Python
ASSIGNMENT

- Write a Python script that prints the numbers from 1 to 100, but for multiples of three print "Fizz" instead of the number and for the multiples of five print "Buzz". For numbers which are multiples of both three and five, print "FizzBuzz".

- Write a Python script that calculates the factorial of a given number using a loop. Prompt the user to enter a number and display its factorial.

- Write a Python script that takes a string input from the user and prints whether the string is a palindrome. Use conditional statements and loops in your solution.

- Define a function in Python that takes a list of numbers and returns the sum of all even numbers in the list. Use a lambda function to filter out the even numbers before summing them.

- Import the Titanic dataset (using pandas) into a Pandas DataFrame. Perform basic operations such as displaying the first few rows, checking for null values, and summarizing the DataFrame's statistics.

- Create a NumPy array with random numbers and perform the following operations: calculate the mean, standard deviation, and reshape the array into a different dimension. (No specific dataset required, use numpy)

- Load the Iris dataset (using pandas) into a Pandas DataFrame and perform data cleaning operations such as removing duplicates, handling missing values, and converting data types. Provide code and explanations for each step.

- Using the Iris dataset (using pandas), create the following visualizations using Matplotlib and Seaborn: a histogram, a bar plot, and a scatter plot. Ensure to label the axes and provide titles for each plot.

- Perform exploratory data analysis on the Wine dataset (using pandas). Generate descriptive statistics, frequency tables, and visualizations to summarize the data. Discuss any interesting patterns or insights you find.

Implement a linear regression model using Scikit-Learn on the Boston Housing dataset (using sklearn). Use the dataset to predict the median value of owner-occupied homes (MEDV). Split the data into training and testing sets, train the model, and evaluate its performance using RMSE and MSE metrics. Provide a brief interpretation of the results.