24/10/25

Statistics:

In data field: Statistics is mainly used for ensuring data quality and decision making (based on tests)

Types of Statistics: There are majorily 2 types of statistics.

1. Descriptive statistics (data quality)
2. Inferential statistics (decision making).

descriptive → Result → Evaluation by Inferential.

Introduction:

1. Basics:
   - Types of data
   - Data collection and sampling techniques.
2. Descriptive Statistics:
   - Measure of Central tendency (Mean, Median & Mode)
   - Measure of dispersion (Range, Variance, Standard deviation)
   - Data visualisation (Histogram, Barchart, Piechart, Boxplot etc)
3. Inferential Statistics:
   - Probability Concept.
   - Probability Distributions.
   - Sampling Distributions & Estimations.
   - ✱ - Hypothesis Testing.
   - Statistical Test.
     1. Z-Test
     2. T-Test
     3. Annova test
     4. Chi-square test
     5. Regression test

What is Statistics?

It is the science of collecting, organising and analysing data (for better decision making)

What is data?

fact - non-fake data

data → facts.

information contains data but it's never vice-versa.

Data is facts or pieces of information that also can be measured.

Ex: The IQ of a class students. (Measurable data)

{ 98, 98, 97, 88, 75, 110 }

Descriptive Statistics:

It consists of organising and summarizing data.

Inferential Statistics:

Techniques where we used the data that we have measure to draw conclusions. (or)

To make a statement/conclusion on a descriptive statistics we use inferential statistics.

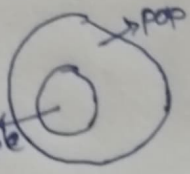
Ex: • Are the marks of the students of java class is similar to the marks of the python classroom in the besant? (Inferential)

• What is the avg marks of the python class students (descriptive)

Population & Sample:

Population (N) The entire group of the data we call it as population.

Ex: All people in Bangalore.



Sample (n) A subset of population. we call it as sample.

Ex: 1000 people in bangalore from different parts of bangalore.

N → population n → sample.