

Introduction to Statistics

Defn: Stats is the science of collecting, organizing and analyzing data.

Data: "facts or pieces of Information"

Eg: Height of students in classroom

No. of sales in term of revenue of a company

Salary of people in Society.

IQ of students in classroom.

Types of Statistics

① Descriptive Stats

Defn: It consists of organizing, summarizing and visualizing data.

① Measure of Central Tendency [Mean, Median, Mode]

② Measure of Dispersion [Variance, Standard deviation, Z-score].

③ Different types of Distribution of data

Eg: Histogram, pdf, pmf, Gaussian Distr,

Log Normal Dist, Exponential, Binomial,

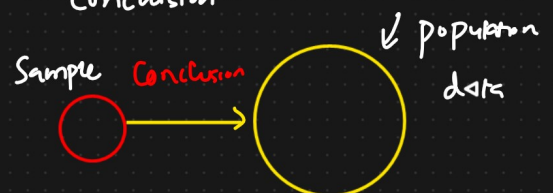
Bernoulli Dist, Poisson

EDA

Box plot, Violin plot, Histogram, Distribution plot

② Inferential Stats

Defn: It consists of using data you have measured to form Conclusion.



1) Z-test

2) t-test

3) Chi square Test

4) Anova Test

Hypothesis

Testing, p-value

Significance
Value.

And Feature Engineering

EDA \rightarrow Exploratory Data Analysis.

Eg: Let say there are 10 cricket camps In Bangalore. And you have collected the height of cricketers from one of the camp.

Ans) Heights are recorded [175cm, 180cm, 140cm, 140cm, 135cm, 160, 135].

\downarrow
Sample

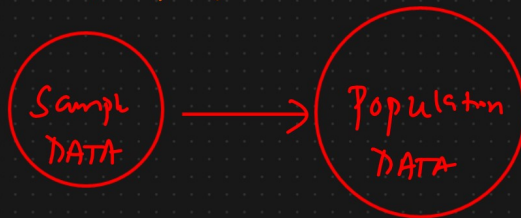
Descriptive Question \div [What is the average height of the entire classroom]?

[Distribution of a DATA]

\rightarrow [140cm how many std it is away from mean] \rightarrow Z-score.

Inferential Question

" Are the ^{average} height of players of camp 1 similar to that of camp 2



① Population And Sample Data

Population (N) \div Population is a group or a superset of data that you are interested in studying.

Sample (n) ! A sample is a subset of population data.

Eg: Exit Poll → News Channel

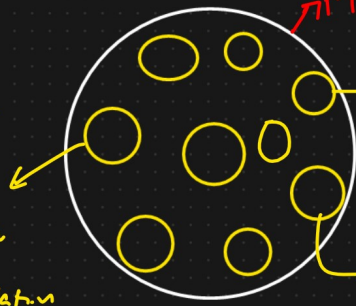


Outcomes

Proportional

Women

population



Population

Accumulate



Results of Exit Poll

Sample data.

Party A → 56

Party B → 30

Survey : DATA SCIENCE ⇒ Tech

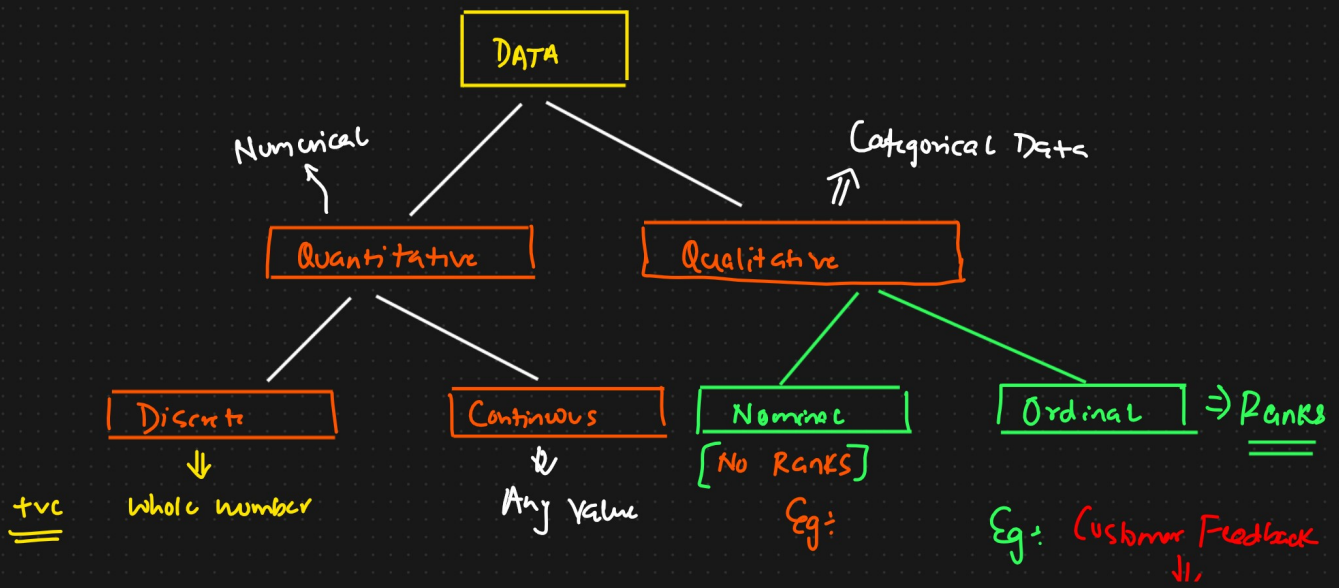
↳ Farmers

Eg: Types of Sampling Techniques → Assignment

③ Types of Data

[House Price Data].

Size	Area	No. of Room	Location	Price
1500	Posh	3	New York	—
—	—	—	Bangalore	—
			New Delhi	



Eg: No. of children in a family.

No. of accounts in banks

No. of bikes

No. of people working in a company

Eg: Average Rainfall

House price In Bangalore

Length of River

Eg: Gender,
M, F

Blood group

Colors

Countries

Location

Cities.

DAYS

Pincode.

{1, 2, 3, 4, 5}.

Weekdays

Example Assignment

- ① Length of Different Rivers In the World?
- ② Favorite Food Based On Gender?
- ③ Marital Status?
- ④ IQ measurement?
- ⑤ Weekdays For IT Employees?
- ⑥ Weekdays For KRISH?