In [1]:
```python
#importing matplotlib
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
```

In [2]:
```python
#loading datset
dataset=pd.read_csv('Salary_Data.csv')
dataset
```

Out[2]:

	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

In [3]:
```
x=dataset.iloc[:,:1]
x
```

Out[3]:

	YearsExperience
0	1.1
1	1.3
2	1.5
3	2.0
4	2.2
5	2.9
6	3.0
7	3.2
8	3.2
9	3.7
10	3.9
11	4.0
12	4.0
13	4.1
14	4.5
15	4.9
16	5.1
17	5.3
18	5.9
19	6.0
20	6.8
21	7.1
22	7.9
23	8.2
24	8.7
25	9.0
26	9.5
27	9.6
28	10.3
29	10.5

In [4]: `dataset.isna().sum()`

Out[4]:
```
YearsExperience    0
Salary             0
dtype: int64
```

In [5]:
```
y=dataset.iloc[:,-1:]
y
```

Out[5]:

	Salary
0	39343.0
1	46205.0
2	37731.0
3	43525.0
4	39891.0
5	56642.0
6	60150.0
7	54445.0
8	64445.0
9	57189.0
10	63218.0
11	55794.0
12	56957.0
13	57081.0
14	61111.0
15	67938.0
16	66029.0
17	83088.0
18	81363.0
19	93940.0
20	91738.0
21	98273.0
22	101302.0
23	113812.0
24	109431.0
25	105582.0
26	116969.0
27	112635.0
28	122391.0
29	121872.0

In [6]:
```python
#Training and Testing
from sklearn.model_selection import train_test_split
x_train,x_test,y_train,y_test=train_test_split(x,y,random_state=0)
x_train
```

Out[6]:

	YearsExperience
17	5.3
22	7.9
5	2.9
16	5.1
8	3.2
14	4.5
23	8.2
20	6.8
1	1.3
29	10.5
6	3.0
4	2.2
18	5.9
19	6.0
9	3.7
7	3.2
25	9.0
3	2.0
0	1.1
21	7.1
15	4.9
12	4.0

In [7]:
```python
#Linear Regression
from sklearn.linear_model import LinearRegression
regressor=LinearRegression()
regressor.fit(x_train,y_train)
```

Out[7]: LinearRegression()
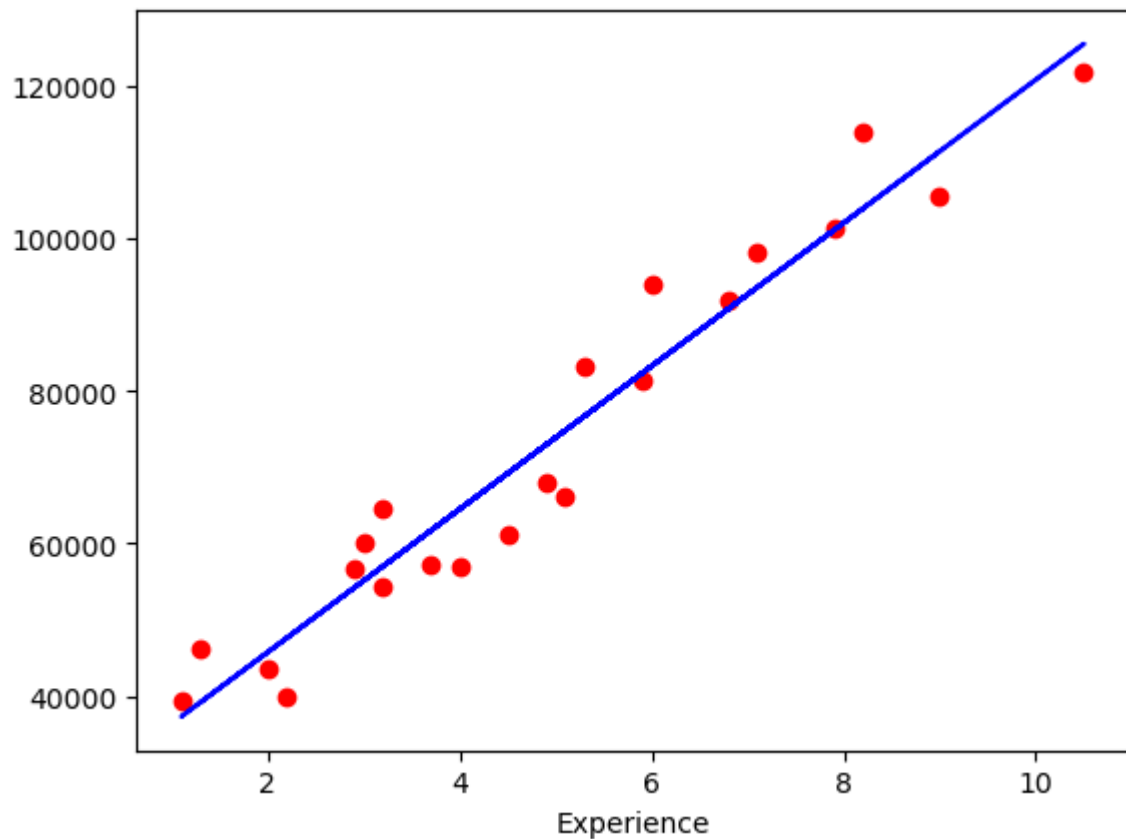
In [8]: ```python
#predicting
y_pred=regressor.predict(x_test)
y_pred
```

Out[8]: ```
array([[ 41056.25705466],
       [123597.70938378],
       [ 65443.50433372],
       [ 63567.56223533],
       [116093.94099022],
       [108590.17259667],
       [117031.91203942],
       [ 64505.53328452]])
```

In [9]: ```python
#plotting
plt.scatter(x_train,y_train,color='red')
plt.plot(x_train,regressor.predict(x_train),color='blue')
plt.xlabel('Experience')
plt.show
```

Out[9]: ```
<function matplotlib.pyplot.show(close=None, block=None)>
```

In [12]:
```python
plt.scatter(x_test,y_test,color='red')
plt.plot(x_test,regressor.predict(x_test),color='blue')
plt.xlabel('Experience')
plt.show
```

Out[12]: <function matplotlib.pyplot.show(close=None, block=None)>