# Types of graphs.

| Type | use |
|---|---|
| **Bar graph** | putting numbers in categories |
| **Circle graph** | show different parts of the whole. |
| **Double bar graph** | can be used when you have two or more sets of data. |
| **Box whiskers plot** | Show measures of variation |
| **Histogram** | show the frequency of data divided into intervals |
| **Line graph** | graph change over time |
| **line Plot** | show the frequency data on a number line |

**Histograms** : are graphical representations of data that display the distribution and frequency of a set of values. They are commonly used in statistics and data analysis to visualize the shape and spread of data.

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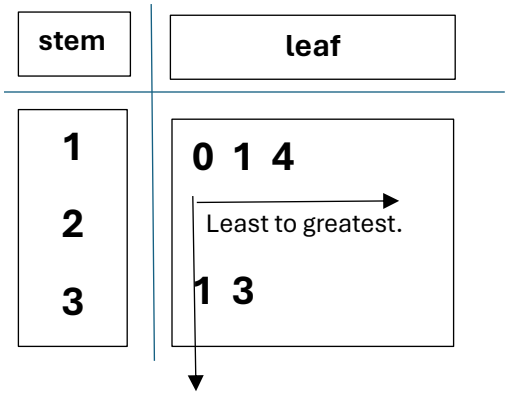
**Stem and leaf plot :** is a graph that organizes data by using the place values of the numbers.

Ex : i have a set of numbers 10, 11, 14, 31, 33

1- Reorder the numbers : they are already ordered
2- 1|0 , 1|1 , 1|4 , 3|1 , 3|3 : separate the ones place
3- Making stem and leaf T-chart




4- key 1|1 = 11

Ex 2: 96,99,108,115,117,130,133,139

9|6 , 9|9 , 10|8 , 11|5 , 11|7 , 13|0 , 13|3 , 13|9

| Stem | leaf |
|---|---|
| 9 | 6 9 |
| 10 | 8 |
| 11 | 5 7 |
| 12 | |
| 13 | 0 3 9 |

key 10|8 = 108

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## Box whisker plots :

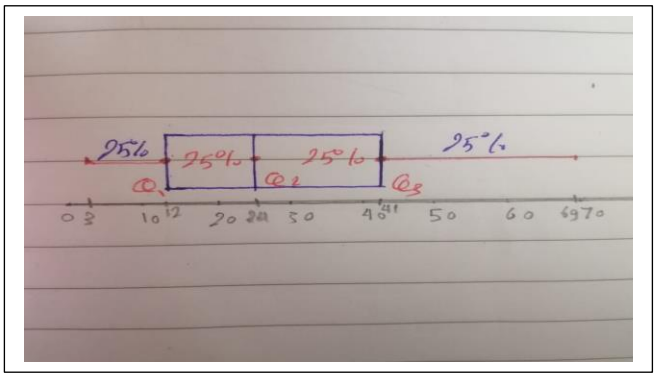
are a type of graph that can be used to display the distribution of data. They are made up of a box, whiskers, and a median. The box represents the middle 50% of the data, the whiskers extend to the extreme values of the data.

lest suppose we have that data, and we want to make box whisker plot.

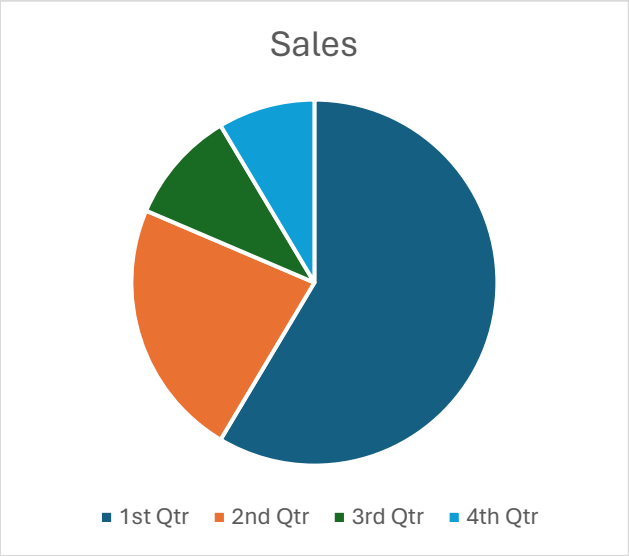
(3,5,5,6,11,12,14,14,16,20,23,25,28,35,36,37,41,43,48,60,62,69)

