**Statistic**

**Statistic is a branch of mathematics that deals with the collection, analysing and interpreting large amount of data**

**Types of statistics**

**Descriptiveics analytics: tells you what happened in past**

**Diagnostic analytics : Helps you understand why something happened in the past**

**predictive analytic L: predicts what is most likely to happen n the future**

**prescritive analytics**

**recommends actions you can take to aect those outcomes**

**Why statistics important**

**Its used to derived the data from large dataset and used to make the prediction , decision and classification etc**

**Where is statistic used**

**Medical Research : the drug will be working or particular disease**

**Stock market : The particular stock will be good to buy or not**

**Sales Projection : trend of sales**

**Weather forecasting:**

**Sampling**

**It is subset of a data to perform analysis because a large data has very complexity**

**Population**

**Population is the whole data like population of a country**

**Sample Frame**

**A list from which sample is selected**

**Sampling Error**

**If our sapling is not representing the population accurately**

**Non Sampling Error**

**Occurs dues to poor sample design, Inaccurate measurements , Bias in data collection etc**

**Random sample**

**It selected random data from sample or population in such a way that each data points are equally likely to be included in the sample**

**Measure of central tendency**

**Mean**

**Mode : used to indicate most frequent point or value**

**Median**

**Range : It tell us width of the data, Distance bet max and min**

**Quartile : Q1 is 25% , Q2 is 50% , Q3 is 75%**

**IQR : Inter quartile range means difference between lower and upper quartile**

**Correlation : Linear relationship between two Quantitative variables**

Log10(10) : 1

We can compare or see the difference between columns if values have not more difference like logy=true

If we are solving a problem in that 1 value is very high and other are very low so using log transformation we can arrange that values in a same range like standardize the data