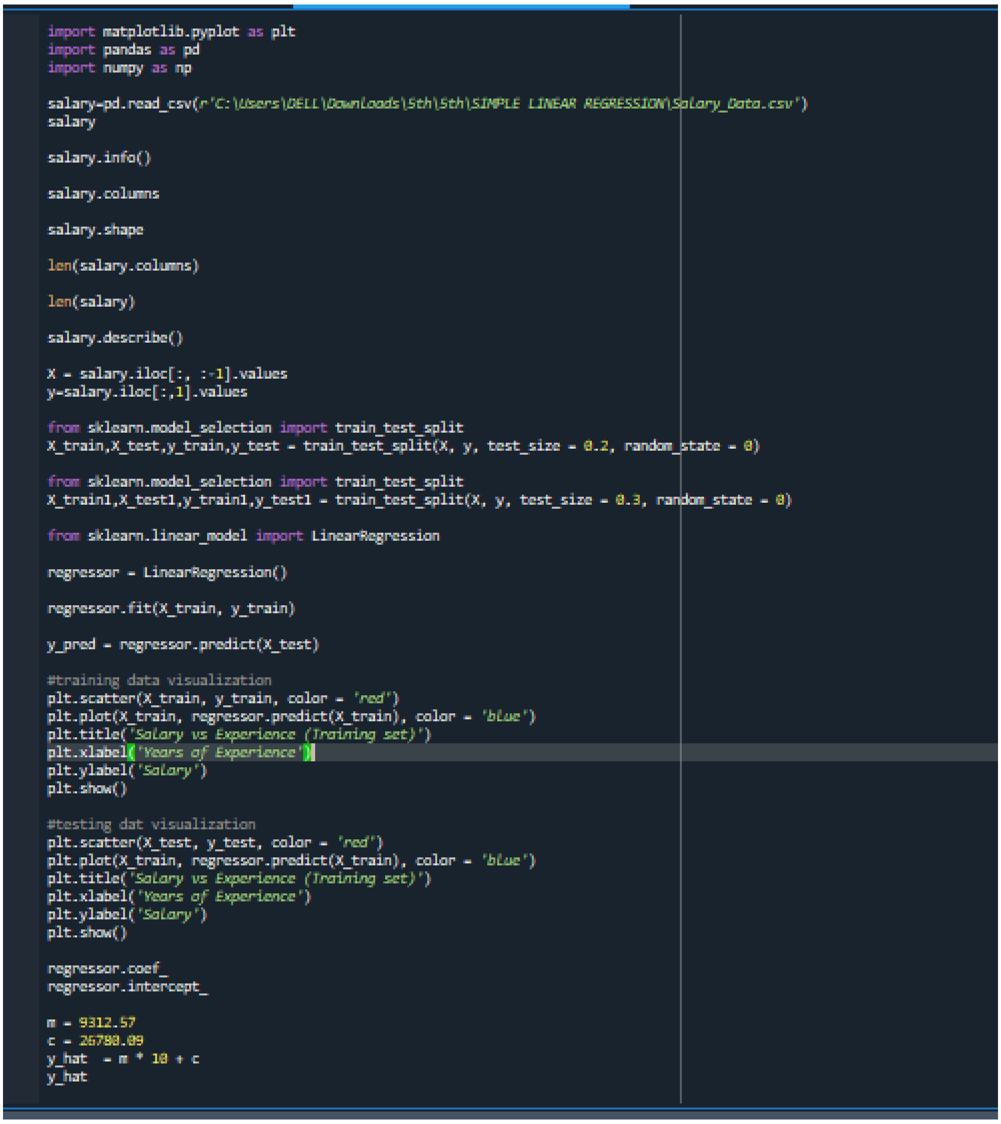
Simple Linear Algorithm

test_size = 0.2, random_state = 0:



```
import matplotlib.pyplot as plt
import pandas as pd
import numpy as np

salary=pd.read_csv(r'C:\Users\DELL\Downloads\5th\5th\SIMPLE LINEAR REGRESSION\Salary_Data.csv')
salary

salary.info()

salary.columns

salary.shape

len(salary.columns)

