

## EX 8

CODING:

```
X = [1,2,3,4,5]
y = [2,4,6,8,10]
w = 0
b = 0
lr = 0.01

for _ in range(1000):
    dw = db = 0
    for i in range(len(X)):
        y_pred = w*X[i]
        dw += (y_pred - y[i]) * X[i]
        db += (y_pred - y[i])
    w -= lr * dw
    b -= lr * db
print("Slope:", w)
print("Intercept:", b)
```

OUTPUT:

```
main.py | Run | Output | Clear
1 X = [1,2,3,4,5]
2 y = [2,4,6,8,10]
3 w = 0
4 b = 0
5 lr = 0.01
6 for _ in range(1000):
7     dw = db = 0
8     for i in range(len(X)):
9         y_pred = w*X[i]
10        dw += (y_pred - y[i]) * X[i]
11        db += (y_pred - y[i])
12    w -= lr * dw
13    b -= lr * db
14 print("Slope:", w)
15 print("Intercept:", b)
16
```

Slope: 1.9999706639389163  
Intercept: 0.00010591248879369887  
== Code Execution Successful ==