EXPERIMENT 7:

```
import math

X = [1,2,3,4,5,6]
y = [0,0,0,1,1,1]

w = 0
b = 0
lr = 0.1

def sigmoid(z):
    return 1 / (1 + math.exp(-z))

# Training (Gradient Descent)
for _ in range(1000):
    dw = db = 0
    for i in range(len(X)):
        y_pred = sigmoid(w*X[i] + b)
        dw += (y_pred - y[i]) * X[i]
        db += (y_pred - y[i])
    w -= lr * dw
    b -= lr * db

# Prediction
correct = 0
for i in range(len(X)):
    y_pred = sigmoid(w*X[i] + b)
    if (y_pred >= 0.5) == y[i]:
        correct += 1
```

print("Accuracy:", correct/len(X))