len(salary)

salary.describe()

X = salary.iloc[:, :-1].values
y=salary.iloc[:,1].values

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, random_state = 0)

from sklearn.model_selection import train_test_split
X_train1,X_test1,y_train1,y_test1 = train_test_split(X, y, test_size = 0.3, random_state = 0)

from sklearn.linear_model import LinearRegression

regressor = LinearRegression()

regressor.fit(X_train, y_train)

y_pred = regressor.predict(X_test)

#training data visualization
plt.scatter(X_train, y_train, color = 'red')
plt.plot(X_train, regressor.predict(X_train), color = 'blue')
plt.title('Salary vs Experience (Training set)')
plt.xlabel('Years of Experience')
plt.ylabel('Salary')
plt.show()

#testing dat visualization
plt.scatter(X_test, y_test, color = 'red')
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regressor.coef_
regressor.intercept_

m = 9312.57
c = 26780.09
y_hat  = m * 10 + c
y_hat
```

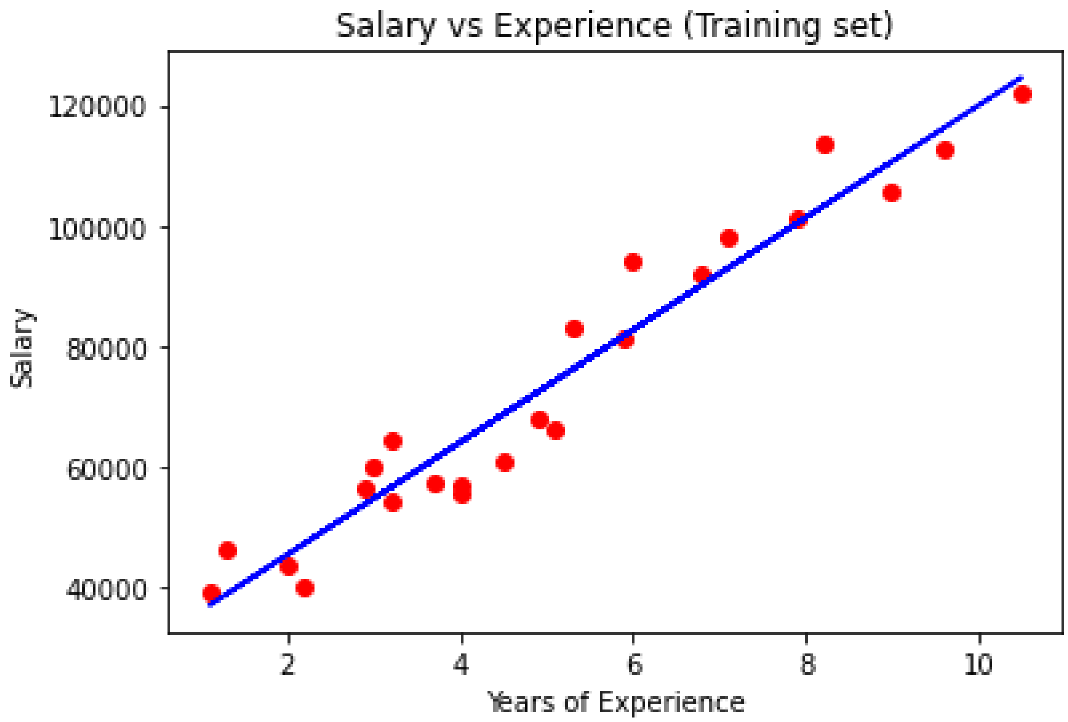

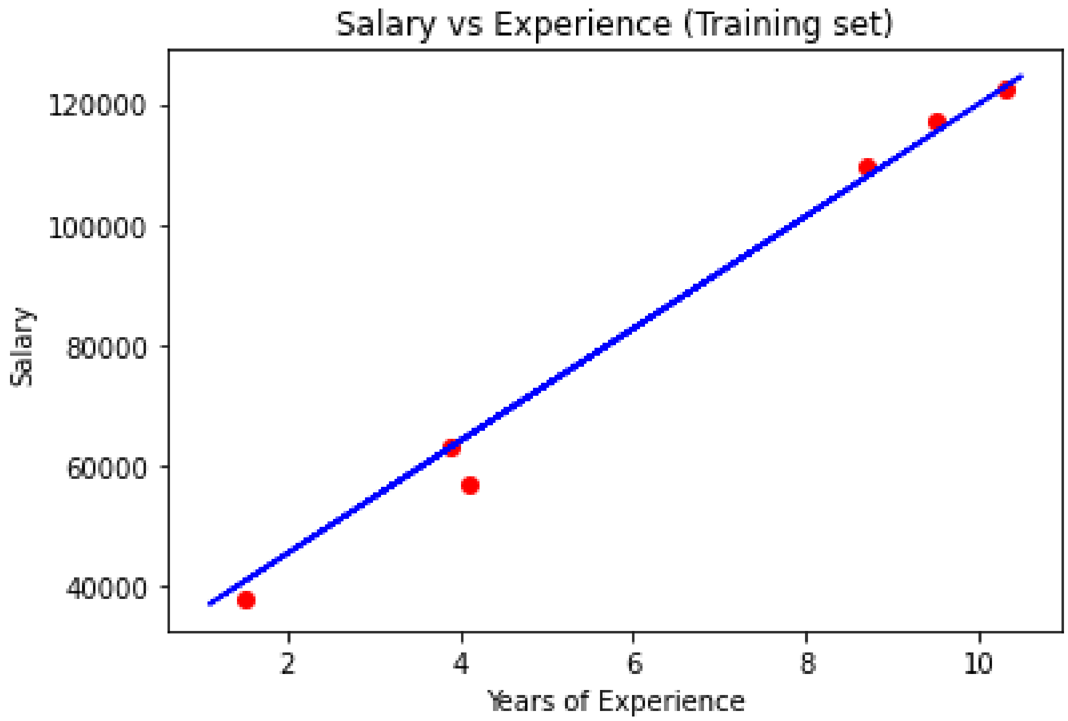

