

STATISTICS :-

STATISTICS is the process of collecting, analyzing, interpreting and drawing conclusions from data.

- **COLLECTING**: gather data by surveys, experiments or records.
- **ANALYZING**: summarize data with averages, counts & charts.
- **INTERPRETING**: explain what the summary reveal.
- **DRAWING CONCLUSION**: make decisions or prediction based on findings.

→ EXAMPLE :-

[INFERENTIAL STATISTICS]

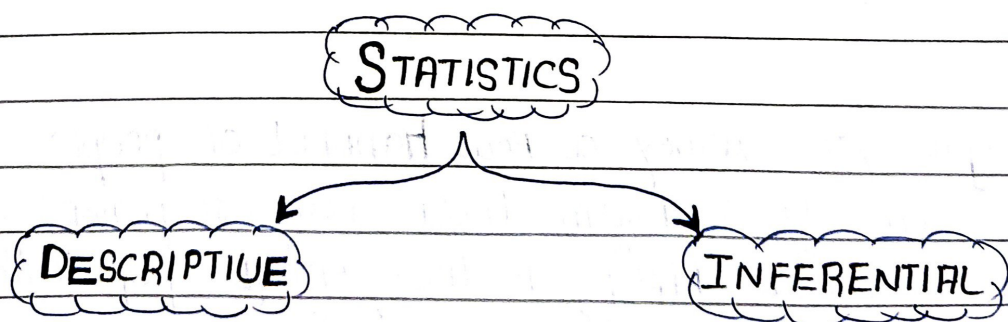
↳ 4 out of 5 dentists recommend Dentine.

↳ Almost 85% of men and 35% of women are fitness influencers. — PERCENTAGE

↳ There is a 40% chance that in a room full of 30 people that at least two people will share the same birthday. PROBABILITY

↳ The average score of the students in the math test was 75 out of 100. — AVERAGE

↳ The average monthly sales of the company increased by 10% compared to the previous year. AVERAGE



D.S. से हमें यह समझना है कि हमें
DATA पर कौन सा ANALYSIS perform करना है।

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1. DESCRIPTIVE STATISTICS :-

→ mainly involves collection, analysis and interpretation of data.

→ PRIMARY GOAL :- understanding main features of data.

✓ So descriptive statistics involves **ORGANIZING & SUMMARIZING** of data to understand its main features which includes the use of graphs, tables and descriptive measures [Tools] like • average (mean, median, mode),
• variations (spread of data) -
(Range, Variance, SD) &
• PERCENTILE

2. INFERENCE STATISTICS : Draws conclusion from sample

→ In simple terms inferential statistics is about looking at a small portion of data, like a sample, and making educated guesses or conclusions about a larger group known as POPULATION.

→ It helps us predict things or understand relationships in data, even if we don't have all the information.

Imagine you survey a few handful of people about their favourite fruit. From those few responses, you infer the favourite fruit of the entire population.

It's all about making predictions or generalizations from a small sample to a larger group / population.

→ DS & IS inter-related. जब भी हमें DATA मिलता है DS का USE करके उसकी समझते हैं/summarize करते हैं & Based on that summary IS के method को CHOOSE करते हैं, की कौन सा method apply कर जा है।

→ Methods used to draw conclusion from data include;

- CONFIDENCE INTERVALS
- ESTIMATION &
- HYPOTHESIS TESTING