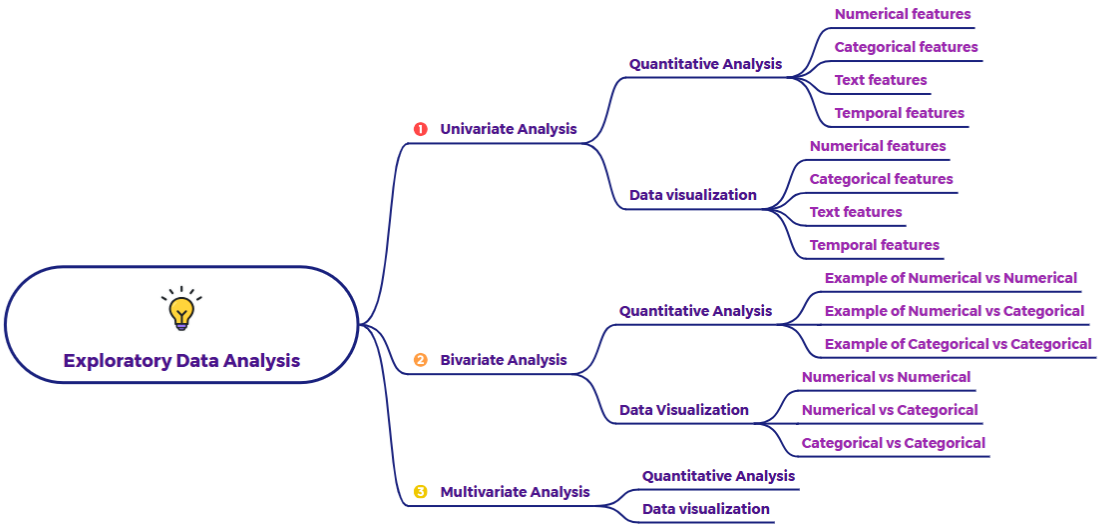
Different types of Exploratory Data Analysis



EDA is a process of understanding your data, and this graph outlines the different ways you can approach it depending on how many variables you're looking at.

1.Univariate Analysis:

- Focuses on analyzing a single variable or feature at a time.
    - Quantitative Analysis: Involves using descriptive statistics to understand the properties of a single variable.
        - *Example:* Calculating the mean, median, and standard deviation of customer ages to understand the age distribution.
    - Data Visualization: Involves using charts and graphs to visualize the distribution of a single variable.
        - *Example:* Creating a histogram of customer ages to visually represent the age distribution.

2.Bivariate Analysis:

- Explores the relationship between two variables.
    - Quantitative Analysis: Involves using statistical measures to quantify the relationship between two variables.

        - *Example:* Calculating the correlation coefficient between customer age and purchase amount to see if they are related.
    - Data Visualization: Involves using charts and graphs to visualize the relationship between two variables.
        - *Example:* Plotting a scatter plot of customer age versus purchase amount to visualize the relationship.

3.Multivariate Analysis:

- Examines relationships among three or more variables.
    - Quantitative Analysis: Involves using statistical techniques to quantify the relationships among multiple variables.
        - *Example:* Performing a multiple regression analysis to see how customer age, income, and education level influence purchase amount.
    - Data Visualization: Involves using charts and graphs to visualize the relationships among multiple variables.
        - *Example:* Creating a 3D scatter plot to visualize the relationship between customer age, income, and purchase amount.

In summary, both quantitative analysis and data visualization are essential components of EDA. Quantitative analysis provides numerical summaries of the data, while data visualization provides visual representations that can help to identify patterns and relationships.