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**Roll No: 23**

**Batch: B**

**Date: 31-10-2022**

**DATA SCIENCE LAB**

**Experiment No.: 10**

**Aim**

Multiple Linear Regression.

**Procedure**

import numpy as np

from sklearn.linear\_model import LinearRegression

x = [[0, 1], [5, 1], [15, 2], [25, 5], [35, 11], [45, 15], [55, 34], [60, 35]]

y = [4, 5, 20, 14, 32, 22, 38, 43]

x, y = np.array(x), np.array(y)

model = LinearRegression().fit(x, y)

r\_sq = model.score(x, y)

print(f"coefficient of determination: {r\_sq}")

print(f"intercept: {model.intercept\_}")

print(f"coefficients: {model.coef\_}")

y\_pred = model.predict(x)

print(f"predicted response:\n{y\_pred}")

x\_new = np.arange(10).reshape((-1, 2))

print(x\_new)

y\_new = model.predict(x\_new)

y\_new

**Output Screenshot**

