PRAC 4

```
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from sklearn.metrics import mean_squared_error, r2_score

 Importing DataSet and take a look at Data
Boston = pd.read_csv("boston.csv")
Boston.head()

Boston.tail()
Boston.info()
Boston.describe()

# Split data into features (X) and target variable (y)
X = Boston.drop(columns=['MEDV'])  # 'medv' is the target variable (median value of homes)
y = Boston['MEDV']

# Split the data into training and test sets (80% train, 20% test)
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)

# Create the linear regression model
model = LinearRegression()

# Fit the model on the training data
model.fit(X_train, y_train)

# Predict on the test data
y_pred = model.predict(X_test)

# Calculate the performance metrics
mse = mean_squared_error(y_test, y_pred)
r2 = r2_score(y_test, y_pred)


# Output the performance metrics
print(f"Mean Squared Error: {mse}")
print(f"R-squared: {r2}")
```