

Part 3

Some Statistical Charts in Excel

Excel provides fairly extensive capabilities for creating graphs, what Excel calls **charts**. You can access Excel's charting capabilities by selecting **Insert > Charts**. We will describe how to create bar and line charts here. Elsewhere on the website we describe how to create [scatter charts](#). Other types of charts are created in a similar manner. Once a chart is created three new ribbons are accessible, namely **Design**, **Layout** and **Format**. These are used to refine the chart created.

1- Bar charts

To create a bar chart, execute the following steps:

1. Enter the data that you are charting into a worksheet.
2. Highlight the data range and select **Insert > Charts|Column**. A list of bar chart types is displayed. As usual you can place the mouse pointer over the picture of any chart type to get a brief description of that chart type. E.g. the first type is a 2-dimensional side-by-side bar chart while second choice is a 2-dimensional stacked bar chart.
3. Use the **Design**, **Layout** and **Format** ribbons to refine the chart. At any time, you can click on the chart to get access to these ribbons.

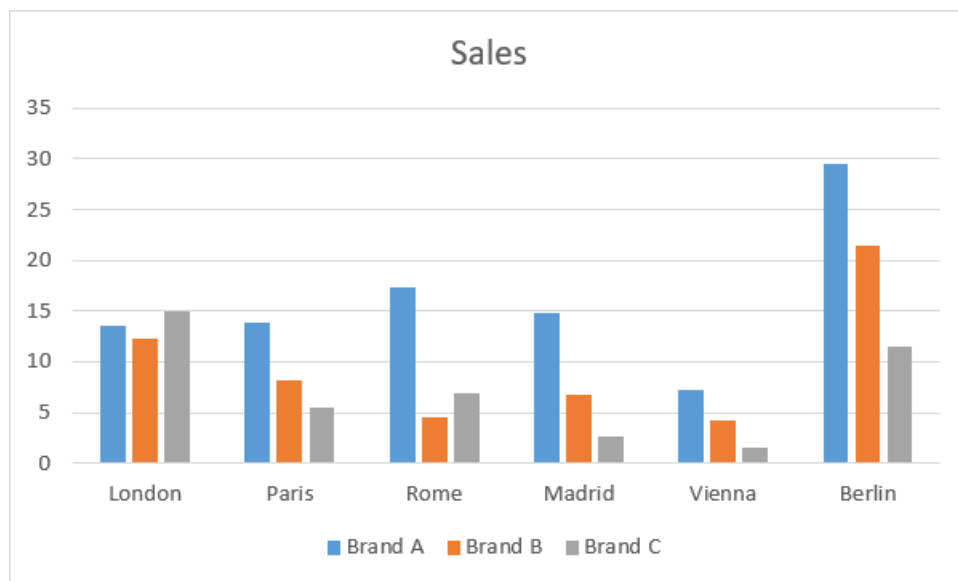
We now demonstrate how to create a bar chart via the following example.

Example

The following data represents the sales in millions of Euros in for a certain product has three brands A, B and C

City	Brand A	Brand B	Brand C
London	13.5	12.3	15
Paris	13.8	8.1	5.5
Rome	17.3	4.5	6.9
Madrid	14.8	6.8	2.7
Vienna	7.2	4.2	1.6
Berlin	29.5	21.4	11.5

The first step is to enter the data into the worksheet. We next highlight the range the data including the row and column headings, and select **Insert > Charts|Column**.

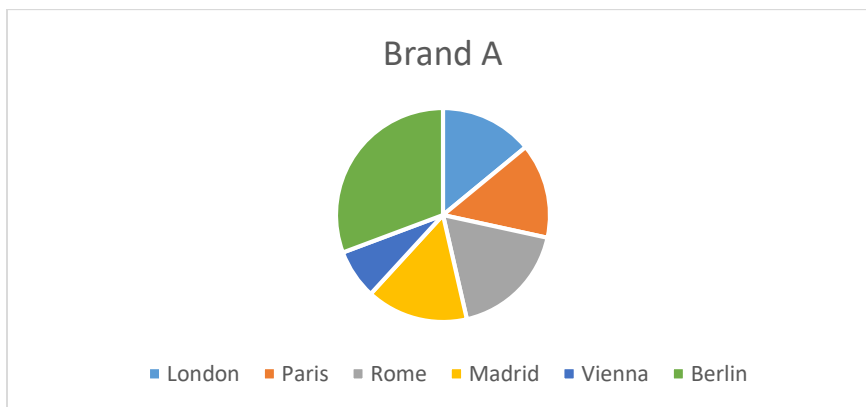


The resulting chart, although initially the chart does not contain a chart title or axes titles. To add a chart title click on the chart, select **Layout > Labels|Chart Title** and then choose **Above Chart** and enter the title sales. The title of the horizontal axis can be added in a similar manner by selecting **Layout > Labels|Axis Titles > Primary Horizontal Axis Title > Title Below Axis** and entering the word City. Finally, the

