18	12.11	15.45	4.79	6.47

*Status bar*

Sheet1    +    EXCELJET

Average: 20    Count: 5    Sum: 100    100%

Explanation of Status Bar

Back to Tabs



## Formula Bar



A **toolbar** at the top of the Microsoft **Excel** spreadsheet window that you can use to enter or copy an existing **formula** in to cells or charts.



It is labeled with function symbol (fx). By clicking the **Formula Bar**, or when you type an equal (=) symbol in a cell, the **Formula Bar** will activate. See also **formula**.

- Sum Formula
- Average Formula
- Subtraction Formula
- Multiplication Formula
- Division Formula

Screenshot of  
Formula Bar

Back to  
Tabs



# Formula Bar

The screenshot shows the Microsoft Excel interface with the following details:

- File Name: formula bar.xlsx - Microsoft Excel
- Formula Bar: `=VLOOKUP(F5,B6:C10,2,0)` (An orange arrow points to the formula bar)
- Worksheet: Sheet1
- Cell Selection: F6
- Table 1 (Basic VLOOKUP):

Item	Cost
Pizza	\$3.25
Hot Dog	\$1.75
Chicken	\$3.50
Sushi	\$5.00
Hamburger	\$3.25
- Table 2 (Lookup Table):

Food	Sushi
Cost	\$5.00

Explanation of Formula Bar

Back to Tabs



# Sum Formula

The screenshot shows the Microsoft Excel interface. The formula bar at the top displays the formula `=SUM(I8:I12)`, which is highlighted with a red box. Below the formula bar, a yellow rectangular box contains the text "SUM FORMULA". The spreadsheet data is as follows:

S.No	Product Name	Amount
1	Apple	100
2	Mango	200
3	Banana	350
4	Guava	450
5	Pineapple	90
	Sum	1190

=SUM(I8:I12)

Back to Formula



# Average Formula

The screenshot shows an Excel spreadsheet with the following data:

S.No	Product Name	Amount
1	Apple	100
2	Mango	200
3	Banana	350
4	Guava	450
5	Pineapple	90
Average		238

The formula bar shows the formula: `=AVERAGE(I8:I12)`

=AVERAGE(I8:I12)

Back to Formula



# Subtraction Formula

	A	B	C	D	E	F	G	H	I
1	100								
2	5								
3	2								
4	93								
5									

Back to  
Formula



# Multiplication Formula

C3    ::    =A3\*B3

	A	B	C
1	Number 1	Number 2	Product
2	2	5	10
3	3	6	18
4	4	7	28
5	5	8	40

Back to  
Formula



## Division Formula

C4		:	=A4/B4	
	A	B	C	
1	Dividend	Divisor	Result	
2	10	2	5	
3	20	4	5	
4	30	3	10	
5	40	5	8	
6	50	4	12.5	
7	60	12	5	
8	70	10	7	

Back to Formula

## Clipboard



Locate the "**Clipboard**" area of the ribbon, located on the far-left end.



Click the small arrow to the right of the word "**Clipboard**" and the **clipboard** will appear on the left edge of the **Excel** spreadsheet.



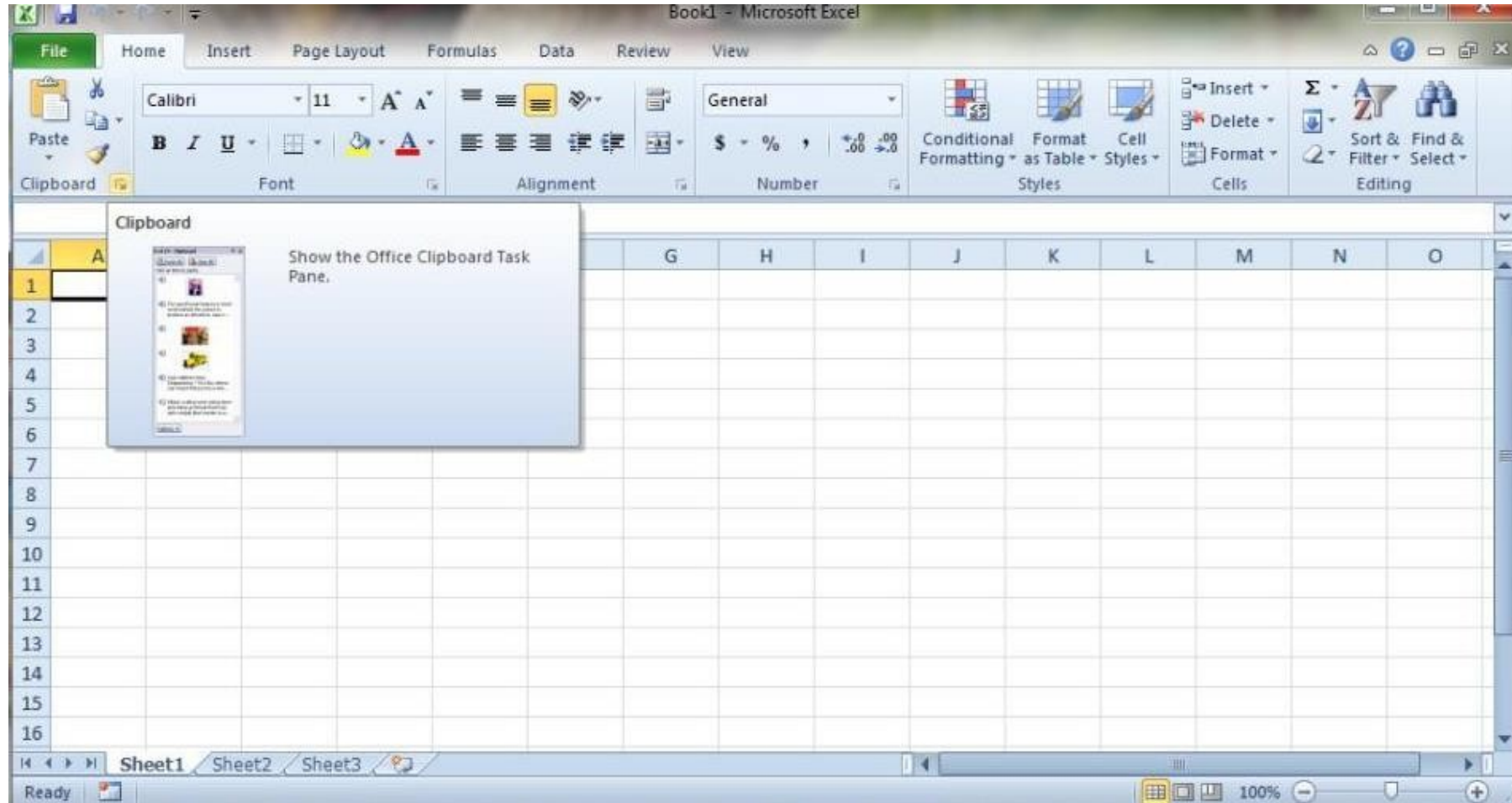
Click on any item in the **clipboard** to paste it into whatever cell you currently have selected.

