

## Task 1

```
In [1]: #Importing python libraries for plotting graphs and some mathematical computation.  
import numpy as np  
from matplotlib import pyplot as plt  
import sys
```

```
In [2]: # Generating Linearly Separable data and considering it as a training data

data_points = np.random.rand(50,2) #50 randomly generated data points with 2
features(dimensions)

y=[] # creating class-label
for i in range(50):
    y.append(0) # initializing class-label as 0

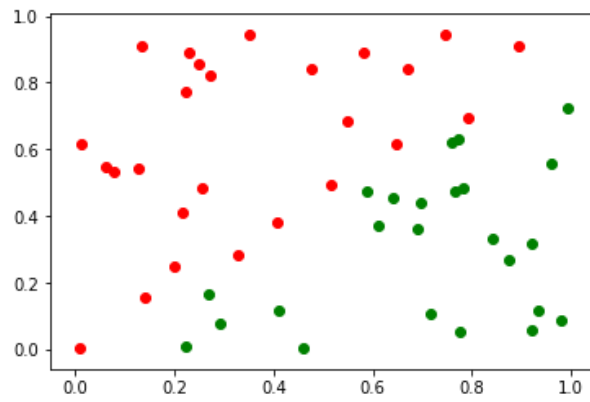
# I have considered the line  $10x+10y=1$  for separating the randomly generated
data points

for i in range(len(data_points)):
    if (10*data_points[i,0] - 1) < (10*data_points[i,1]):
        plt.scatter(data_points[i,0],data_points[i,1],c='r')
        y[i]=0 # red-points are labelled as 0
    else:
        plt.scatter(data_points[i,0],data_points[i,1],c='g')
        y[i]=1 # green-points are labelled as 1

plt.show()
data = [] #defining data matrix as input for features  $x_0$ (bias),  $x_1$ ,  $x_2$ 

Bias=1 # assuming value of bias as 1

for i in range(50):
    temp=[]
    temp.append(Bias) #appending bias
    temp.append(data_points[i,0]) #appending value of  $x_1$ 
    temp.append(data_points[i,1]) #appending value of  $x_2$ 
    temp.append(y[i])#appending trained class-label
    data.append(temp)
for i in range(50):
    print("our dataset is:")
    print(data[i])
```



```
our dataset is:
[1, 0.9195383056648245, 0.055647544540983085, 1]
our dataset is:
[1, 0.06114144857289061, 0.5489739926234857, 0]
our dataset is:
[1, 0.7815062157638951, 0.4824886966225047, 1]
our dataset is:
[1, 0.29142292742016296, 0.07800714748947446, 1]
our dataset is:
[1, 0.1333932876207059, 0.9108961850361484, 0]
our dataset is:
[1, 0.9348292805276147, 0.11682620591370385, 1]
our dataset is:
[1, 0.1980285311039316, 0.2504712018318149, 0]
our dataset is:
[1, 0.641632758015648, 0.4560951435978128, 1]
our dataset is:
[1, 0.9204619902803188, 0.3178301791188629, 1]
our dataset is:
[1, 0.21700242731728836, 0.41085479129666913, 0]
our dataset is:
[1, 0.07877074614934654, 0.5323133328361734, 0]
our dataset is:
[1, 0.6471238695558907, 0.6147914277823822, 0]
our dataset is:
[1, 0.791355494953477, 0.6930624975062332, 0]
our dataset is:
[1, 0.8924303862309404, 0.9075698359562687, 0]
our dataset is:
[1, 0.9792660467500169, 0.08838314839552208, 1]
our dataset is:
[1, 0.7580831905958685, 0.6204011350540232, 1]
our dataset is:
[1, 0.9584758496540222, 0.557715488746306, 1]
our dataset is:
[1, 0.22311361137101016, 0.7717575226758252, 0]
our dataset is:
[1, 0.77339116787055, 0.6297859870304751, 1]
our dataset is:
[1, 0.4757057878709867, 0.8398057768823869, 0]
our dataset is:
[1, 0.5485109334607664, 0.6861686176025683, 0]
our dataset is:
[1, 0.6116950353979047, 0.3695155608399351, 1]
our dataset is:
[1, 0.012432038850500593, 0.6161506980506037, 0]
our dataset is:
[1, 0.7656471501706768, 0.4746016102703018, 1]
```

```

In [3]: # Implementing the single layer perceptron model

weights=[0.20,1.00,-1.00] # initializing weights

def predict(inputs,weights): # This function takes values of features (x0,x1,x2)

    #one by one from dataset and weight vector as input and return the value according
    #to the definition of standard sigmoid function

    threshold = 0.0 # I have set the threshold as 0
    v = 0.0
    for input,weight in zip(inputs,weights):
        v += input*weight
    return 1 if v >= threshold else 0.0

def accuracy(matrix,weights): # This function gives the accuracy on the scale of 0 to 1
    # in terms of how many points are correctly out of total number of data points

    num_correct=0.0 #initialized total correct points as 0
    preds=[]
    for i in range(len(matrix)):
        pred=predict(matrix[i][: -1],weights)
        preds.append(pred)
        if pred==matrix[i][-1]: num_correct += 1.0 #if data point is correctly classified then number of
            #correctly classified points are added by 1

    print("Predictions:",preds)
    return num_correct/float(len(matrix))

def train_weights(matrix,weights,iterations=1000,l_rate=1.0): # This function is to train weights
    #According to perceptron convergence theorem, after number of iterations, maximum accuracy will be reached
    # and after that weight vector will not be changed. Since, generated data is of random numbers.
    #So, each time when we run the cell, dataset will be different and so, number of iterations
    #to get the estimated weight vector with accuracy 1.0 will be different and so accordingly you can change
    # the value of number of iterations.
    for epoch in range(iterations):
        cur_acc=accuracy(matrix,weights)
        print("\nIteration %d \nWeights: " %epoch,weights)
        print("Accuracy: ", cur_acc )
        if cur_acc==1.0 and True : break

        for i in range(len(matrix)):
            prediction = predict(matrix[i][: -1],weights)
            error = matrix[i][-1] - prediction #to get the difference between predicted and actual class-label

            if True:
                print("Training on data at index %d..." %i)
            for j in range(len(weights)):
                if True:
                    sys.stdout.write("\t Weight[%d]: %0.5f ---> " % (j,weights[j]))

            weights[j]= weights[j] + (l_rate*error*matrix[i][j]) # weight is modified

            #according to the definition
            if True: sys.stdout.write("%0.5f\n" %weights[j])

