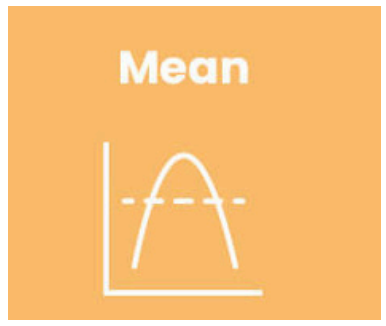
Statistics 101 for Data Analysts

POOJA T

Introduction

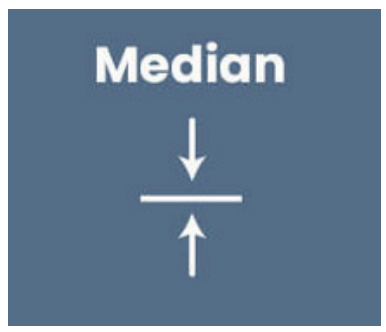
Knowing basic statistics helps you make sense of data and make smart decisions. Let’s explore the key concepts every data analyst should know!

1.Mean, Median, and Mode



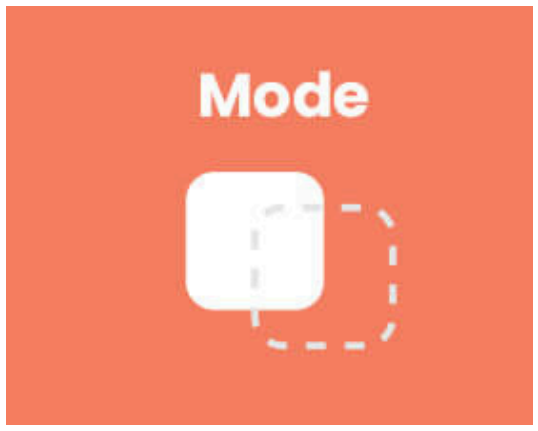
Mean (Average)

Add all the numbers and divide by how many there are.



Median

The middle number when all numbers are lined up.



Mode

The number that appears the most often in a dataset.
This tells us about the most common value in the data.

2.Standard Deviation and Variance

Variance

How far numbers are from the average.

Standard Deviation

The average distance of numbers from the mean.
These tell us how spread out the data is.

3.Probability

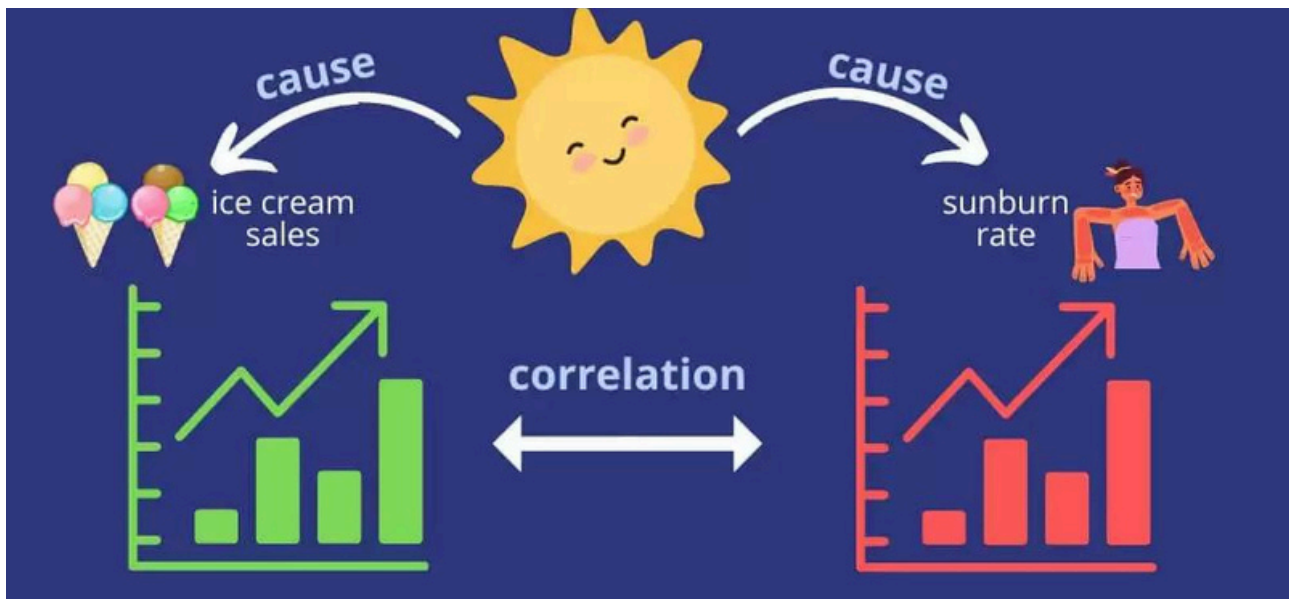
What is Probability?

