

```
X = [1, 2, 3, 4, 5]
```

```
y = [2, 4, 5, 4, 5]
```

```
n = len(X)
```

```
x_mean = sum(X) / n
```

```
y_mean = sum(y) / n
```

```
num = sum((X[i]-x_mean)*(y[i]-y_mean) for i in range(n))
```

```
den = sum((X[i]-x_mean)**2 for i in range(n))
```

```
m = num / den
```

```
c = y_mean - m * x_mean
```

```
y_pred = [m*X[i] + c for i in range(n)]
```

```
print("Predicted:", y_pred)
```

```
print("Slope:", m)
```

```
print("Intercept:", c)
```

OUTPUT:

```
IDLE Shell 3.13.9
File Edit Shell Debug Options Window Help
Python 3.13.9 (tags/v3.13.9:8183fa5, Oct 14 2025, 14:09:13) [MSC v.1944 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.
>>>
===== RESTART: C:/Users/prast/OneDrive/Desktop/ML LAB/EXP 8.py =====
Predicted: [2.8000000000000003, 3.4000000000000004, 4.0, 4.6, 5.2]
Slope: 0.6
Intercept: 2.2
>>> |
```