Housing Linear Regression by Syabab

Importing the libraries

```
[46] import numpy as np
     import pandas as pd
     import matplotlib.pyplot as plt
     from sklearn.metrics import mean_squared_error
```

Importing the dataset

```
[54] dataset = pd.read_csv('housing.csv')
     #drop non numeric column
     dataset = dataset.select_dtypes(include=[np.number]).dropna()
     X = dataset.iloc[:, :-1].values
     y = dataset.iloc[:, :-1].values
```

Splitting the dataset into the Training set and Test set

```
[60] from sklearn.model_selection import train_test_split
     X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=1/3, random_state=42)
```

Training the Simple Linear Regression model on the Training set

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```
[61] from sklearn.linear_model import LinearRegression
     model = LinearRegression()
     model.fit(X_train, y_train)
```

```
LinearRegression
LinearRegression()
```

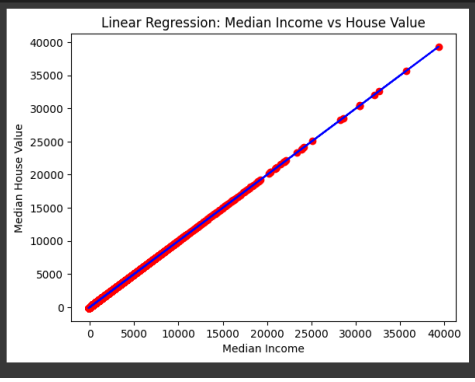
Predicting the Test set results

```
[62] y_pred = model.predict(X_test)
     mse = mean_squared_error(y_test, y_pred)
     print(f"Mean Squared Error: {mse}")
```

```
Mean Squared Error: 3.2759502438080943e-24
```

Visualising the Training set results

```
[63] plt.scatter(X_train, y_train, color = 'red')
     plt.plot(X_train, model.predict(X_train), color = 'blue')
     plt.xlabel("Median Income")
     plt.ylabel("Median House Value")
     plt.title("Linear Regression: Median Income vs House Value")
     plt.show()
```



Visualising the Test set results

```
[64] plt.scatter(X_test, y_test, color = 'red')
     plt.plot(X_train, model.predict(X_train), color = 'blue')
     plt.xlabel("Median Income")
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     plt.title("Linear Regression: Median Income vs House Value")
     plt.show()
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