

```
In [2]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
%matplotlib inline
df = pd.read_excel('C:/Users/SRIVENKATESH/Downloads/Salary_Data asha.xlsx')
```

```
In [3]: import numpy as np
import pandas as pd
df = pd.read_excel('C:/Users/SRIVENKATESH/Downloads/Salary_Data asha.xlsx')
```

```
In [4]: df
```

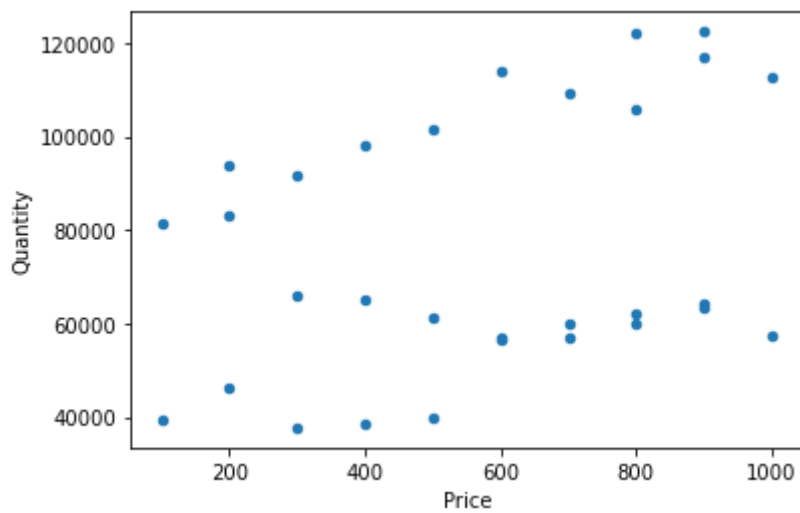
Out[4]:

	Price	Quantity
0	100	39343
1	200	46205
2	300	37731
3	400	38500
4	500	39891
5	600	56642
6	700	60150
7	800	62000
8	900	64445
9	1000	57189
10	900	63218
11	800	60000
12	700	56957
13	600	57081
14	500	61111
15	400	65000
16	300	66029
17	200	83088
18	100	81363
19	200	93940
20	300	91738
21	400	98273
22	500	101302
23	600	113812
24	700	109431
25	800	105582
26	900	116969
27	1000	112635
28	900	122391
29	800	121872

```
In [5]: df=pd.DataFrame(df,columns=['Price','Quantity'])
```

```
In [6]: df.plot.scatter(x='Price',y='Quantity')
```

```
Out[6]: <AxesSubplot:xlabel='Price', ylabel='Quantity'>
```



```
In [7]: df.columns
```

```
Out[7]: Index(['Price', 'Quantity'], dtype='object')
```

```
In [8]: X=df[['Price']]
```

```
In [9]: X
```

Out[9]:

	Price
0	100
1	200
2	300
3	400
4	500
5	600
6	700
7	800
8	900
9	1000
10	900
11	800
12	700
13	600
14	500
15	400
16	300
17	200
18	100
19	200
20	300
21	400
22	500
23	600
24	700
25	800
26	900
27	1000
28	900
29	800

```
In [13]: Y=df[['Quantity']]
```

```
In [14]: Y
```

Out[14]:

	Quantity
0	39343
1	46205
2	37731
3	38500
4	39891
5	56642
6	60150
7	62000
8	64445
9	57189
10	63218
11	60000
12	56957
13	57081
14	61111
15	65000
16	66029
17	83088
18	81363
19	93940
20	91738
21	98273
22	101302
23	113812
24	109431
25	105582
26	116969
27	112635
28	122391
29	121872

```
In [15]: from sklearn.model_selection import train_test_split
```

```
In [16]: xtrain,xtest,ytrain,ytest=train_test_split(X,Y,test_size=0.2,random_state=0)
```

```
In [17]: xtrain
```

Out[17]:

	Price
27	1000
11	800
17	200
22	500
5	600
16	300
8	900
14	500
23	600
20	300
1	200
29	800
6	700
4	500
18	100
19	200
9	1000
7	800
25	800
3	400
0	100
21	400
15	400
12	700

In [18]:

xtest

Out[18]:

	Price
2	300
28	900
13	600
10	900
26	900
24	700

In [19]:

ytrain

Out[19]:

	Quantity
27	112635
11	60000
17	83088
22	101302
5	56642
16	66029
8	64445
14	61111
23	113812
20	91738
1	46205
29	121872
6	60150
4	39891
18	81363
19	93940
9	57189
7	62000
25	105582
3	38500
0	39343
21	98273
15	65000
12	56957

In [20]: ytest

Out[20]:

	Quantity
2	37731
28	122391
13	57081
10	63218
26	116969
24	109431

In [21]: **from** sklearn.linear_model **import** LinearRegression

In [22]: lm=LinearRegression()

```
In [23]: lm.fit(xtrain,ytrain)
```

```
Out[23]: LinearRegression()
```

```
In [24]: predictions=lm.predict(xtest)
```

```
In [25]: predictions
```

```
Out[25]: array([[70170.46143123],
 [80132.16775093],
 [75151.31459108],
 [80132.16775093],
 [80132.16775093],
 [76811.5989777 ]])
```

```
In [26]: predictions=pd.DataFrame(predictions,columns=['predictions'])
```

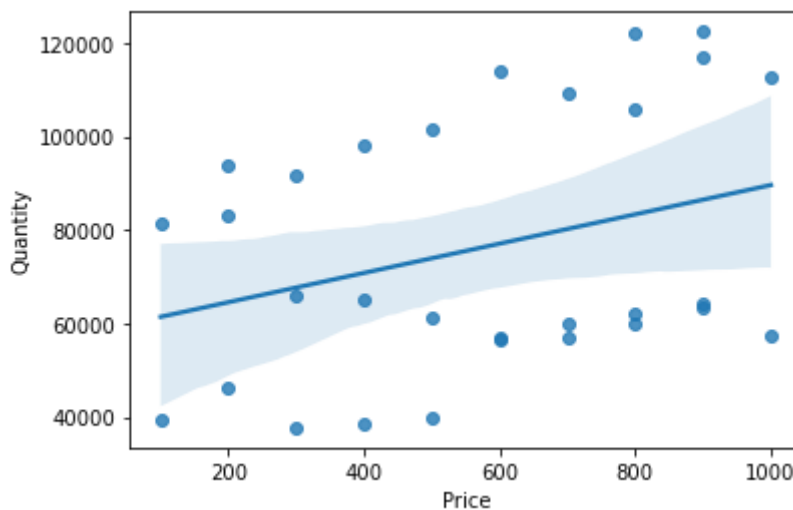
```
In [27]: predictions
```

```
Out[27]:
```

	predictions
0	70170.461431
1	80132.167751
2	75151.314591
3	80132.167751
4	80132.167751
5	76811.598978

```
In [31]: sns.regplot(x='Price',y='Quantity',data=df,fit_reg=True)
```

```
Out[31]: <AxesSubplot:xlabel='Price', ylabel='Quantity'>
```



```
In [ ]:
```