

Experiment -17

```
# Dataset: [RAM (GB), Storage (GB), Camera (MP)], Price
```

```
X = [
```

```
    [4, 64, 12],
```

```
    [6, 128, 48],
```

```
    [8, 256, 64],
```

```
    [3, 32, 8],
```

```
    [12, 256, 108]
```

```
]
```

```
Y = [15000, 25000, 35000, 12000, 60000]
```

```
# Initialize weights and bias
```

```
w1, w2, w3, b = 0.1, 0.1, 0.1, 0
```

```
lr = 0.00001
```

```
# Training using Gradient Descent
```

```
for _ in range(10000):
```

```
    for x, y in zip(X, Y):
```

```
        pred = w1*x[0] + w2*x[1] + w3*x[2] + b
```

```
        error = y - pred
```

```
        w1 += lr * error * x[0]
```

```
        w2 += lr * error * x[1]
```

```
        w3 += lr * error * x[2]
```

```
        b += lr * error
```

```
# Prediction function
```

```
def predict(ram, storage, camera):
```

```
    return w1*ram + w2*storage + w3*camera + b
```

```
# Test the model
```

```
ram = 6
```

```
storage = 128
```

```
camera = 48
```

```
price = predict(ram, storage, camera)
```

```
print("Mobile Specs:")
```

```
print("RAM:", ram, "GB")
```

```
print("Storage:", storage, "GB")
```

```
print("Camera:", camera, "MP")
```

```
print("Predicted Price:", round(price, 2))
```

Output:

main.py

Share

Run

```
1 X = [
2     [4, 64, 12],
3     [6, 128, 48],
4     [8, 256, 64],
5     [3, 32, 8],
6     [12, 256, 108]
7 ]
8 Y = [15000, 25000, 35000, 12000, 60000]
9 w1, w2, w3, b = 0.1, 0.1, 0.1, 0
10 lr = 0.00001
11 for _ in range(10000):
12     for x, y in zip(X, Y):
13         pred = w1*x[0] + w2*x[1] + w3*x[2] + b
14         error = y - pred
15         w1 += lr * error * x[0]
16         w2 += lr * error * x[1]
17         w3 += lr * error * x[2]
18         b += lr * error
19 def predict(ram, storage, camera):
20     return w1*ram + w2*storage + w3*camera + b
21 ram = 6
22 storage = 128
23 camera = 48
24 price = predict(ram, storage, camera)
25 print("Mobile Specs:")
26 print("RAM:", ram, "GB")
27 print("Storage:", storage, "GB")
```

Output

Clear

Mobile Specs:
RAM: 6 GB
Storage: 128 GB
Camera: 48 MP
Predicted Price: 28076.26

=== Code Execution Successful ===

Activate Windows
Go to Settings to activate Windows.