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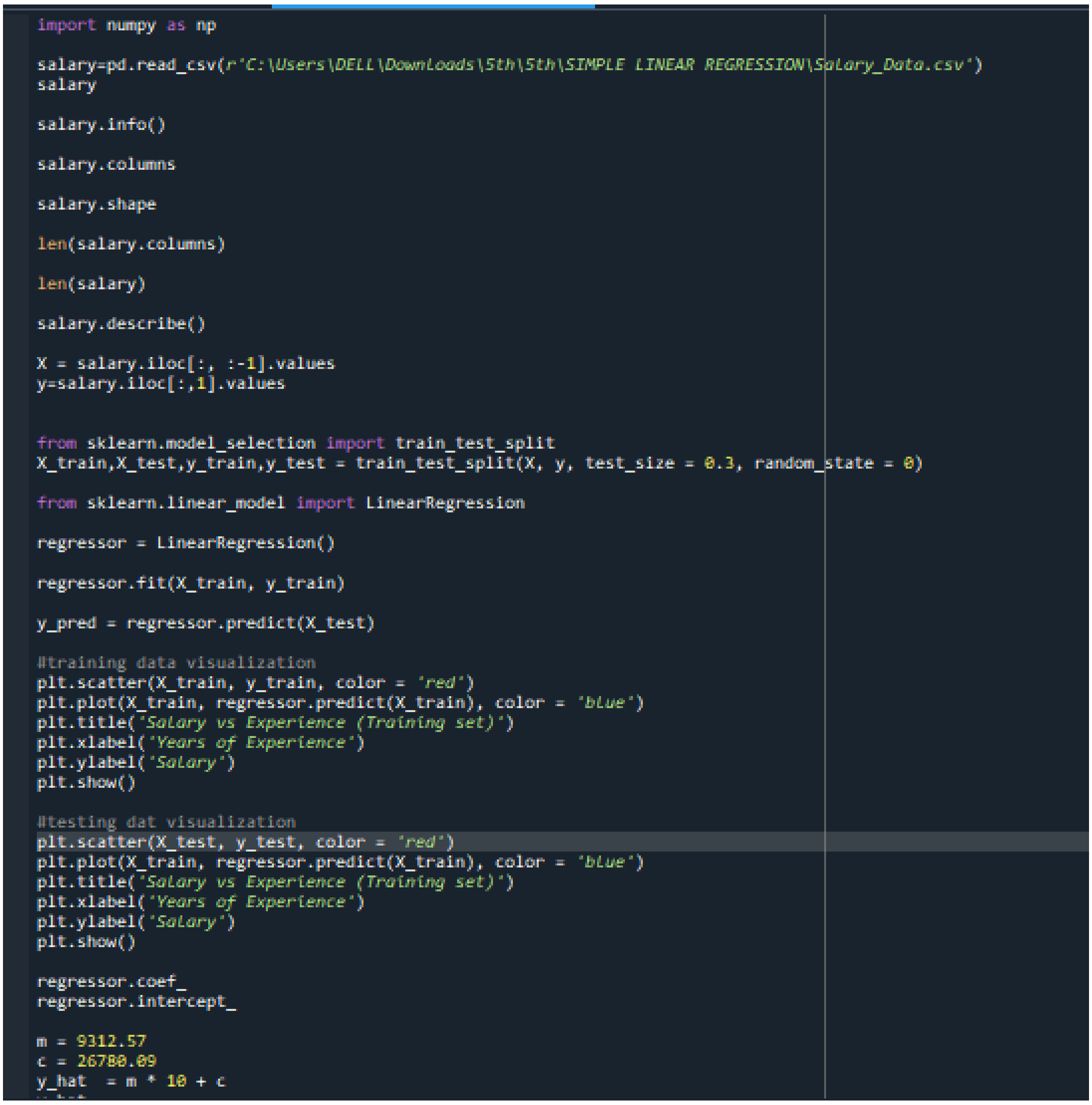

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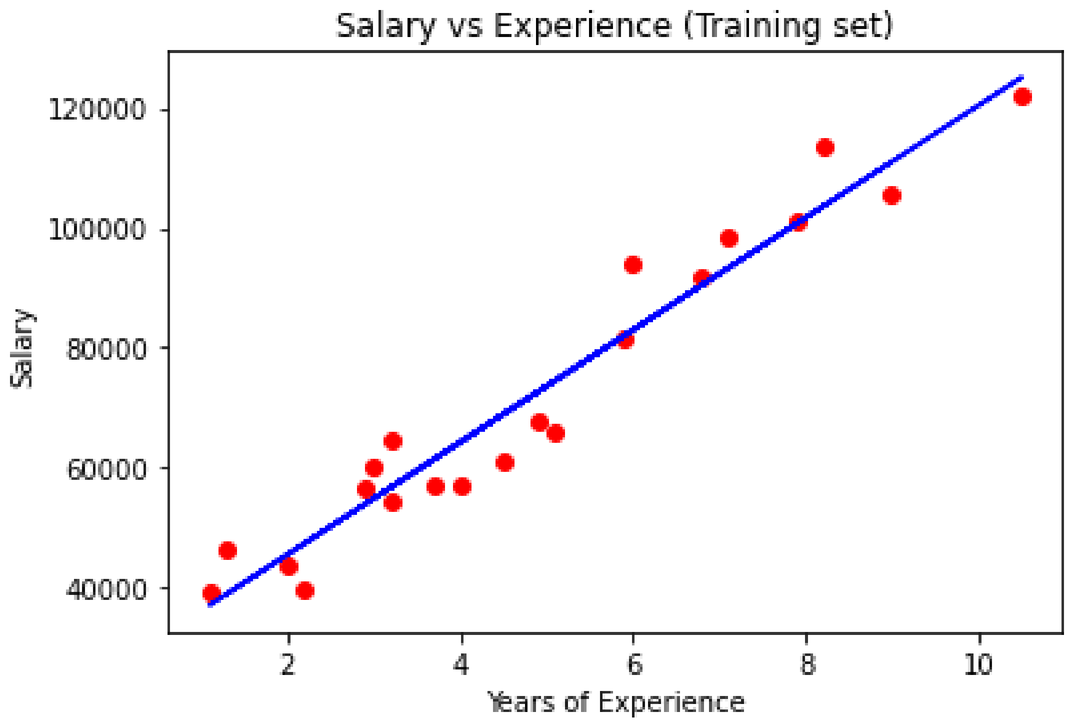
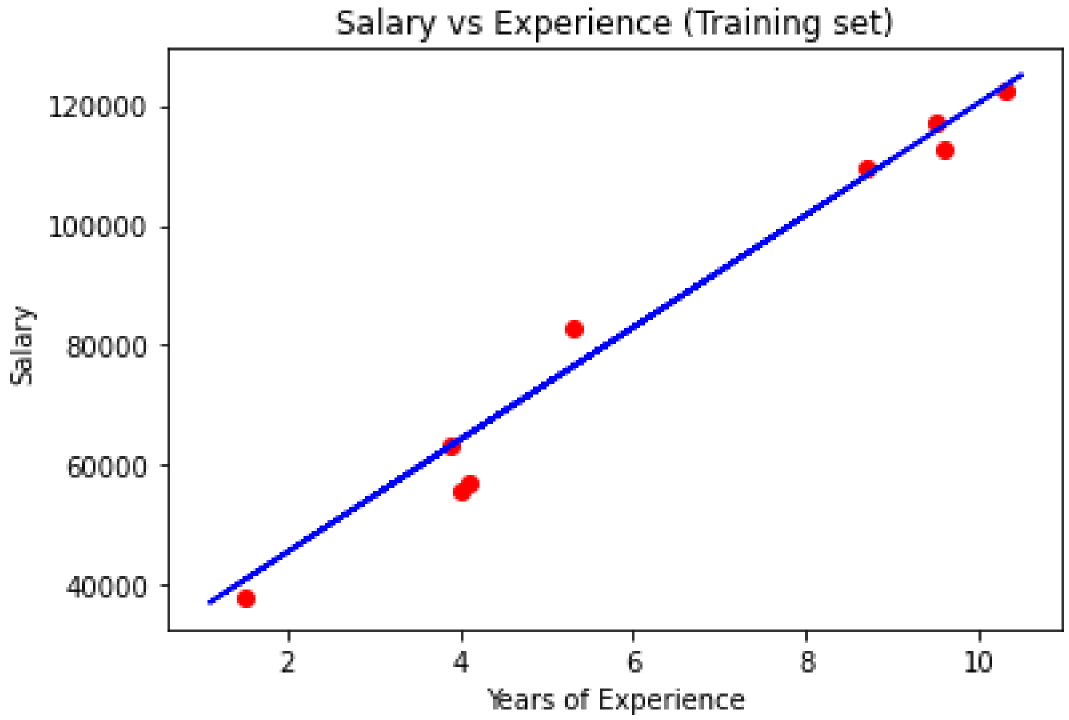

Salary vs Experience (Training set)
120000
100000
80000
60000
40000
Salary
2
4
6
8
10
Years of Experience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