Measures of dependence in statistics are used to quantify the relationship or association between two or more variables.
They provide insights into how changes in one variable are related to changes in another variable.
These measures are helpful in various real-world scenarios or in understanding and analyzing relationships between variables.
Few ways in which measures of dependence are valuable

1. Data Analysis and Research:
    - Explore and uncover relationships between variables.
    - By quantifying the strength and direction of the relationship.
        - Basis for further analysis and investigation.
    - For Example:
        - Study the relationship between income and education level or the association between advertising expenditure and sales.

2. Prediction and Forecasting:
    - Dependence measures can assist in predictive modelling and forecasting.
    - If two variables show a strong dependence, knowledge of one variable can help predict the other.
    - For example: In finance, understanding the dependence between stock prices and market indices can aid in forecasting market movements.

3. Decision-Making and Policy Formulation:
    - In decision-making processes and policy formulation.
    - Understanding the relationship between different factors,
        - Assess the impact of changes in one variable.
    - Informed decisions and formulating effective policies.
    - For example: Analyzing the dependence between unemployment rates and economic growth can guide policymakers in designing strategies to stimulate employment.

4. Risk Assessment and Portfolio Management:
    - Assessing and managing risks
    - By examining the dependence between different assets or variables,
        - Stock or financial instruments,
        - Investors can construct diversified portfolios that mitigate risks.
    - Helps in managing and optimizing investment strategies.

5. Quality Control and Process Improvement:
    - To identify relationships between input variables and output quality.
    - Helps in process improvement, identifying critical factors, and optimizing production processes.

The value of correlation ranges from -1 to 1.
The value -1 and the values closer to it indicate a strong negative correlation.
The value 1 and the values closer to it indicate a strong positive correlation.
The value 0 and the values closer to it indicate no linear relationship.