

```
In [1]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

```
In [2]: data=pd.read_csv("Salary_Data_LR.csv")
```

```
In [3]: data.head()
```

```
Out[3]:
```

	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

```
In [4]: x=data.iloc[:, :-1].values
y=data.iloc[:, 1].values
```

```
In [5]: print(x)
print(y)
```

```
[[ 1.1]
 [ 1.3]
 [ 1.5]
 [ 2. ]
 [ 2.2]
 [ 2.9]
 [ 3. ]
 [ 3.2]
 [ 3.2]
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 [ 5.1]
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 [ 6. ]
 [ 6.8]
 [ 7.1]
 [ 7.9]
 [ 8.2]
 [ 8.7]
 [ 9. ]
 [ 9.5]
 [ 9.6]
 [10.3]
 [10.5]]
[ 39343.  46205.  37731.  43525.  39891.  56642.  60150.  54445.  64445.
  57189.  63218.  55794.  56957.  57081.  61111.  67938.  66029.  83088.
  81363.  93940.  91738.  98273. 101302. 113812. 109431. 105582. 116969.
 112635. 122391. 121872.]
```

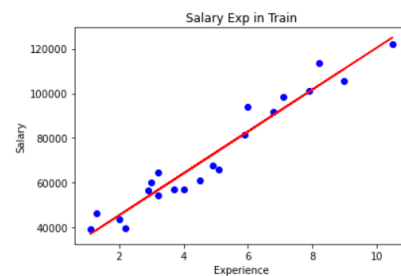
```
In [6]: from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
```

```
In [7]: x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.3,random_state=0)
```

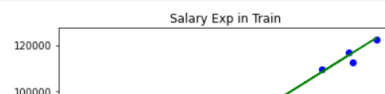
```
In [8]: lreg=LinearRegression()
lreg.fit(x_train,y_train)
```

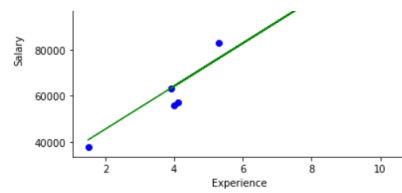
```
Out[8]: LinearRegression()
```

```
In [9]: plt.scatter(x_train,y_train,color='blue')
plt.plot(x_train,lreg.predict(x_train),color="red")
plt.title("Salary Exp in Train")
plt.xlabel("Experience")
plt.ylabel("Salary")
plt.show()
```



```
In [10]: plt.scatter(x_test,y_test,color="blue")
plt.plot(x_test,lreg.predict(x_test),color="green")
plt.title("Salary Exp in Train")
plt.xlabel("Experience")
plt.ylabel("Salary")
plt.show()
```





```
In [11]: from sklearn import metrics
```

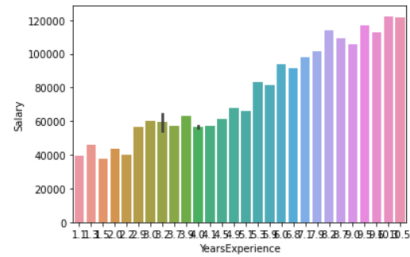
```
In [12]: ypre=linreg.predict(x_test)
```

```
In [13]: print("RMSE:",np.sqrt(metrics.mean_absolute_error(y_test,ypre)))
```

RMSE: 61.134424523985636

```
In [14]: sns.barplot(x='YearsExperience',y='Salary',data=data,)
```

```
Out[14]: <AxesSubplot:xlabel='YearsExperience', ylabel='Salary'>
```



```
In [ ]:
```