Screenshot  
of Clipboard

Back to  
Tabs



# Clipboard



Explanation of Clipboard

Back to Tabs

## Alignment



With MS **Excel**, cell **alignment** is how your text or numbers are positioned in the cell.



You can align vertically, meaning towards the top, the middle or the bottom.



And you can also align horizontally, meaning to the left, the center or to the right.



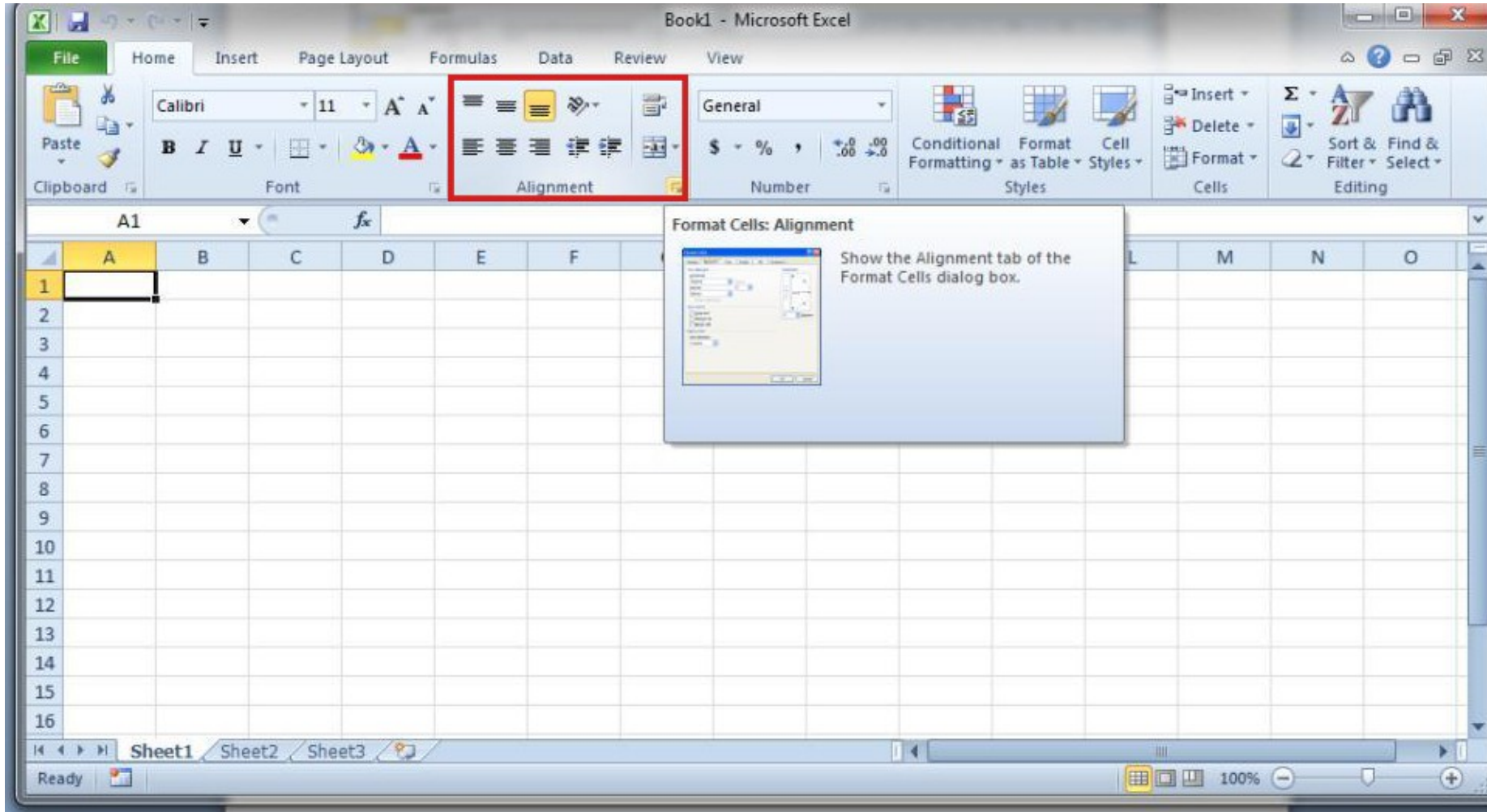
**Excel** actually has its own defaults for **alignment**.

Screenshot  
of Alignment

Back to  
Tabs



# Alignment



Explanation of Alignment

Back to Tabs

## Tables



A **table** is a powerful feature to group your data together in **Excel**.



Think of a **table** as a specific set of rows and columns in a spreadsheet.



You can have multiple **tables** on the same sheet.

Screenshot of  
Insert Tables

Screenshot of  
Tables

Back to  
Tabs



# Tables

Excel ribbon: File, Home, Insert, Page Layout, Formulas, Data, Review, View, Design

