**Data Cleaning and Preprocessing**

**Objective**

The goal of this exercise is to prepare the **Car Dataset** for analysis by identifying and handling missing values and outliers to ensure data quality and consistency.  
**Instructions**

This is an open-ended exercise focused on data cleaning and outlier treatment. You are encouraged to explore various data-cleaning methods and experiment with different techniques for handling missing values and outliers based on your learning from the LMS videos.  
**Dataset** :

* **Dataset Name**: Car Dataset
* **Dataset Link :** - [Car dataset](https://drive.google.com/file/d/1_Ofk4uVus47oYK8dAqKHKgH1on5yEGxE/view?usp=sharing)

**1. Data Inspection and Summary Statistics**

* **Load the Dataset**: Import the Car Dataset and review its basic structure, including column names, data types, and a few initial records.
* **Generate Summary Statistics**: Calculate key statistics (mean, median, min, max, standard deviation, etc.) to understand the primary characteristics of each column.

**2. Missing Value Treatment**

* **Identify Missing Values**: Check for any columns with missing data and assess the extent of missingness.
* **Handle Missing Data**: Replace missing values by filling them with the mean of the respective column to maintain data consistency and prevent bias.

**3. Outlier Detection and Treatment**

* **Detect Outliers**: Use statistical methods, such as the Interquartile Range (IQR), to identify any extreme values that might be outliers.
* **Treat Outliers**: Adjust extreme values by capping or transforming them to fall within a reasonable range. This helps create a balanced dataset, enhancing the reliability of further analysis.