Basic Statistics

### **Descriptive Analytics and Data Preprocessing on Sales & Discounts Dataset**

#### Introduction

* To perform descriptive analytics, visualize data distributions, and preprocess the dataset for further analysis.

#### Descriptive Analytics for Numerical Columns

* Objective: To compute and analyze basic statistical measures for numerical columns in the dataset.
* Steps:
  + Load the dataset into a data analysis tool or programming environment (e.g., Python with pandas library).
  + Identify numerical columns in the dataset.
  + Calculate the mean, median, mode, and standard deviation for these columns.
  + Provide a brief interpretation of these statistics.

#### Data Visualization

* **Objective**: To visualize the distribution and relationship of numerical and categorical variables in the dataset.
* **Histograms**:
  + Plot histograms for each numerical column.
  + Analyze the distribution (e.g., skewness, presence of outliers) and provide inferences.
* **Box Plots**:
  + Create boxplots for numerical variables to identify outliers and the interquartile range.
  + Discuss any findings, such as extreme values or unusual distributions.
* **Bar Chart Analysis for Categorical Column:**
  + Identify categorical columns in the dataset.
  + Create bar charts to visualize the frequency or count of each category.
  + Analyze the distribution of categories and provide insights.

#### Conclusion

* Summarize the key findings from the descriptive analytics and data visualizations.