Clipboard: Paste, Cut, Copy, Format Painter

Font: Calibri, 11, Bold, Italic, Underline, Paragraph, Styles

Alignment: Wrap Text, Merge & Center

Formula Bar: =Pune

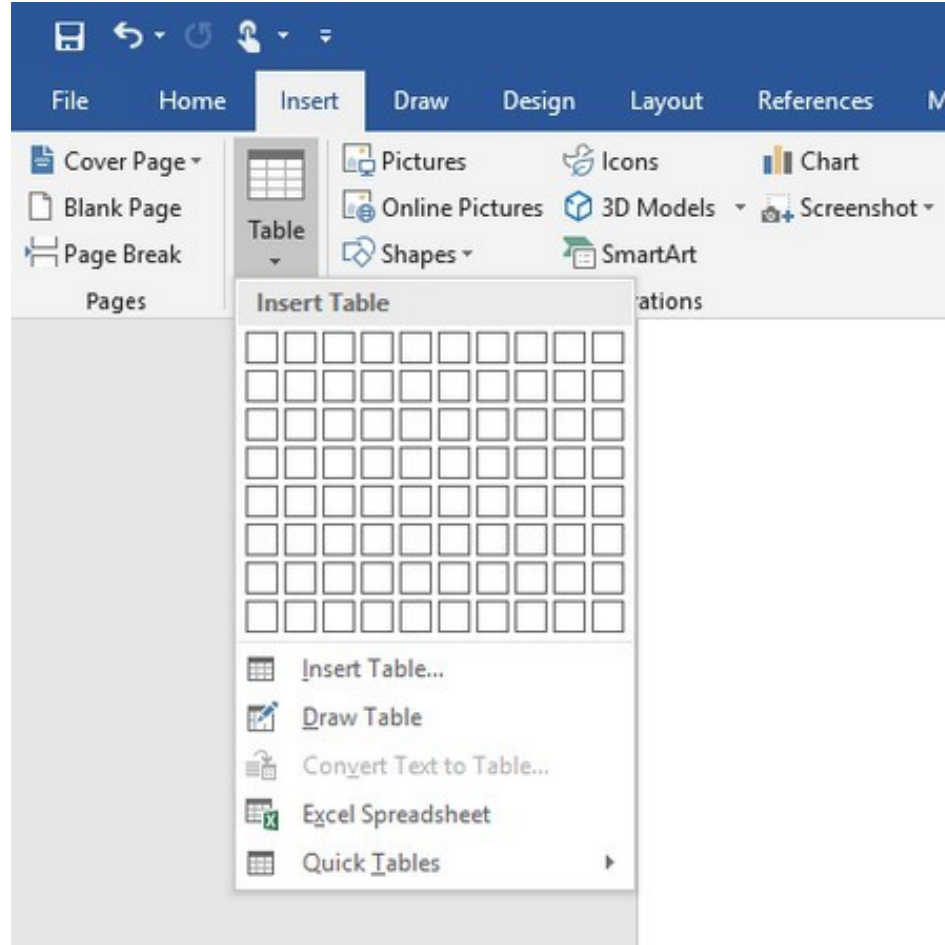
Emp ID	First Name	Last Name	Department	Location
101	Donald	Patrick	Finance	Bangalore
102	Samuel	Samson	Marketing	Hyderabad
103	Ian	Jacob	Finance	Hyderabad
104	David	Johnson	Marketing	Pune
105	Ian	Smith	Marketing	Bangalore
106	Henry	Madrid	IT	Pune
107	Ronica	Brave	Finance	Hyderabad
108	Christine	Salvi	Marketing	Bangalore
109	Andrew	Baisley	IT	Hyderabad
110	Erica	Irons	IT	Pune

Explanation of Tables

Back to Tabs



# Tables



Explanation  
of Tables

Back to  
Tabs

## Function Library



**Function Library** group buttons of Formulas tab **Excel**



Also, this is one of the most used group because of the various different **functions**.



First of all, the **Function Library** group has the Insert **Function**, Autosum and the Recently Used buttons etc. Also, are the Financial, Logical, Text and the Date & Time buttons

Screenshot  
of Function Library

Screenshot  
of Date and Time

Back to  
Tabs



# Function Library

	A	B	C	D	E
1	<b>Groceries</b>	<b>Units</b>	<b>Price/Unit</b>	<b>Total Cost</b>	
2	Cooking Spray	1	\$2.75	\$2.75	
3	Tomato Paste	6	\$2.85	\$17.10	
4	Spaghetti Pasta	4	\$3.88	\$15.52	
5	Ginger Snaps	3	\$2.04	\$6.12	
6	Chicken Noodle Soup	6	\$3.67	\$22.02	

Explanation of Function Library

Back to Tabs





# Function Library

Excel ribbon showing the Formulas tab with the Date & Time group selected. The Function Library dropdown is open, showing the NETWORKDAYS function highlighted. A tooltip for NETWORKDAYS is displayed, explaining its syntax and purpose.

**Function Library**

16    fx    =NETWO

	A	B	E	F
2	<b>Office Supply Order Log</b>	<b>Jul-Sep 2010</b>		
3				
4	<b>OfficeMax</b>			
5	<b>Office Supply</b>	<b>Item Number</b>	<b>Unit Price</b>	<b>Subtotal</b>
6	File Folders	EGC38290	\$5.86	\$58.61
7	Copy Paper	LBG43576	\$40.26	\$80.52
8	Paperclips	CAD789237	\$4.20	\$42.00
9	Binder Clips (Multi)	CAD256903		
10	Pens (Blue)	KLH78902		
11	Pens (Red)	KLH78904		
12	Highligher Pens (Yellow)	STA73298		
13	Sticky Notes	JUG198430		

**NETWORKDAYS**

**NETWORKDAYS(start\_date,end\_date,holidays)**

Returns the number of whole workdays between two dates.

Press F1 for more help.

Explanation of Function Library

Back to Tabs

## Formula Addressing



The **Excel ADDRESS function** returns the **address** for a cell based on a given row and column number.



For example, =**ADDRESS**(1,1) returns \$A\$1.



**ADDRESS** can return an **address** in relative or absolute format, and can be used to construct a cell **reference** inside a **formula**.



A cell **address** in the current or given worksheet.

Back to  
Tabs

## The Macros



**EXCEL MACRO** is a record and playback tool that simply records your **Excel** steps and **the macro** will play it back as many times as you want.



VBA **Macros** save time as they automate repetitive tasks.



It is a piece of programming code that runs in an **Excel** environment but you don't need to be a coder to program **macros**.

Screenshot of  
The Macros

Back to  
Tabs



# The Macros

sample workbook.xlsx - Microsoft Excel

File Home Insert Page Layout Formulas Data Review **View** Developer Foxit Reader PDF

Normal Page Layout Page Break Preview Custom Views Full Screen Show Zoom 100% Zoom to Selection Workbook Views Window

CS 50000

No.	Name	Salary Amount	Tax
1	Marc	2000	10%
2	Stave	50000	20%

View Tab

Macro dropdown to view macro and record macro

View Macros  
Record Macro...  
Use Relative References

Explanation of The Macros

Back to Tabs

# Charts



A **chart** is a powerful tool that allows you to visually display data in a variety of different **chart** formats such as Bar, Column, Pie, Line, Area, Doughnut, Scatter, Surface, or Radar **charts**.



With **Excel**, it is easy to create a **chart**. Here are some of the types of **charts** that you can create in **Excel**.

