**1. Descriptive Statistics**

For each numerical column (or across columns), perform the following:  
1.1 Compute **mean, median, mode, and standard deviation**.  
1.2 Identify the **minimum and maximum** values.  
1.3 Calculate **range, variance, and quartiles (Q1, Q3)**.  
1.4 Detect **outliers** using the **IQR method** or **z-score**.  
1.5 Compute the **correlation matrix** and identify the **strongest correlations**.  
1.6 Compare **skewness and kurtosis** to understand the distribution of each column.

**2. Visualization (Focus on Inferences & Seasonal Analysis)**

**2.1 Histograms (Season-wise Analysis)**

* Plot histograms for each numerical column **separately for each season**:
  + **Winter:** December, January, February
  + **Spring:** March, April, May
  + **Summer:** June, July, August
  + **Autumn:** September, October, November
* **Task:** Interpret the shape of each histogram (e.g., symmetric, skewed, uniform) and explain **seasonal variations**.

**2.2 Boxplots (Season-wise Analysis)**

* Plot boxplots for each numerical column **grouped by season**.
* **Task:** Identify outliers, describe **range and quartiles**, and explain **trends or differences across seasons**.

**2.3 Correlation Heatmap**

* Plot a heatmap for all numerical columns.
* **Task:** Interpret **strong and weak correlations** and discuss possible reasons for these relationships.

**2.4 Line Plots (Temporal Analysis)**

* Create line plots for columns with **sequential or temporal data**.
* **Task:** Analyze trends, patterns, or fluctuations over time and explain their **possible significance**.

**2.5 Univariate Scatter Plots**

* Plot scatter plots of a **numerical column against its time sequence**.
* **Task:** Look for trends, spikes, or anomalies, and provide **logical explanations** for observations.

**Note to Students:**

“For each graph, your **inferences and reasoning** are more important than the graph itself. Focus on clearly explaining **patterns, trends, seasonal variations, correlations, or anomalies**.”