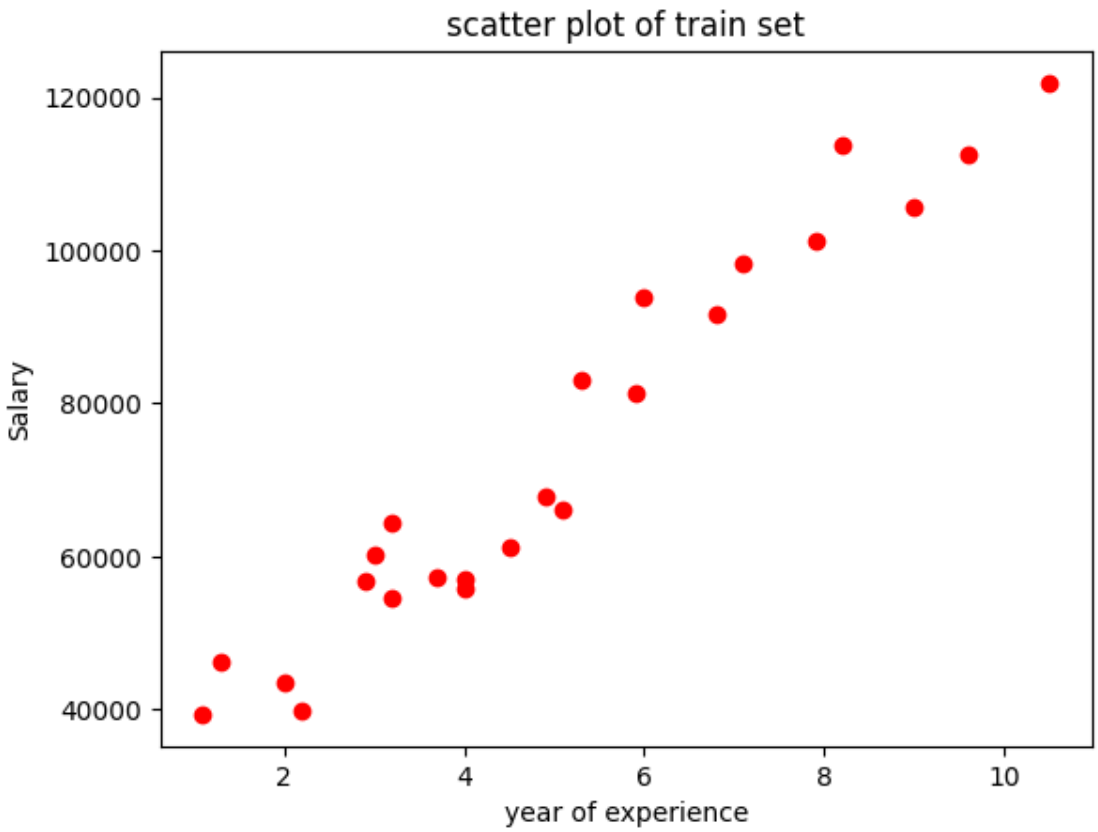
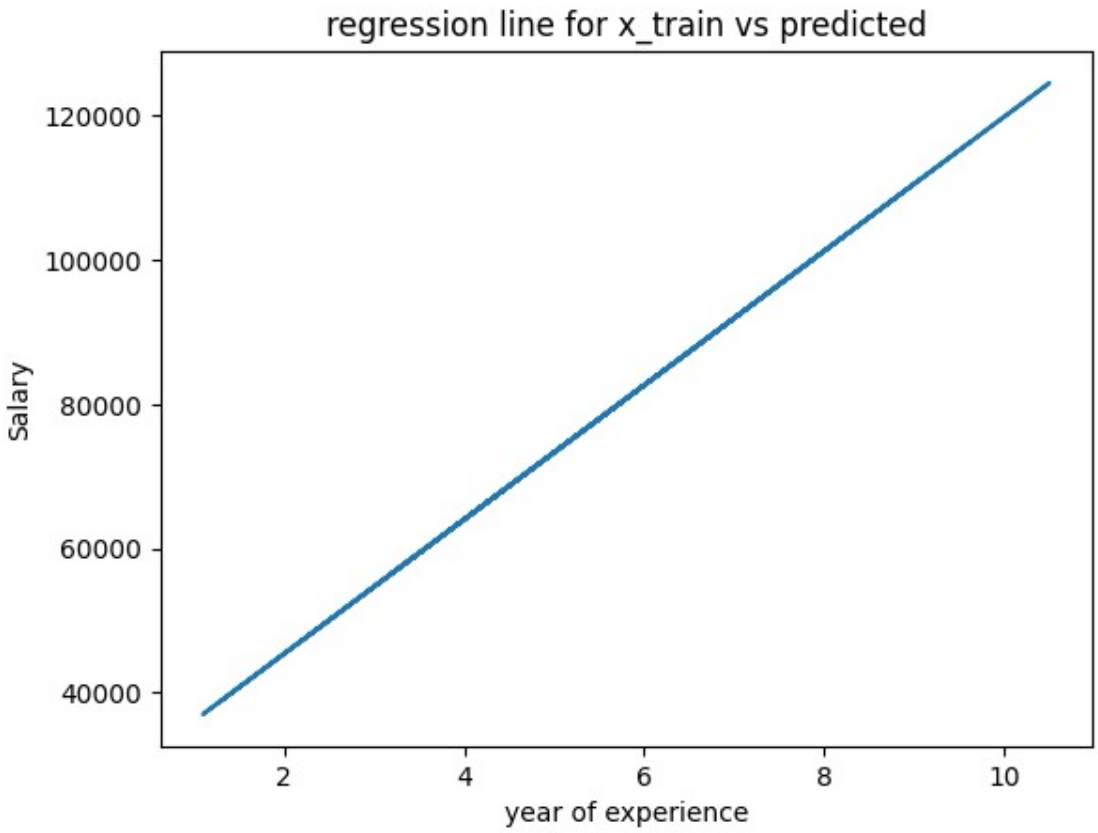
```
# we are going to predict the linear regression model between the
'year of experience' and the  'salary '  data set


# Importing the libraries
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt

# Importing the dataset
data=pd.read_csv('Salary_Data.csv')

# extracting the independent variables
x=data.iloc[:,:-1].values

# extracting the dependent variables
y=data.iloc[:,-1].values

# Splitting the dataset into the Training set 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=0.2,rando
m_state=0)