Back to

Components of  
Microsoft Excel

Components of  
Charts



# Components of a Chart

Component  
s of a Chart

Chart Area

Plot Area

Chart Title

Axis Title

Legend

Gridlines

Data Label

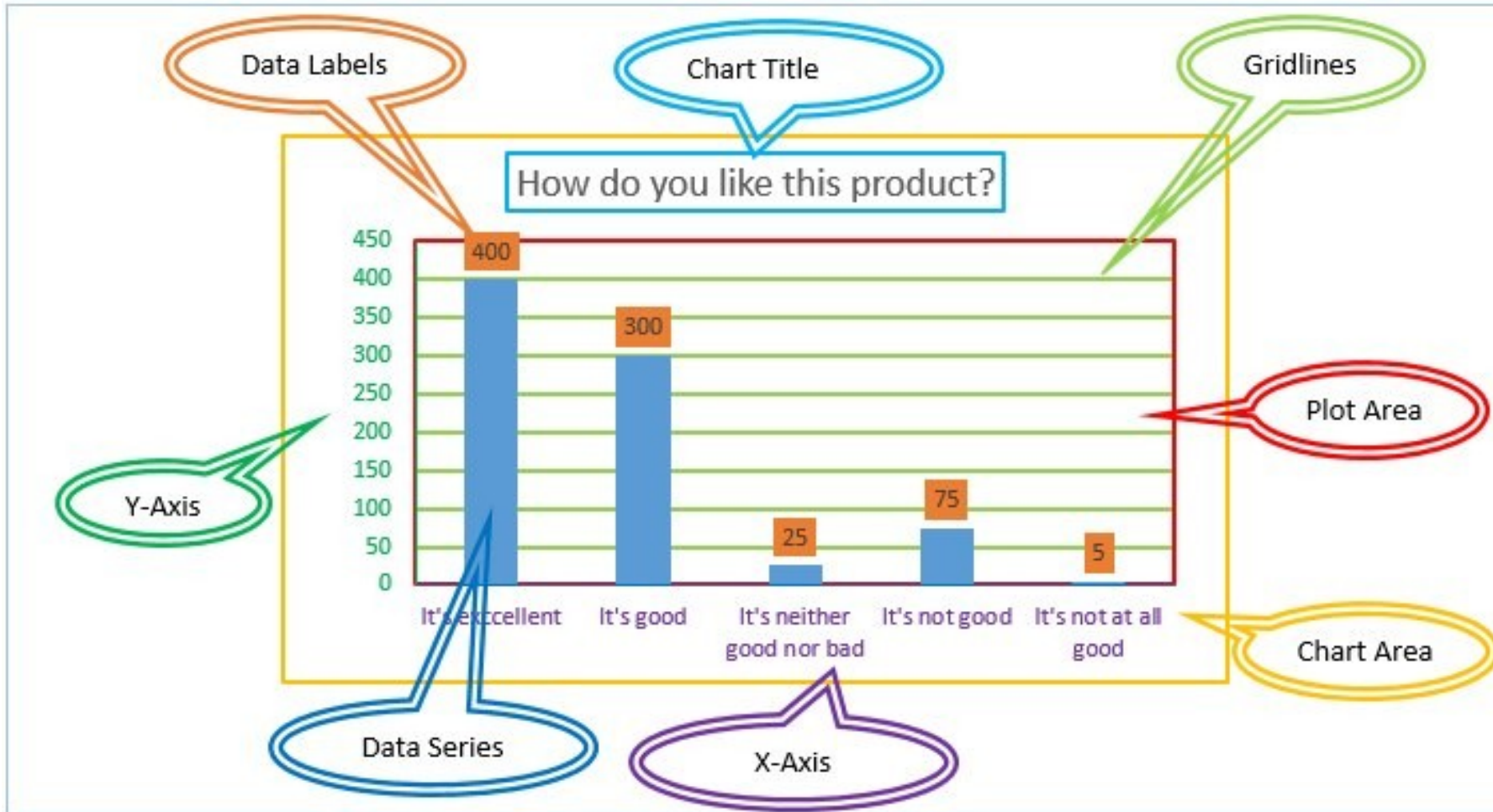
Back to  
Components of  
Microsoft Excel



Components of  
Charts



# Components of a Chart



Mind map  
Components of  
Charts

Back to  
Components of  
Microsoft Excel

## Chart Area



- ⏪⋯⏩ All **charts** in **Excel** have a **chart area**, which encloses all elements of the **chart**.
- ⏪⋯⏩ The easiest way to select the **chart area** is to click just below the top edge of the **chart**.
- ⏪⋯⏩ The **Chart** Elements menu on the Format tab of the ribbon, and the Format Task pane title will confirm the **chart area** is selected.

Components of  
Charts



## Plot Area



- ⏪⋯⏩ The **plot area** in an **Excel chart** sits in inside the **chart area**, and contains the actual **chart**.
- ⏪⋯⏩ You can click to select a **plot area**, or right-click and use the mini toolbar to select.
- ⏪⋯⏩ Like the **chart area**, you can change the fill and border of the **plot area**.

## Chart Title



- ⏪ A **Chart Title** usually appears above the main Plot Area and provides a succinct description of the **chart**.
- ⏪ **Title** object provides attributes which help in setting content, appearance and position of the **chart title**.

Components of  
Charts

## Axis Title



In a chart you create, **axis labels** are shown below the horizontal (category, or "X") **axis**, next to the vertical (value, or "Y") **axis**, and next to the depth **axis** (in a 3-D chart).



Your chart uses text from its source data for these **axis labels**.



# Legend

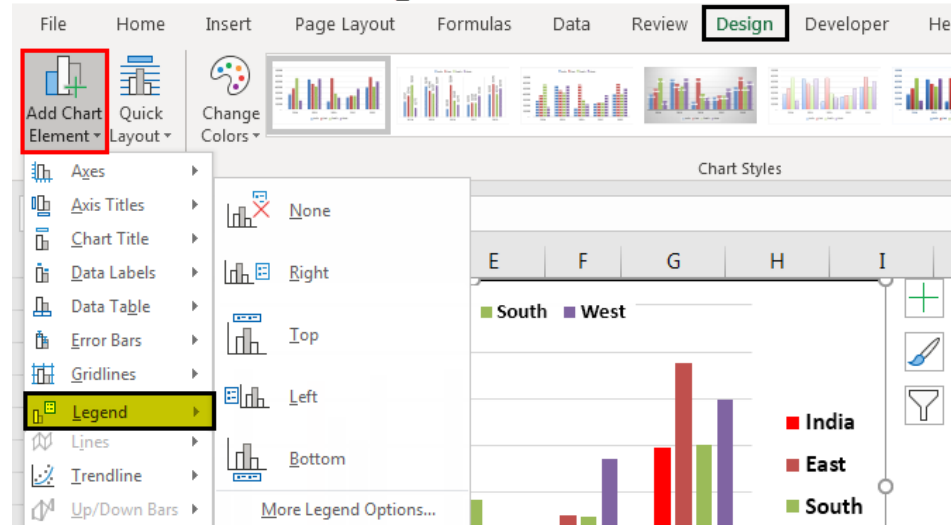


In a chart or graph in a spreadsheet program such as Microsoft **Excel**, the **legend** is often located on the right-hand side of the chart or graph and is sometimes surrounded by a border.



