```
import numpy as np
import pandas as pd
```

```
x=np.array([0,1,2,3,4])
y=np.array([2,3,5,4,6])
```

```
xbar=sum(x)/len(x)
ybar=sum(y)/len(y)
```

```
p=[x-xbar for x in x]
q=[y-ybar for y in y]
```

```
pq=np.multiply(p,q)
```

```
r=[x*x for x in p]
```

```
df=pd.DataFrame()
```

```
df['x']=x
df['y']=y
df['x-xbar']=p
df['y-ybar']=q
df['(x-xbar)(y-ybar)']=pq
df['(x-xbar)^2']=r
```

```
df
```

	x	y	x-xbar	y-ybar	(x-xbar)(y-ybar)	(x-xbar)^2
0	0	2	-2.0	-2.0	4.0	4.0
1	1	3	-1.0	-1.0	1.0	1.0
2	2	5	0.0	1.0	0.0	0.0
3	3	4	1.0	0.0	0.0	1.0
4	4	6	2.0	2.0	4.0	4.0

```
m=sum(pq)/sum(r)
```

```
m
```

```
0.9
```

```
c=ybar-(m*xbar)
```

```
c
```

```
2.2
```

```
X=float(input("Enter X To Predict Y: "))
Y=(m*X)+c
print("Y = ",Y)
```

```
Enter X To Predict Y: 10
Y =  11.2
```