Data Analysis:-

Data Analysis is a process of systematically applying statistical and logically techniques to describe and evaluate data. This process is crucial from transforming raw data into meaningful data or we can say fined data

Concept Steps to that :-

Data Collection - Quality and reliability of analysis are highly depend on quality of collected data

Data Cleaning - raw data with error or inconsistency improve that quality

Data Exploration - it helps in identifying trends, correlation and outliers. In this descriptive statistics and data visualization techniques is used

Data Modeling - mathematical and statistical models are applied to the data to uncover relationships and make predictions. Techniques can range from simple linear regression to complex machine learning algorithms.

Data Interpretation - to understand the data & implication of that

Data Visualization - Effective visualization of data and analysis results is crucial for communicating insights clearly and effectively. Tools and techniques include charts, graphs, dashboards, and infographics.

Decision Making - The ultimate goal of data analysis is to inform decision-making & make evidence-based decisions, optimize processes

Types of Data Analysis

Descriptive Analysis - Describes the main features of a dataset quantitatively. It provides simple summaries and visualizations of the data.

Exploratory Analysis - Investigates data to discover patterns and relationships without having a predetermined hypothesis. This is often an iterative process and helps in forming hypotheses for further analysis.

Inferential Analysis - Makes predictions or inferences on a sample of data. It involves hypothesis testing, confidence intervals, and regression analysis.

Predictive Analysis - Uses statistical models and machine learning techniques to predict future outcomes based on historical data. Common applications include forecasting and risk assessment.

Prescriptive Analysis