First, we need to calculate the following.

| | |
|---|---|
| Minimum value | 3 |
| Maximum value | 69 |
| Median | 24 |
| First Quartile | 12 |
| Second Quartile | 41 |



**Pie chart** : is a type of graph that is divided into slices but the value of each slice is expressed in percentages.

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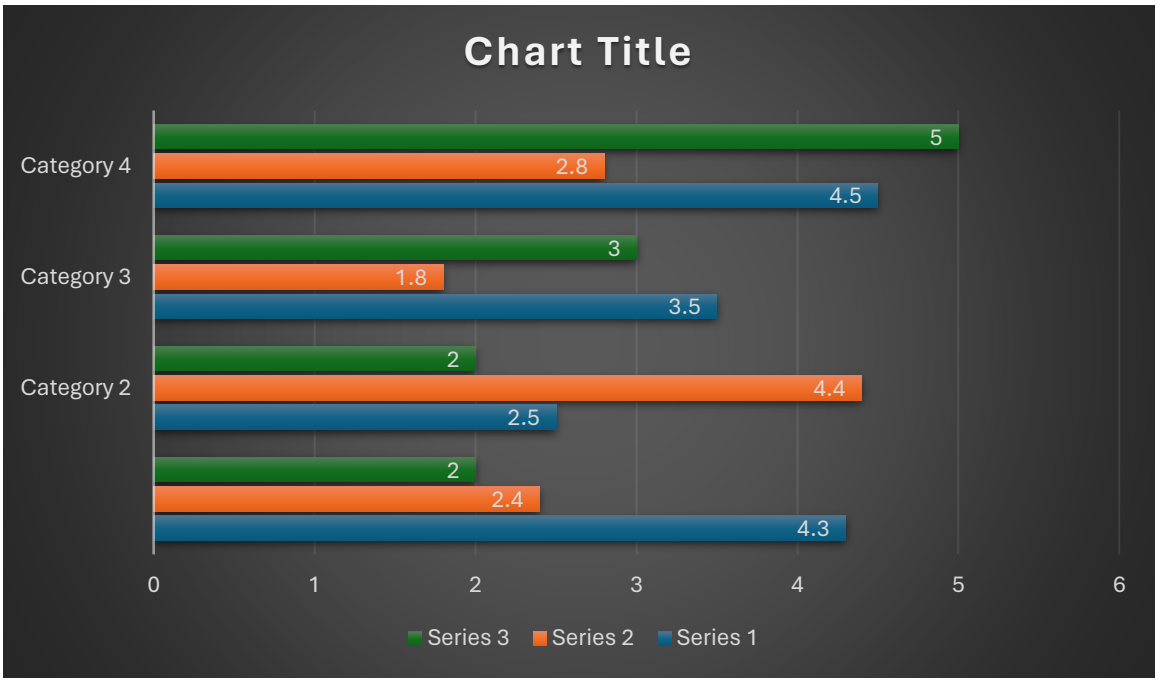
**Bar chart:** is used to compare different types of information and uses bars to reflect the data.



**Heatmap:** is a graphical representation of data where values are expressed as colors. Heatmaps provide an effective visual summary of information because they synthesize data and then present it in a pictorial form.

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**violin plot:** is a method of plotting numeric data and can be understood as a combination of a box plot and a kernel density plot. It provides a visualization of data distribution.