A measure of how likely something is to happen.

Example

Flipping a coin has a probability of 0.5 for heads or tails.
Helps in predicting and understanding chances.

4.Correlation and Causation



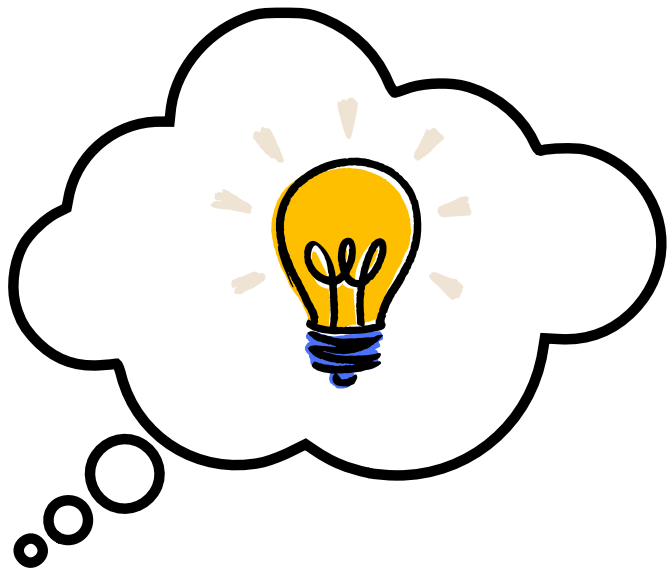
Correlation

When two things are related but one doesn’t cause the other.

Causation

- When one thing directly causes another.
- Important to know the difference for making accurate conclusions.

5.Hypothesis Testing



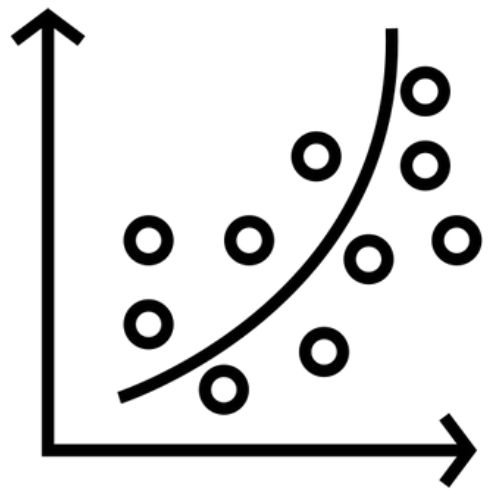
Null Hypothesis

No change or difference expected.

Alternative Hypothesis

There is a change or difference.Used to test ideas and see if they’re true.

6.Regression Analysis



What is Regression?

