### Ex.no:11

# Linear regression

Aim:

To implement linear regression supervised machine learning algorithm.

# Description:

- 1. Import stats for Linear regression throughscipy
- 2. Providea necessary dataset through Excel file
- 3. Finally we can obtain the linear regression output through matplotlib as a graph

```
Program:
```

```
import matplotlib.pyplot as plt from scipy
import stats
import pandas

df=pandas.read_excel("Linear data (1).xlsx")

print ("\n Original Dataframe\n", df)
slope,intercept,r,p,std_err=stats.linregress(df["x"],df["y"]) def myfunc(x):
    return slope*x+intercept
mymodel=list(map(myfunc,df["x"]))
plt.scatter(df["x"],df["y"])
plt.plot(df["x"],mymodel)
plt.show()
Output :
```

### Original Dataframe

- X y
- 5 81
- 6 82
- 7 83

8 84

9 85

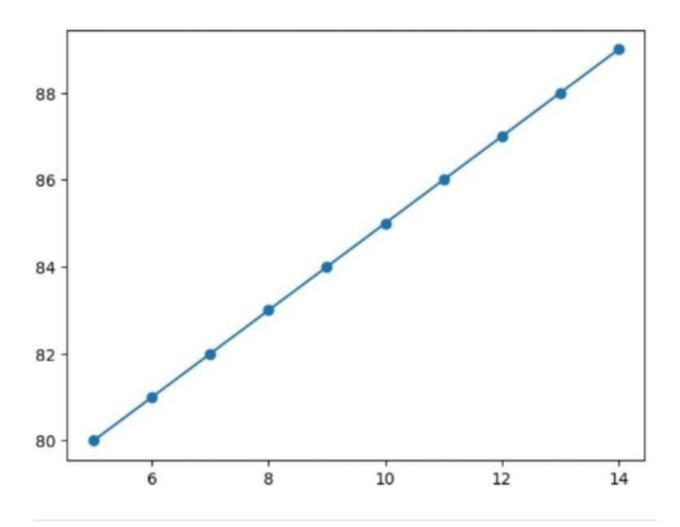
10 86

11 87

12 88

13 89

14 90



# **Result:**

The programs were run successfully