The **legend** is linked to the data being graphically displayed in the plot area of the chart.

## Add Legends in Excel



Components of Charts

## Gridlines



**Gridlines in Excel** are the horizontal and vertical gray lines that differentiate between cells in a worksheet.



The **gridlines** guide users to differentiate between the specific cells and read the data in an organized manner.



They also help users navigate through the worksheet columns and rows with ease.

Components of  
Charts

## Data Label



- ⏪ ⏩ **Data labels** are used to display source **data** in a chart directly.
- ⏪ ⏩ They normally come from the source **data**, but they can include other values as well, as we'll see in in a moment.
- ⏪ ⏩ You can even select a single bar, and show just one **data label**.
- ⏪ ⏩ In a bar or column chart, **data labels** will first appear outside the bar end.



# Types of Charts

Types of Charts

Area Chart

Column Chart

Bar Chart

Line Chart

Pie Chart

XY(Scatter ) Chart



Back to Components of Microsoft Excel

# Area Chart



An **area chart** represents the change in a one or more quantities over time.



It is made by plotting a series of data points over time, connecting those data points with line segments, and then filling in the **area** between the line and the x-axis with color or shading.

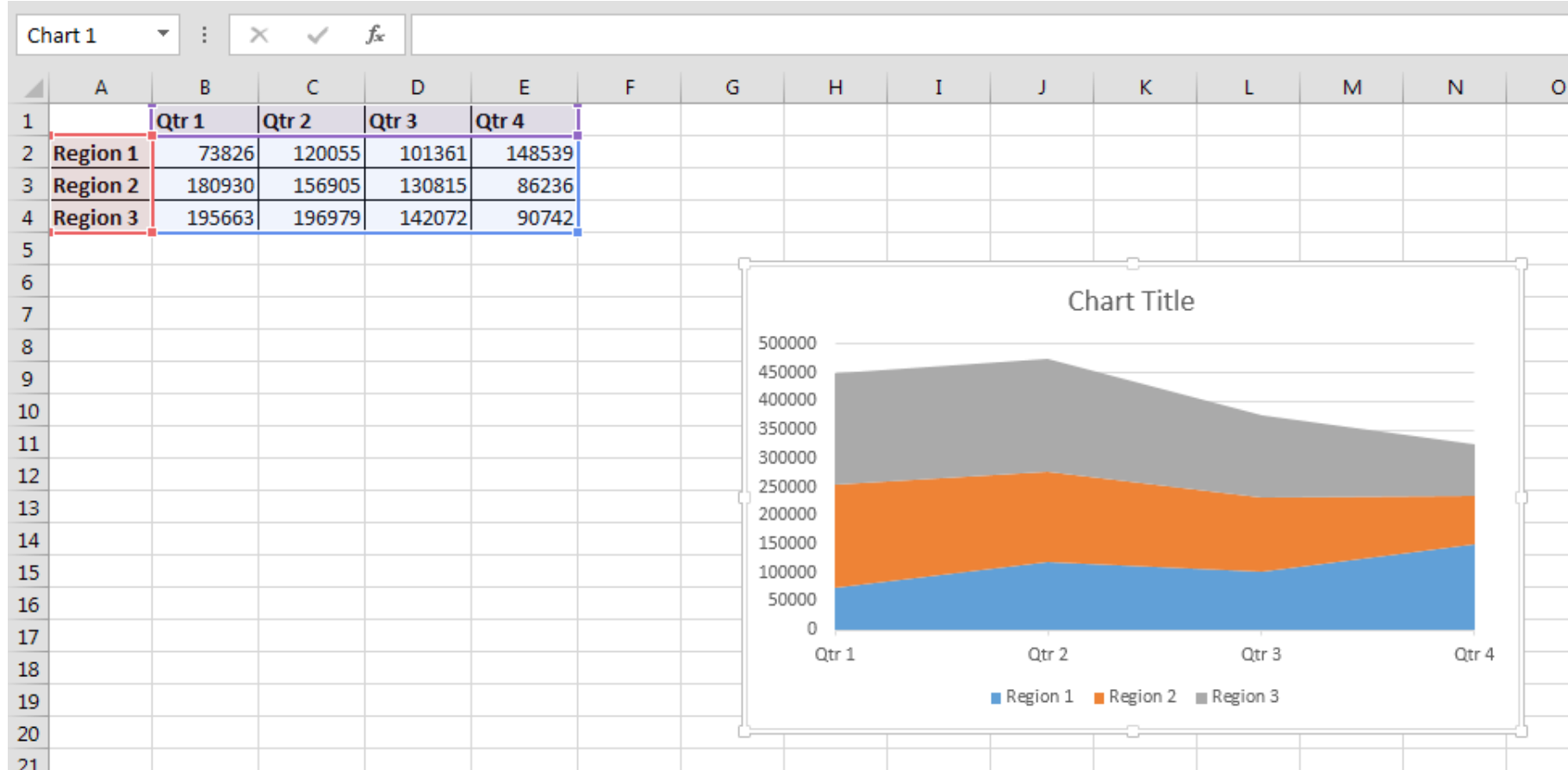
Screenshot of  
Area Chart

Back to  
Types of Chart





# Area Chart



Explanation of Area Chart

Back to Types of Chart

## Column Chart



A **column chart** is a **graph** that shows vertical bars with the axis values for the bars displayed on the left side of the **graph**.



It is a graphical object used to represent the data in your **Excel** spreadsheet.



