

## 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
<pre>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</pre>		<pre>Slope: 1.9999706639389163 Intercept: 0.00010591248879369887  === Code Execution Successful ===</pre>