# Training the Simple Linear Regression model on the Training set
from sklearn.linear_model import LinearRegression

regressor=LinearRegression()

# creating the linear regression model
regressor.fit(x_train,y_train)

LinearRegression()

# pedict the  value of test dat of independent variables
y_predict=regressor.predict(x_test)

print(y_predict)

[ 40748.96184072 122699.62295594  64961.65717022  63099.14214487
 115249.56285456 107799.50275317]


# Visualising the Training set results
plt.scatter(x_train,y_train,color='red')
plt.title('scatter plot of train set')
plt.xlabel('year of experience')
plt.ylabel('Salary')

Text(0, 0.5, 'Salary')
```




```
# Visualising the Training set results
plt.plot(x_train,regressor.predict(x_train))
plt.title('regression line for x_train vs predicted')
plt.xlabel('year of experience')
plt.ylabel('Salary')
```

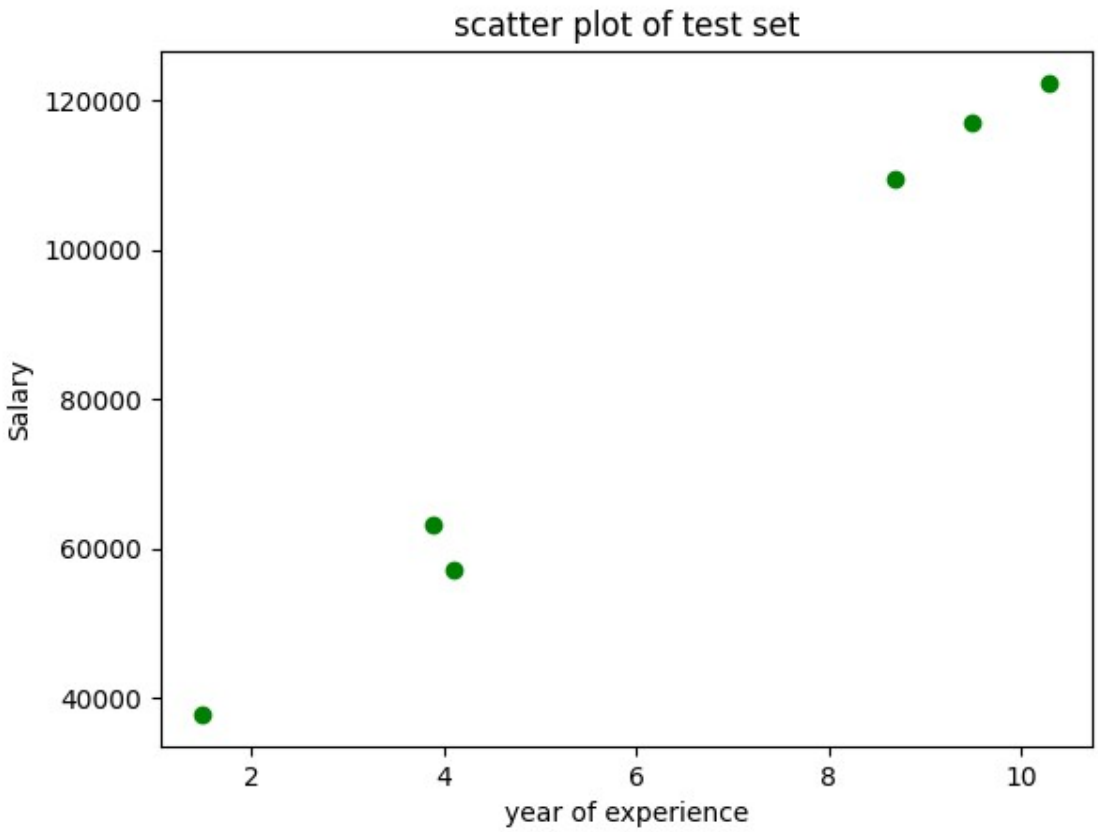
```
Text(0, 0.5, 'Salary')
```




```
plt.scatter(x_train,y_train,color='red')
plt.plot(x_train,regressor.predict(x_train))
plt.title('salary vs year of experiance')
plt.xlabel('year of experience')
plt.ylabel('Salary')
plt.show()
```

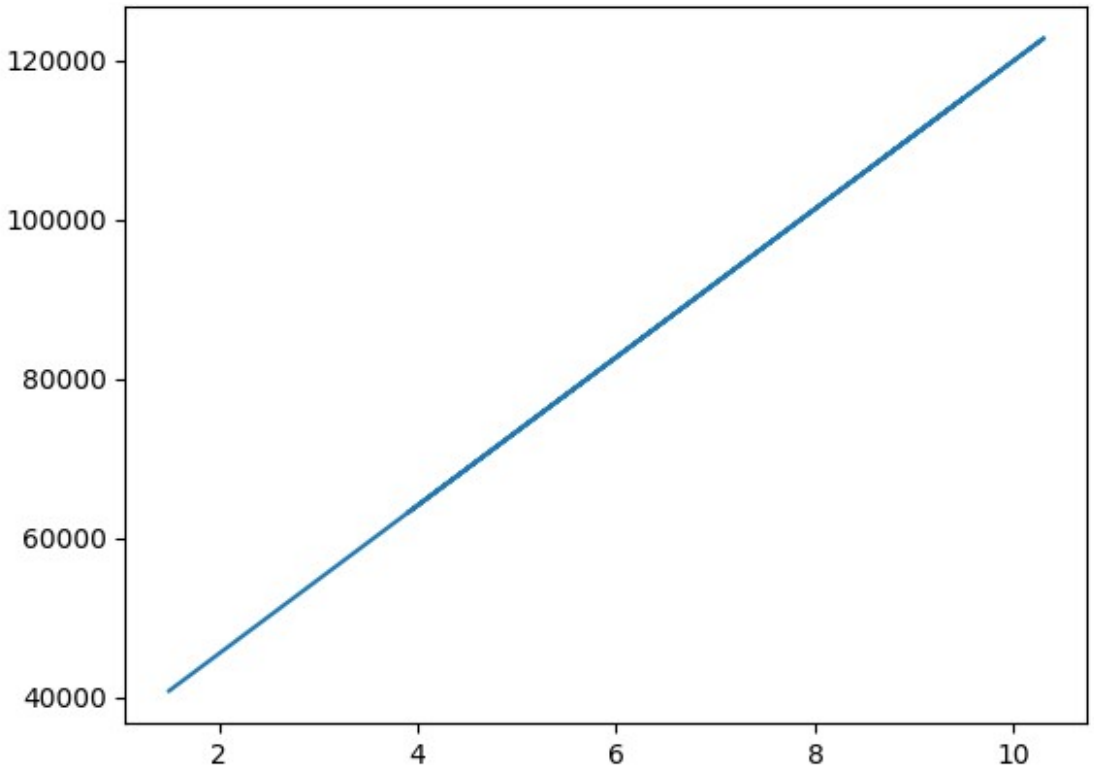

```
# Visualising the Test set results
plt.scatter(x_test,y_test,color='green')