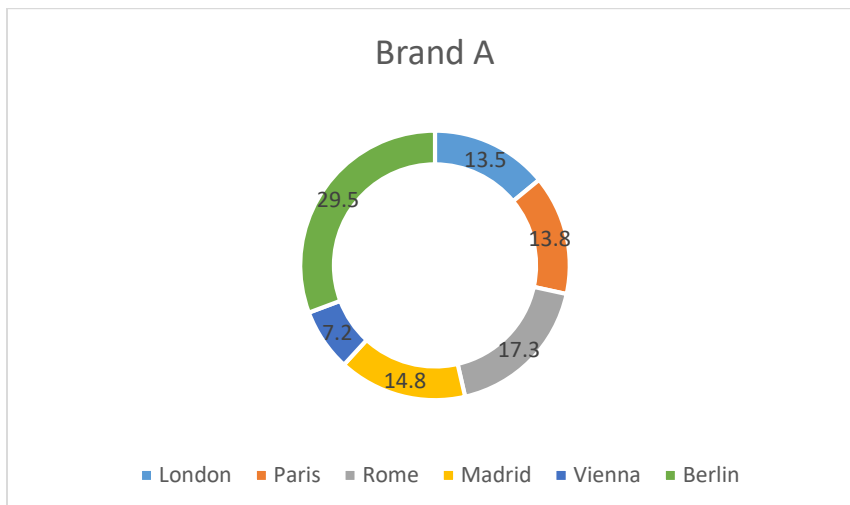
title of the vertical axis is added by selecting Layout > Labels|Axis Titles > Primary Vertical Axis Title > Rotated Title.

2-Pie charts

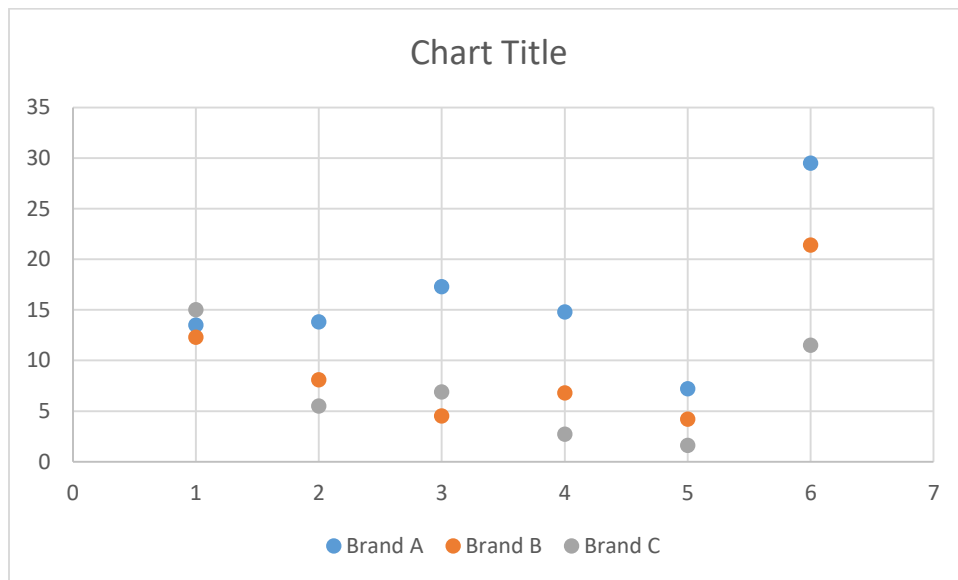
For the previous example draw the pie chart for brand A



