Common types of graphs used in statistics

1. **Bar Charts and Column Charts:** Both of them are used for showing comparison among similar data. Bar chart is horizontal whereas column chart is vertical. For both of these charts, one axis is categorical and the other is numerical.

2. **Line Chart and Area Chart:** They are best suited for showing trends over a period of time. If the focus is not on individual points, but only on the trend, area charts can be used. X-axis is categorical and Y-axis is numerical.

3. **Pie Charts:** These are best suited for showing composition.

4. **Sunburst / Ring Chart:** Its a hierarchical or multi level pie - can be used for showing composition along with hierarchy.

5. **Scatter Diagram and Bubble Plot:** Used to represent data set where both the axis represent numerical data. Can be used for bivariate analysis. When the diameter of dots in a scatter plot are used to represent a third numerical variable, it is called a bubble plot.

6. **Stock Plots:** Can be used for data which shows fluctuation during a given period of time. Commonly used for showing daily movement of stock prices.

7. **Radar/Spider Chart:** When the values of two or more categorical variables across several numerical variables need to be compared, this type of chart can be used. There are multiple axis with single origin and each categorical variable is shown with separate lines.

Graphical representation of frequency distribution

The following three diagrams are used for frequency distributions:

1. **Histogram:** Columns are used for showing frequency of class intervals. Used for continuous frequency distributions.

2. **Frequency Polygon:** The mid-points of the columns in a histogram are connected with straight lines and the ends are connected to the X-axis to create a polygon.

3. **Ogive:** Cumulative frequencies of a distribution are plotted as a line chart. For a given distributions there can be two ogives - more than and less than ogive. Both these ogives intersect at the median.