Assignment – 1

```
import numpy as np
import csv
from sklearn import linear_model as lm
import matplotlib.pyplot as plt

file = "hours.csv"
csvfile = open(file, 'r')
read = csv.reader(csvfile)
read = list(read)
read = read[1:]
print(read[0][1])

x1 = []
y1 = []

for row in read:
    for column in [0,1]:
        row[column] = int(row[column])
    x1.append([row[0]])
    y1.append(row[1])

print('X1 = ',x1,'\nY1 = ',y1)

linear = lm.LinearRegression()
linear.fit(x1,y1)

regression_line = [(linear.coef_*i)+linear.intercept_ for i in x1]

inputVal = input('Enter your value: ')
```

```
inputVal = np.array(inputVal, dtype = np.float64).reshape(1,-1)
print('Input Prediction: ',linear.predict(inputVal))

plt.scatter(x1, y1)
plt.plot(x1, regression_line)
plt.scatter(inputVal,int(linear.predict(inputVal)))
plt.show()
```

Output :

X1 = [[10], [9], [2], [15], [10], [16], [11], [16]]

Y1 = [95, 80, 10, 50, 45, 98, 38, 93]

Enter your value: 12

Input Prediction: [67.63941128]

Graph: