Python Assignment – 6

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```
import numpy as nm
import matplotlib.pyplot as mtp
import pandas as pd
data_set=pd.read_csv('/content/salary_data.csv')
data_set
```

	YearsExperience	Salary
0	1.1	39343.0
1	1.3	46205.0
2	1.5	37731.0
3	2.0	43525.0
4	2.2	39891.0
5	2.9	56642.0
6	3.0	60150.0
7	3.2	54445.0
8	3.2	64445.0
9	3.7	57189.0
10	3.9	63218.0
11	4.0	55794.0
12	4.0	56957.0
13	4.1	57081.0
14	4.5	61111.0
15	4.9	67938.0
16	5.1	66029.0
17	5.3	83088.0
18	5.9	81363.0
19	6.0	93940.0
20	6.8	91738.0
21	7 1	98273 0

22	7.9	101302.0
23	8.2	113812.0
24	8.7	109431.0
25	9.0	105582.0
26	9.5	116969.0
27	9.6	112635.0
28	10.3	122391.0
29	10.5	121872.0

```
x=data_set.iloc[:,:-1].values
y=data_set.iloc[:,1].values

#Step 1: splitting the dataset into training and test set
from sklearn.model_selection import train_test_split
x_train, x_test, y_train, y_test=train_test_split(x,y,test_size=1/3,random_state=0)
print(x_train)
```

```
     [[ 2.9]
      [ 5.1]
      [ 3.2]
      [ 4.5]
      [ 8.2]
      [ 6.8]
      [ 1.3]
      [10.5]
     [ 3. ]
     [ 2.2]
     [ 5.9]
     [ 6. ]
     [ 3.7]
     [ 3.2]
     [ 9. ]
     [ 2. ]
     [ 1.1]
     [ 7.1]
     [ 4.9]
     [ 4. ]]
```

```
# Step 2: fitting the simple linear regression model to the training dataset
from sklearn.linear_model import LinearRegression
regressor=LinearRegression()
regressor.fit(x_train, y_train)
```

▾ LinearRegression

LinearRegression()

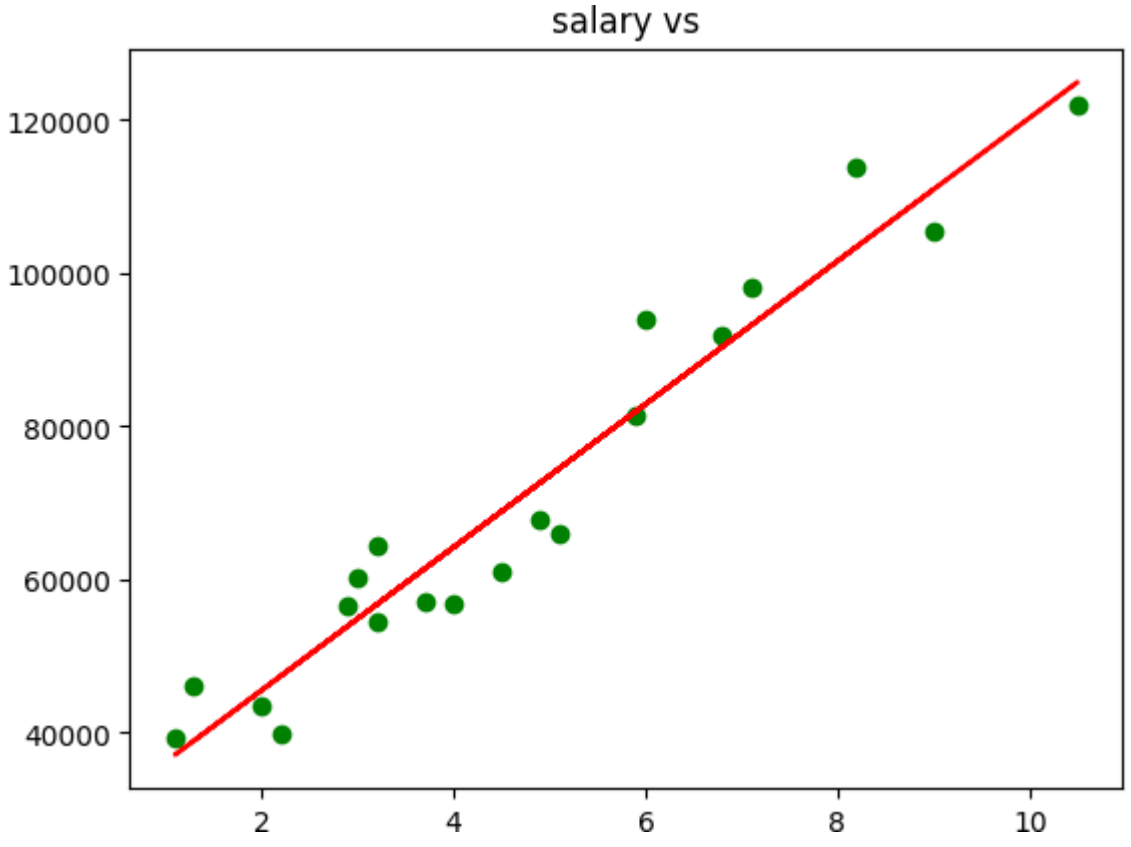
```
# Step 3: Prediction of various tests and training set results

y_pred= regressor.predict(x_test)
x_pred= regressor.predict(x_train)
print(y_pred)
```

```
[ 40835.10590871 123079.39940819  65134.55626083  63265.36777221
 115602.64545369 108125.8914992  116537.23969801  64199.96201652
  76349.68719258 100649.1375447 ]
```

```
mtp.scatter(x_train, y_train, color="green")
mtp.plot(x_train, x_pred, color="red")
mtp.title("salary vs")
```

```
Text(0.5, 1.0, 'salary vs')
```



```
# Visualising the test set result

mtp.scatter(x_train, y_train, color="yellow")
mtp.plot(x_train, x_pred, color="red")
mtp.title("Salary vs Experienced Training Datasets")
mtp.xlabel("Years of Experience")
mtp.ylabel("Salary (Ruppees)")
mtp.show()
```