

EXPERIMENT 8:

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

```
y = [2,4,6,8,10]
```

```
w = 0
```

```
b = 0
```

```
lr = 0.01
```

```
# Training using Gradient Descent
```

```
for _ in range(1000):
```

```
    dw = db = 0
```

```
    for i in range(len(X)):
```

```
        y_pred = w*X[i] + b
```

```
        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

```
Slope: 1.9999706639389163
```

```
Intercept: 0.00010591248879369887
```

```
=== Code Execution Successful ===
```