

Statistics

Statistics is the science of collecting, organizing and analyzing the data.

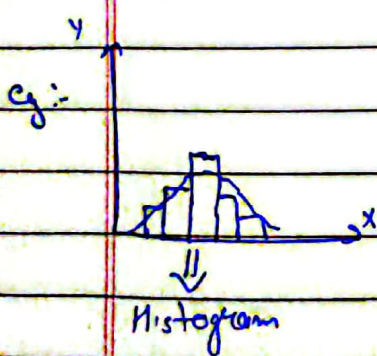
Data :- Facts and pieces of information.

STATISTICS

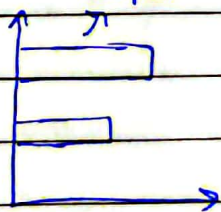
Descriptive Stats



- ① Organizing & Summarizing the data.

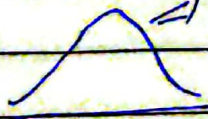


Barplot



Piechart

Distribution



Candlestick



Box plot

Inferential Stats



- ① It consists of collecting sample data and making conclusions about population data using some experiments.

Hypothesis Testing

Population (N) Sample (n)

Sampling Techniques

① Simple Random Sampling :- Every member of the population (N) has an equal chance of being selected for your sample (n).

② Stratified Sampling

Strata \rightarrow Layers \rightarrow Clusters \rightarrow Groups.

like

Gender $\left\{ \begin{array}{l} \rightarrow \text{Male} \\ \rightarrow \text{Female} \end{array} \right.$

Education Degree $\left\{ \begin{array}{l} \rightarrow \text{High School} \\ \rightarrow \text{Masters} \\ \rightarrow \text{Phd} \\ \rightarrow \text{Btech} \end{array} \right.$

Blood groups $\left\{ \begin{array}{l} \rightarrow A+ \\ \rightarrow B+ \\ \rightarrow AB+ \text{ etc} \end{array} \right.$

③ Systematic Sampling :-

- ④ Convenience Sampling :- Only those who are interested in the survey will only participate.

Variable :- A variable is a property that can take any values.



Two types of variable

- ① Quantitative Variable :- Measured Numerically { Mathematical Operators }
eg Age, height, Distance etc.

- ② Qualitative variable :- / ③ Categorical variable

eg Gender, Types of flowers, names of dept, movie types etc.

Categorical variable { Based on some characteristics they are }
grouped together

~~Quantitat~~

Quantitative Variable

Discrete Variables

eg. whole num

eg:- no. of Bank Account
{1, 2, 3, ...}

no. of children in a family
{1, 2, 3, ...}



Here we will have only whole no
& this no can repeat with
respect to different data points.

Continuous Variable

eg. continuous

any value can be there

eg. Height, weight, age, Rainfall,
speed.