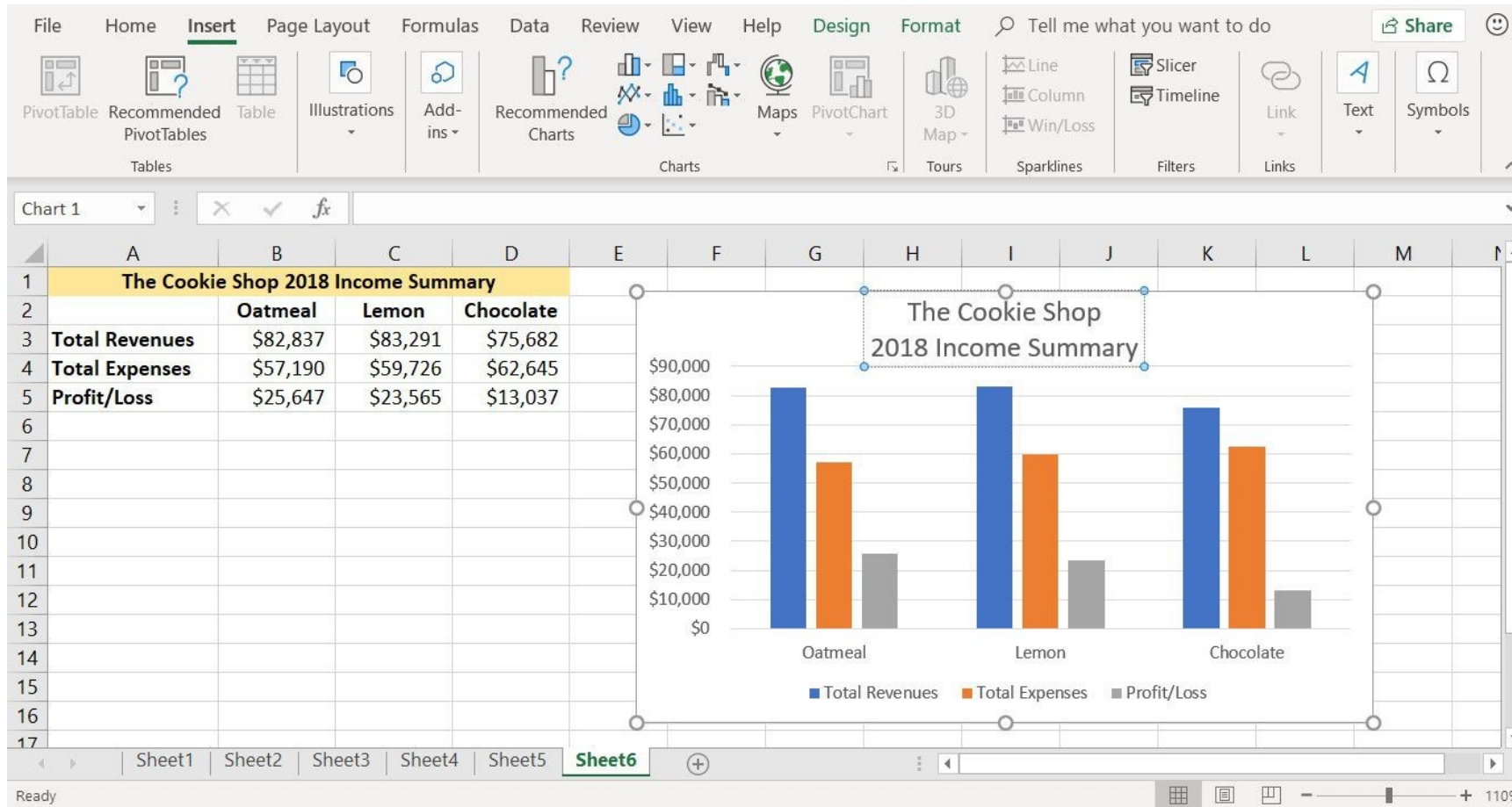
You can use a **column chart** when: You want to compare values across categories.

Screenshot of  
Column Chart

Back to  
Types of Chart



# Column Chart



Explanation of Column Chart

Back to Types of Chart

## Bar Chart



A **bar chart** is a **graph** that shows horizontal **bars** with the axis values for the **bars** displayed on the bottom of the **graph**.



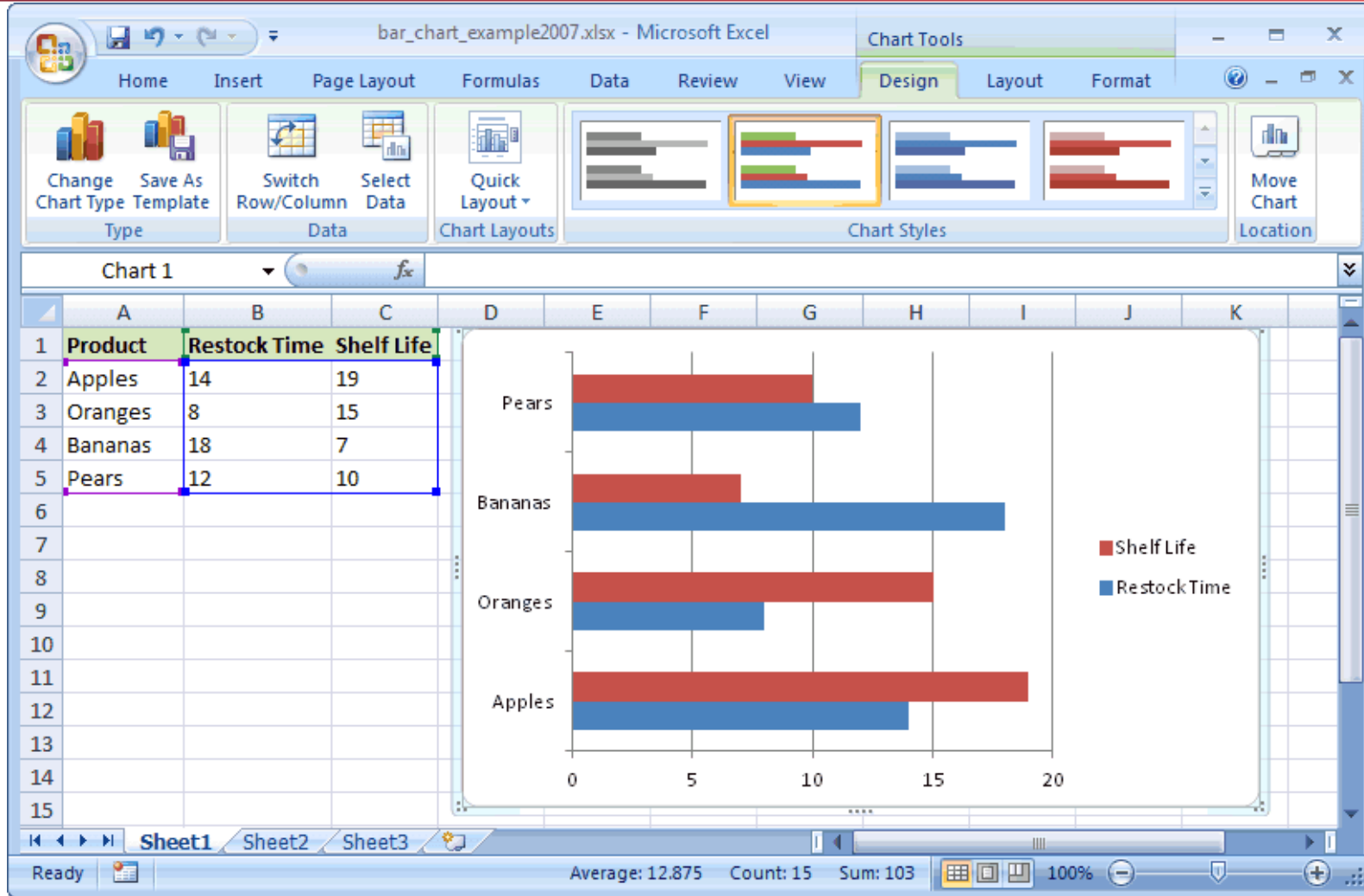
It is a graphical object used to represent the data in your **Excel** spreadsheet.