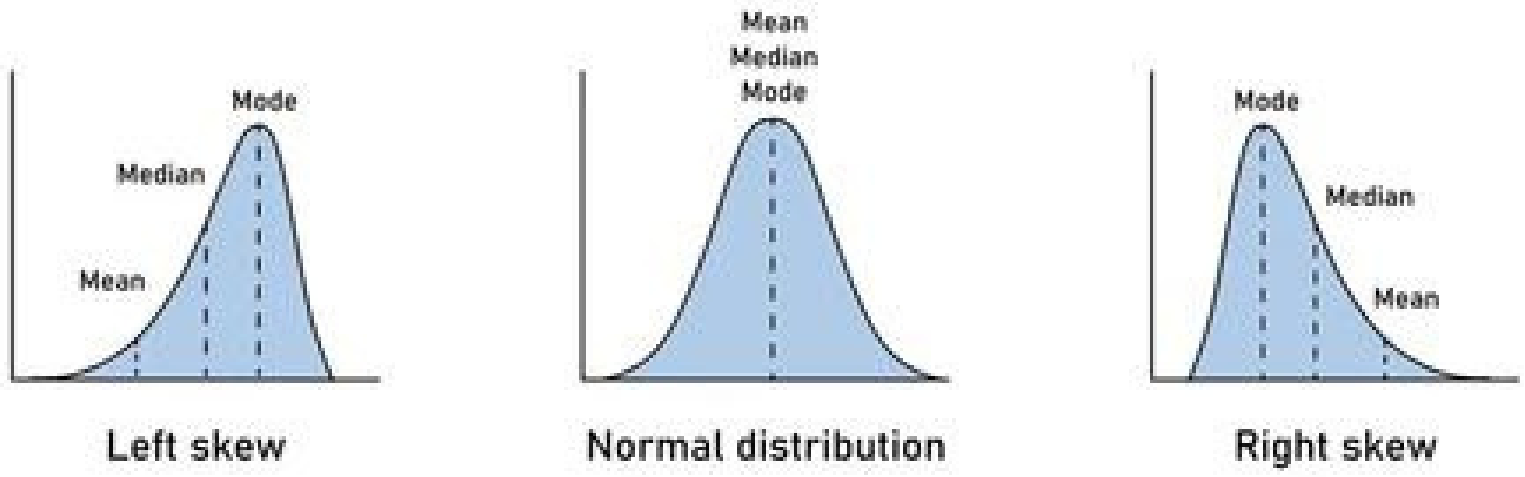
A method to find out how one thing affects another.

Example

Predicting sales based on advertising spend. Useful for making predictions based on data.

