FINAL PROJECT

Lab Project: Demonstrate your understanding of the lab content by implementing a project using real-world data.

Tools and Libraries
For this project, you are required to use the following tools and libraries:
1. **IDE:** Jupyter Notebook or VS Code
2. **Python Libraries:**

- NumPy
- Pandas
- Matplotlib
- Scikit-learn (SKlearn)

Tasks:
1. **Preprocess the data:**

- Handle missing values
- Transform categorical data if applicable.

2. **Visualize the data:** Use visualization to help you conclude key insights about the dataset

3. **Split the data:** Divide the dataset into train-test sets using a suitable ratio you determine

4. **Train a Linear Regression model:** Use the training data to train your linear regression model.

5. **Evaluate the model:** Assess the model performance by calculating the **Mean Square Error (MSE)** and **R-Square (R^2)**

6. **Document your work (optional):**

- Include comments in your code to explain your thought process
- Write a summary (1-2 paragraphs) of your project, highlighting your insights and conclusions.

Project Ideas: Feel free to choose from these ideas or propose your own
1. **House Price Prediction:** Predict house prices using features like area, number of bedrooms, and location.
2. **Student Score Prediction:** Predict student exam scores based on the number of hours they studied or other features
3. **Car Price Depreciation:** Analyze and predict car prices based on factors like model year, mileage, and brand.
4. **Temperature Prediction:** Predict daily temperature based on historical weather data.
5. **Earnings Prediction:** Predict employee earnings using factors like years of experience.

Data Selection:

- Choose a dataset related to your idea
- Get the data from trusted public sources such as **Kaggle** or **Github**.

Good Luck!