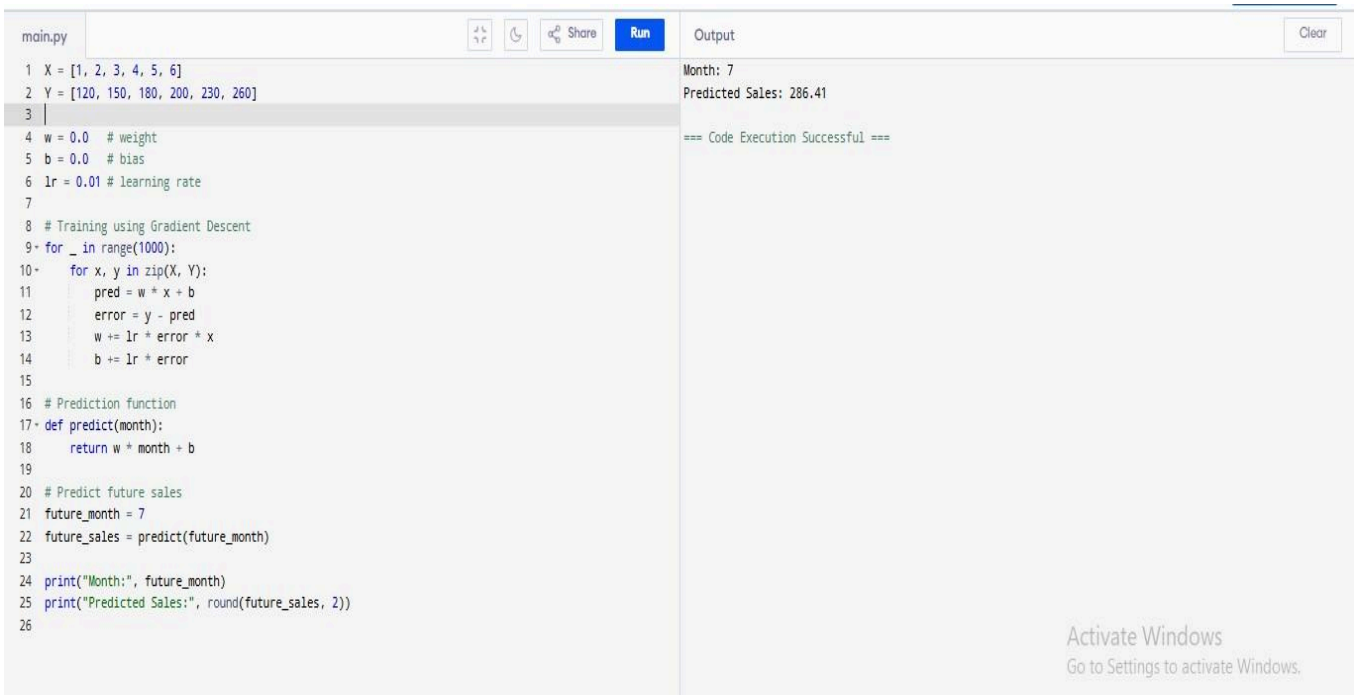
Experiment -20

```
# Dataset: [Month Number], Sales
X = [1, 2, 3, 4, 5, 6]
Y = [120, 150, 180, 200, 230, 260]

# Initialize parameters
w = 0.0   # weight
b = 0.0   # bias
lr = 0.01 # learning rate

# Training using Gradient Descent
for _ in range(1000):
    for x, y in zip(X, Y):
        pred = w * x + b
        error = y - pred
        w += lr * error * x
        b += lr * error

# Prediction function
def predict(month):
    return w * month + b

# Predict future sales
future_month = 7
future_sales = predict(future_month)

print("Month:", future_month)
print("Predicted Sales:", round(future_sales, 2))
```

Output:


main.py
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Run
Output
Clear
1 X = [1, 2, 3, 4, 5, 6]
2 Y = [120, 150, 180, 200, 230, 260]
3
4 w = 0.0 # weight
5 b = 0.0 # bias
6 lr = 0.01 # learning rate
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8 # Training using Gradient Descent
9 for _ in range(1000):
10 for x, y in zip(X, Y):
11 pred = w * x + b
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13 w += lr * error * x
14 b += lr * error
15
16 # Prediction function
17 def predict(month):
18 return w * month + b
19
20 # Predict future sales
21 future_month = 7
22 future_sales = predict(future_month)
23
24 print("Month:", future_month)
25 print("Predicted Sales:", round(future_sales, 2))
26
Month: 7
Predicted Sales: 286.41
=== Code Execution Successful ===
Activate Windows
Go to Settings to activate Windows.