7.Data Distributions

Mean, Median and Mode



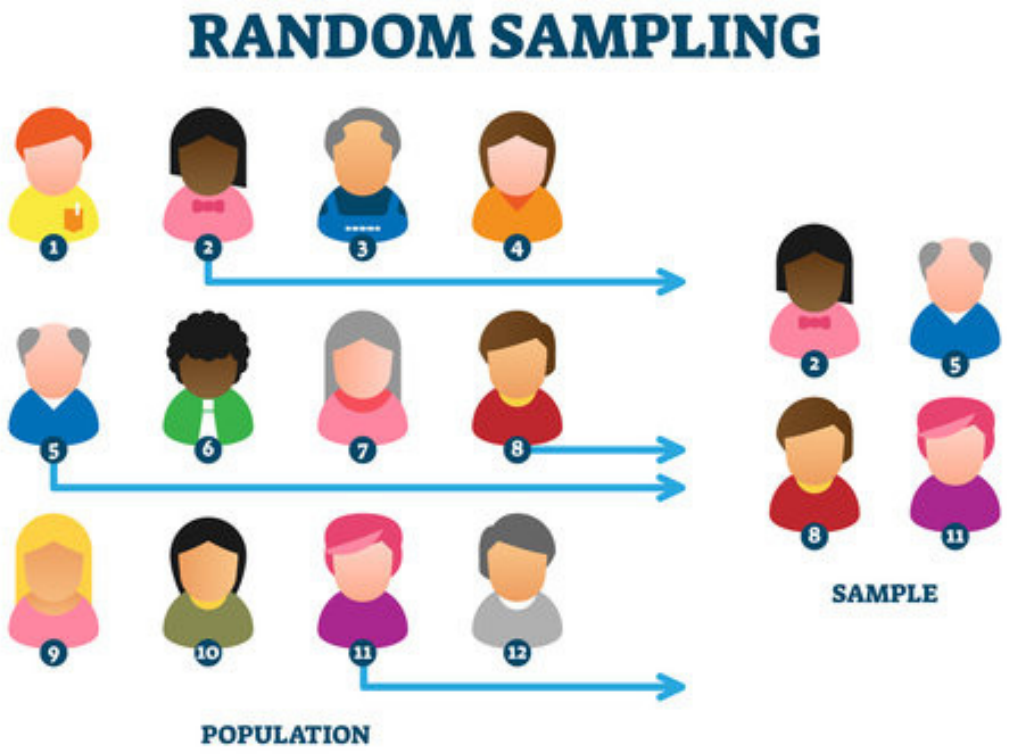
Normal Distribution

A bell-shaped curve where most data points are around the mean.

Skewed Distribution

When data leans more to one side. Helps understand the pattern of data.

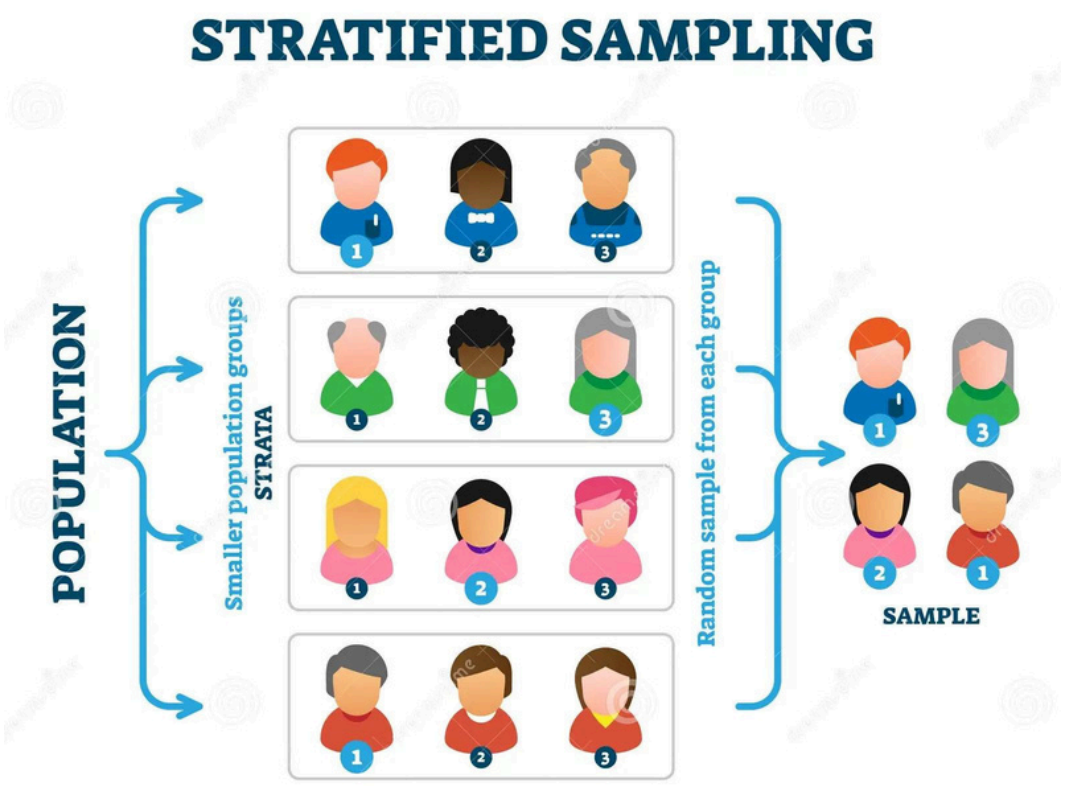
8.Sampling Methods



Random Sampling

Everyone has an equal chance of being chosen.

8.Sampling Methods



Stratified Sampling

Grouping data and sampling from each group.
Helps in studying large groups by looking at smaller samples.

I hope this information serves you well

Stay tuned for more tips and tutorials on mastering data analysis!