Screenshot of  
Bar Chart

Back to  
Types of Chart



# Bar Chart



Explanation of Bar Chart

Back to Types of Chart

# Line Chart



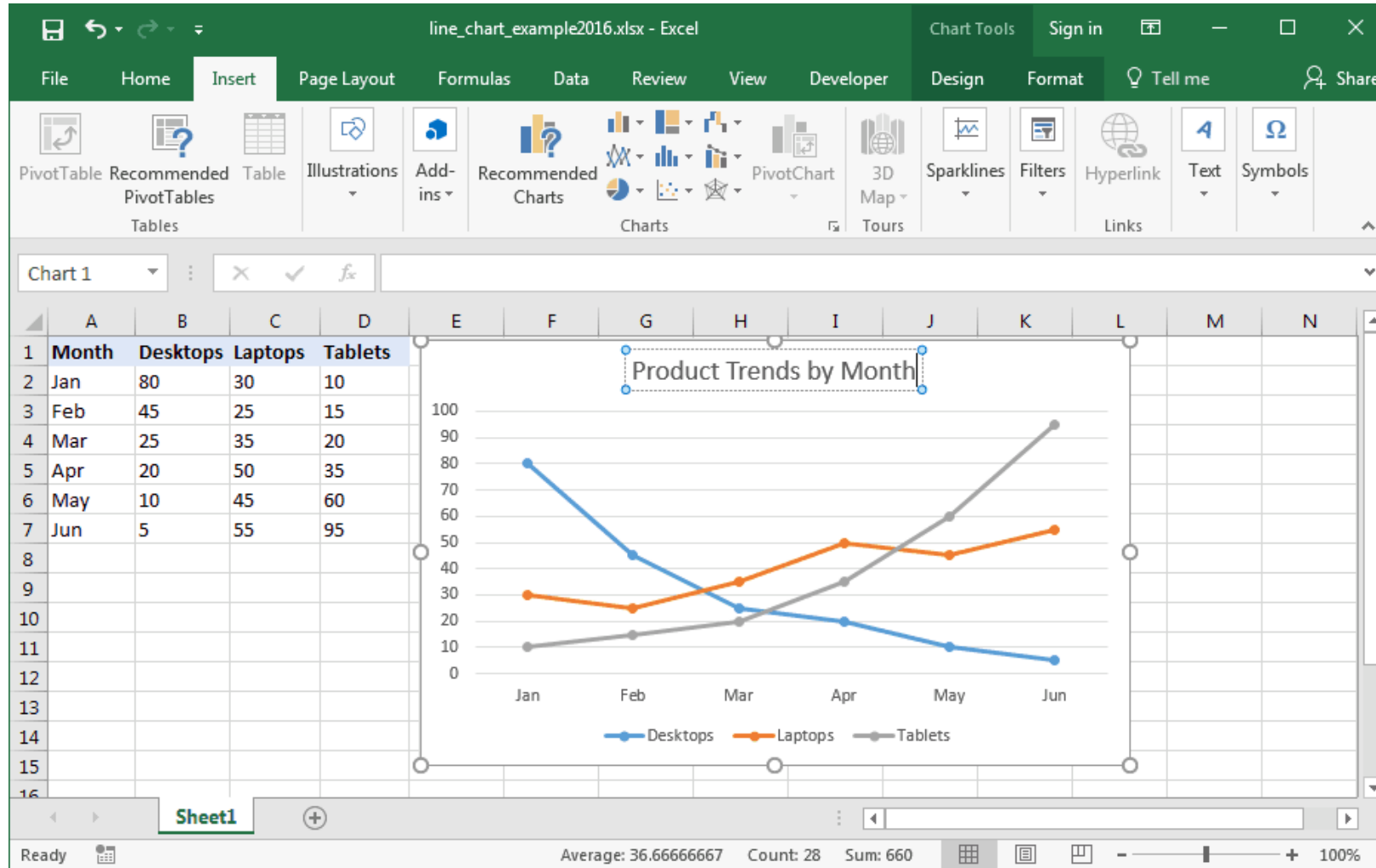
- ↔ **Line charts** are used to display trends over time.
- ↔ Use a **line chart** if you have text labels, dates or a few numeric labels on the horizontal axis.
- ↔ Use a scatter plot (**XY chart**) to show scientific XY data.

Screenshot of  
Line Chart

Back to  
Types of Chart



# Line Chart



Explanation of Line Chart

Back to Types of Chart

## Pie Chart



- ⟷ A **Pie Chart** is a type of **graph** that displays data in a circular **graph**.
- ⟷ The pieces of the **graph** are proportional to the fraction of the whole in each category.
- ⟷ In other words, each slice of the **pie** is relative to the size of that category in the group as a whole.