plt.title('scatter plot of test set')
plt.xlabel('year of experience')
plt.ylabel('Salary')
```

```
Text(0, 0.5, 'Salary')
```

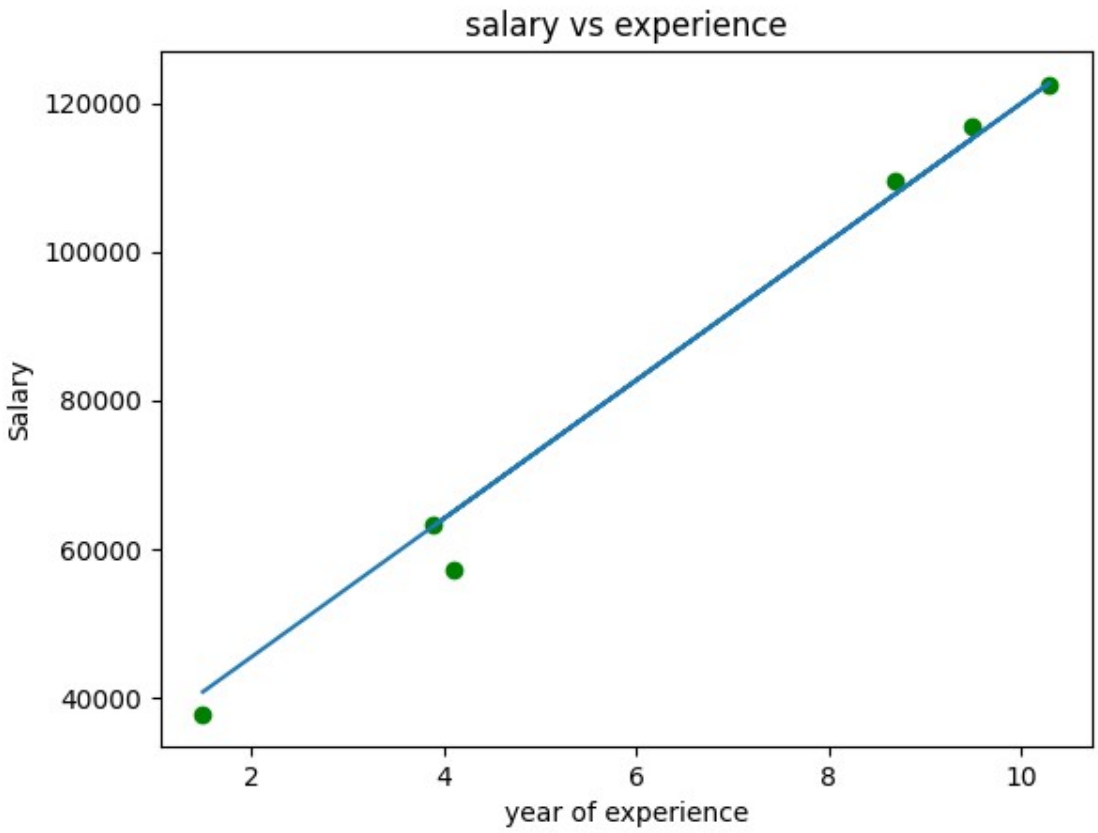



```
plt.plot(x_test,y_predict)
```

```
[<matplotlib.lines.Line2D at 0x7dda63e90d30>]
```




```
# Visualising the Test set results
plt.scatter(x_test,y_test,color='green')
plt.plot(x_test,y_predict)
plt.title('salary vs experience')
plt.xlabel('year of experience')
plt.ylabel('Salary')
plt.show()
```



we therefore predicted the salary of the year of experience **with** the x_train **and** x_test data set