## **Questions on Summary Statistics:**

#### 1. Data Overview:

- What is the shape of the dataset?
- · List column names and their data types
- · How many null values exist in each column?

### 2. Location Analysis:

- Calculate summary statistics for location coordinates
- · Visualize customer locations on a scatter plot
- · Find the distribution of customers by country

### 3. Price Analysis:

- Calculate summary statistics for car prices
- · Identify and handle price outliers
- Create price segments and analyze distribution

### 4. Name Processing:

- Convert names to lowercase
- · Combine first and last names
- Analyze name lengths distribution

#### 5. Temporal Analysis:

- Calculate average tenure (time between start and end dates)
- · Analyze start date distribution by year
- Create active/inactive customer status

# **Questions on Graphical Representation**

- 1. Question: Create a grouped box plot comparing car prices across different makes, and identify which car brands have the highest price variability and median prices.
- 2. Question: Create a pie chart showing the distribution of car makes in the dataset, with an inner circle showing gender distribution to analyze any gender preferences in car makes.
- 3. Question: Create a histogram grid showing the distribution of start dates for each car make to analyze temporal patterns in car ownership.
- 4. Question: Create a scatter plot of location coordinates colored by price ranges, with point sizes representing customer tenure, to visualize geographical price distribution and customer loyalty patterns.
- 5. Question: Create a stacked bar chart showing the count of active vs inactive customers (based on end date) for each car make, split by gender, to analyze customer retention patterns across different brands and genders.