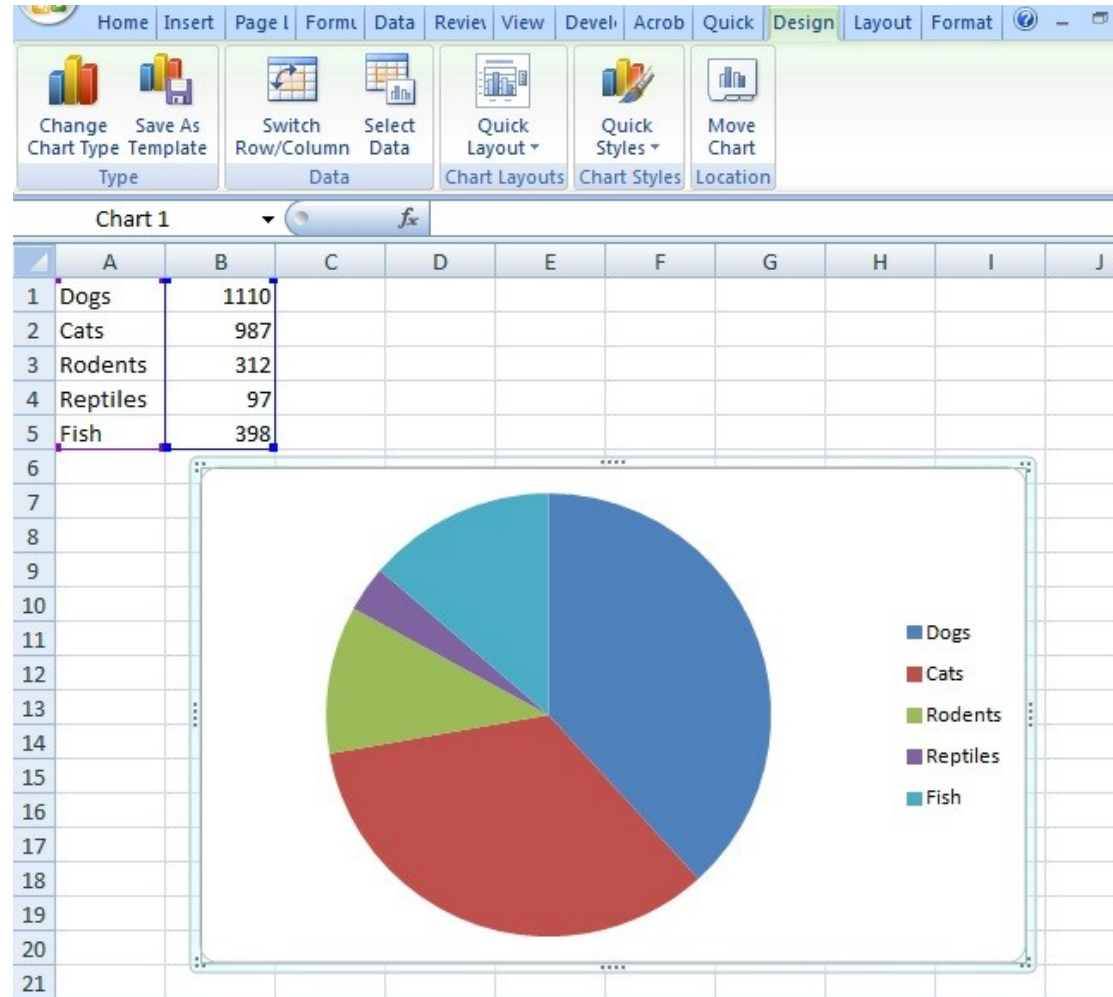
Screenshot of  
Pie Chart

Back to  
Types of Chart





# Pie Chart



Explanation of  
Pie Chart

Back to  
Types of Chart

## XY(Scatter) Chart



A **scatter plot** (also called an **XY graph**, or **scatter** diagram) is a two-dimensional **chart** that shows the relationship between two variables.



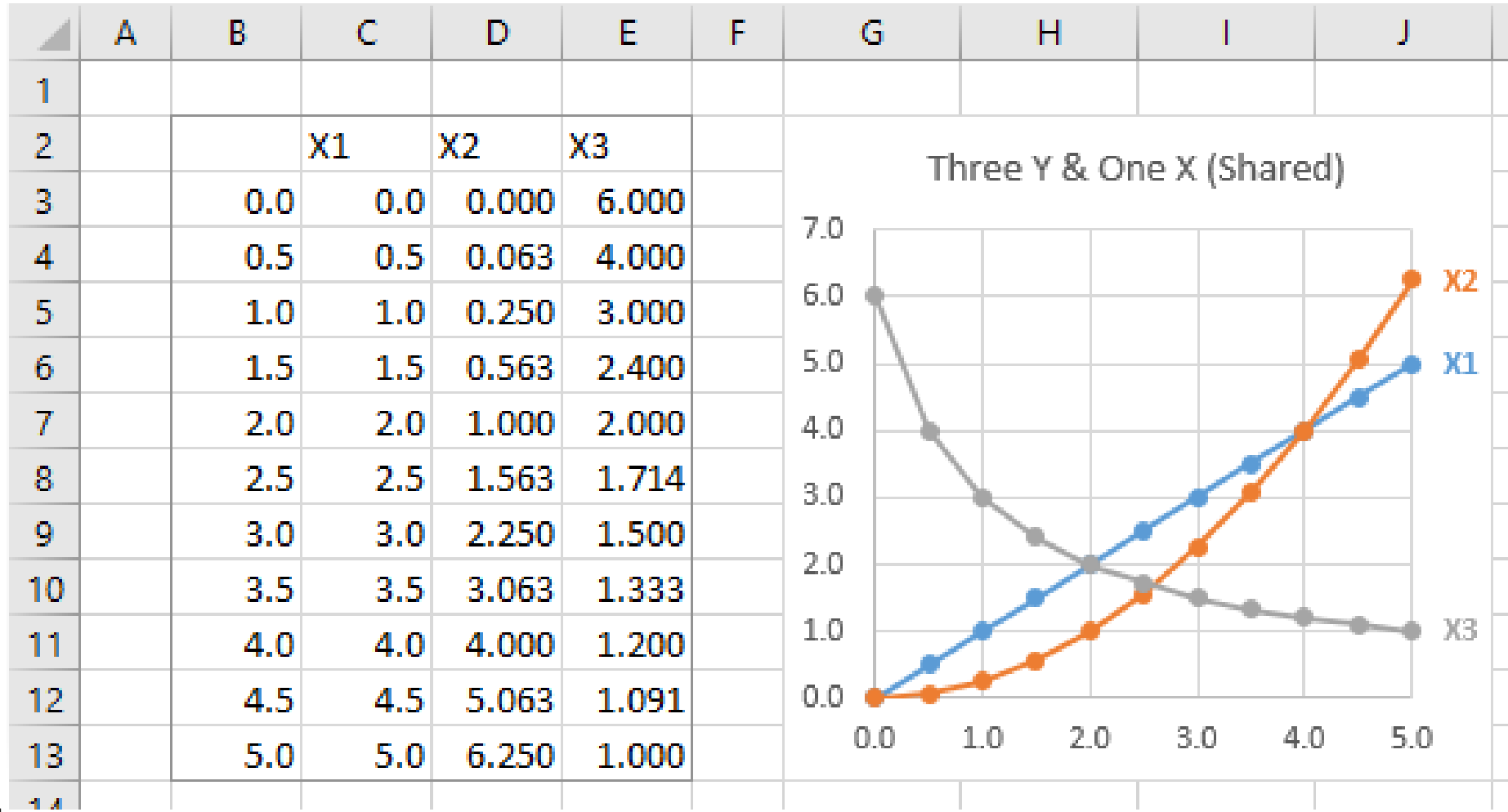
In a **scatter graph**, both horizontal and vertical axes are value axes that **plot** numeric data.

Screenshot of  
XY(Scatter) Chart

Back to  
Types of Chart



# XY(Scatter) Chart



Explanation of XY(Scatter) Chart

Back to Types of Chart



# 'Hurrah!'

## We completed this section



Coming  
Soon...