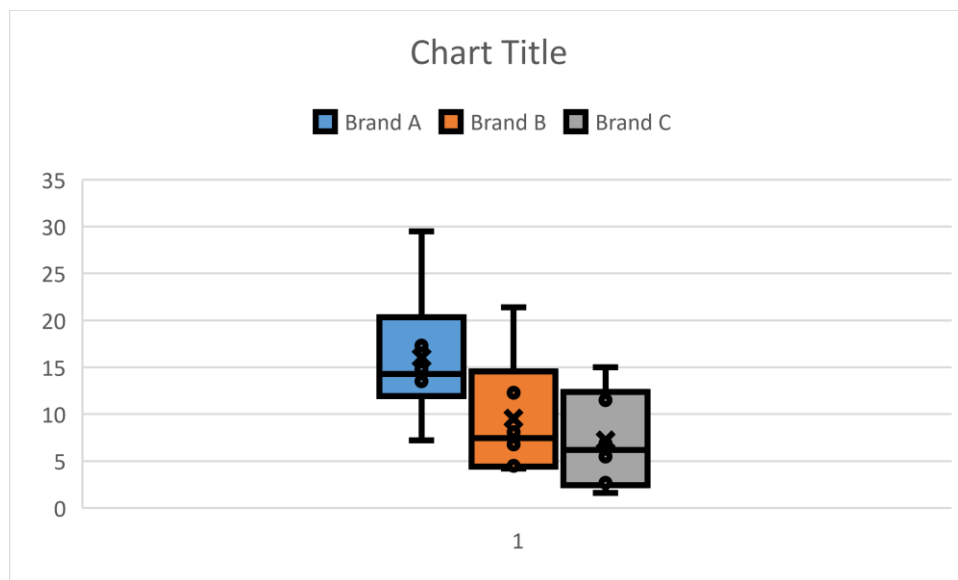
Also,



3-scatter plot



4-Boxplot



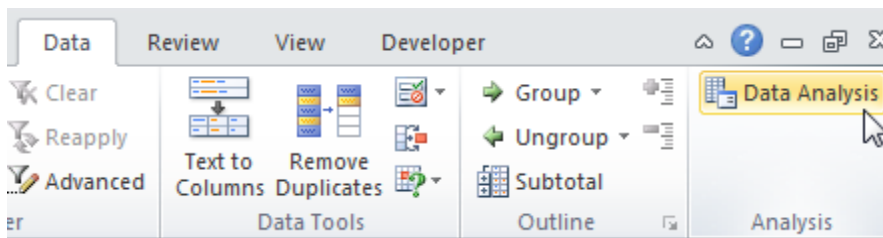
4-Histogram

We explain how to create the Histogram in Excel through the following example given in the file Histogram.xls. This example teaches you how to create a histogram in Excel.

1. First, enter the bin numbers (upper levels) in the range C3:C7.

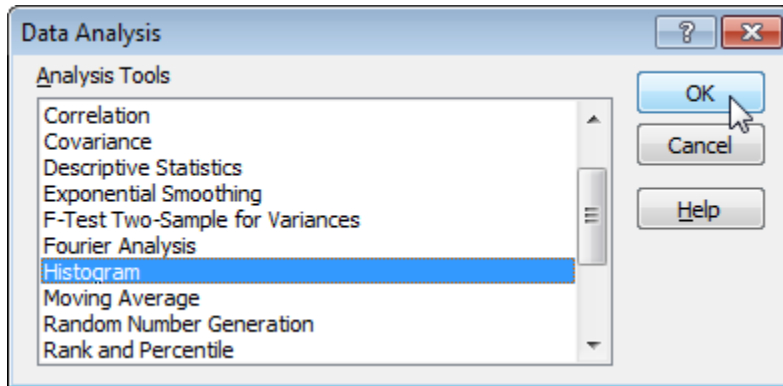
	A	B	C	D
1	Number of students			
2	22			
3	29		20	
4	40		25	
5	30		30	
6	48		35	
7	24		40	
8	21			
9	19			
10	24			
11	22			
12	25			
13	52			
14	35			
15	40			
16	31			
17	37			
18	21			
19	23			
20				
21				

2. On the Data tab, click Data Analysis.



Note: can't find the Data Analysis button? Click [here](#) to load the Analysis ToolPak add-in.

3. Select Histogram and click OK.

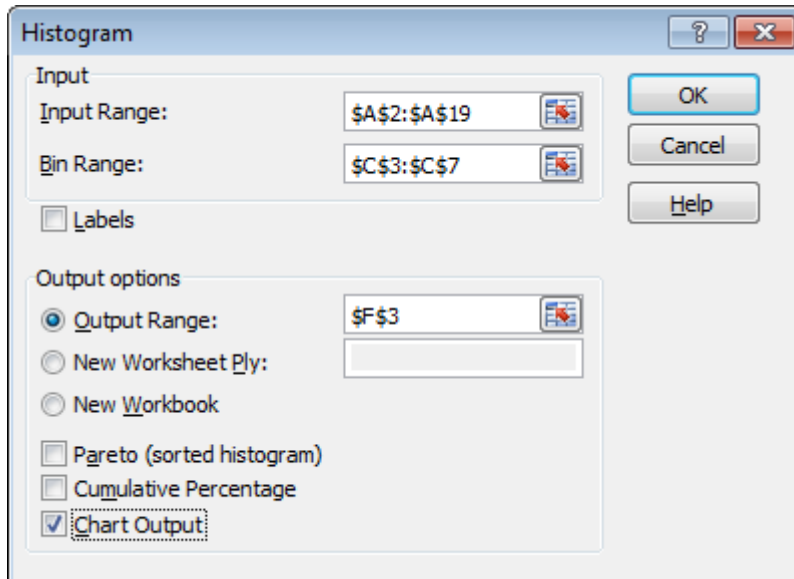


4. Select the range A2:A19.

5. Click in the Bin Range box and select the range C3:C7.

6. Click the Output Range option button, click in the Output Range box and select cell F3.

7. Check Chart Output.



8. Click OK.

[illegible]

- Click the legend on the right side and press Delete.
- Properly label your bins.
- To remove the space between the bars, right click a bar, select Format Data Series and change the Gap Width to 0%. Select Border Color to add a border.

Bin	Frequency
0-20	1
21-25	8
26-30	2
31-35	2
36-40	3
40+	2

A histogram titled "Histogram" showing the frequency distribution of age groups. The x-axis is labeled "Bin" and has categories: 0-20, 21-25, 26-30, 31-35, 36-40, and 40+. The y-axis is labeled "Frequency" and ranges from 0 to 10. The bars represent the frequency for each age group: 0-20 (1), 21-25 (8), 26-30 (2), 31-35 (2), 36-40 (3), and 40+ (2).

Bin	Frequency
0-20	1
21-25	8
26-30	2
31-35	2
36-40	3
40+	2