```

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c) print("\n Final estimated weight vector with accuracy %0.5f is:"%cur_ac  
    return weights
```

```
In [4]: train_weights(data, weights=weights, iterations=1000, l_rate=1.0)
```

Predictions: [1, 0.0, 1, 1, 0.0, 1, 1, 1, 1, 1, 0.0, 1, 1, 1, 1, 1, 1, 0.0,  
1, 0.0, 1, 1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 1, 1, 1, 0.0, 1, 0.0, 1, 1, 1, 0.  
0, 1, 1, 0.0, 0.0, 1, 1, 1, 1, 1, 1]

Iteration 0  
Weights: [0.2, 1.0, -1.0]  
Accuracy: 0.74  
Training on data at index 0...  
Weight[0]: 0.20000 ---> 0.20000  
Weight[1]: 1.00000 ---> 1.00000  
Weight[2]: -1.00000 ---> -1.00000  
Training on data at index 1...  
Weight[0]: 0.20000 ---> 0.20000  
Weight[1]: 1.00000 ---> 1.00000  
Weight[2]: -1.00000 ---> -1.00000  
Training on data at index 2...  
Weight[0]: 0.20000 ---> 0.20000  
Weight[1]: 1.00000 ---> 1.00000  
Weight[2]: -1.00000 ---> -1.00000  
Training on data at index 3...  
Weight[0]: 0.20000 ---> 0.20000  
Weight[1]: 1.00000 ---> 1.00000  
Weight[2]: -1.00000 ---> -1.00000  
Training on data at index 4...  
Weight[0]: 0.20000 ---> 0.20000  
Weight[1]: 1.00000 ---> 1.00000  
Weight[2]: -1.00000 ---> -1.00000  
Training on data at index 5...  
Weight[0]: 0.20000 ---> 0.20000  
Weight[1]: 1.00000 ---> 1.00000  
Weight[2]: -1.00000 ---> -1.00000  
Training on data at index 6...  
Weight[0]: 0.20000 ---> -0.80000  
Weight[1]: 1.00000 ---> 0.80197  
Weight[2]: -1.00000 ---> -1.25047  
Training on data at index 7...  
Weight[0]: -0.80000 ---> 0.20000  
Weight[1]: 0.80197 ---> 1.44360  
Weight[2]: -1.25047 ---> -0.79438  
Training on data at index 8...  
Weight[0]: 0.20000 ---> 0.20000  
Weight[1]: 1.44360 ---> 1.44360  
Weight[2]: -0.79438 ---> -0.79438  
Training on data at index 9...  
Weight[0]: 0.20000 ---> -0.80000  
Weight[1]: 1.44360 ---> 1.22660  
Weight[2]: -0.79438 ---> -1.20523  
Training on data at index 10...  
Weight[0]: -0.80000 ---> -0.80000  
Weight[1]: 1.22660 ---> 1.22660  
Weight[2]: -1.20523 ---> -1.20523  
Training on data at index 11...  
Weight[0]: -0.80000 ---> -0.80000  
Weight[1]: 1.22660 ---> 1.22660  
Weight[2]: -1.20523 ---> -1.20523  
Training on data at index 12...  
Weight[0]: -0.80000 ---> -0.80000  
Weight[1]: 1.22660 ---> 1.22660  
Weight[2]: -1.20523 ---> -1.20523  
Training on data at index 13...  
Weight[0]: -0.80000 ---> -0.80000  
Weight[1]: 1.22660 ---> 1.22660  
Weight[2]: -1.20523 ---> -1.20523  
Training on data at index 14...  
Weight[0]: -0.80000 ---> -0.80000  
Weight[1]: 1.22660 ---> 1.22660  
Weight[2]: -1.20523 ---> -1.20523  
Training on data at index 15...



```
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 1.22660 ---> 1.98468
Weight[2]: -1.20523 ---> -0.58483
Training on data at index 16...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 1.98468 ---> 1.98468
Weight[2]: -0.58483 ---> -0.58483
Training on data at index 17...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 1.98468 ---> 1.76157
Weight[2]: -0.58483 ---> -1.35659
Training on data at index 18...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 1.76157 ---> 2.53496
Weight[2]: -1.35659 ---> -0.72680
Training on data at index 19...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 2.53496 ---> 2.05926
Weight[2]: -0.72680 ---> -1.56661
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.05926 ---> 2.05926
Weight[2]: -1.56661 ---> -1.56661
Training on data at index 21...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 2.05926 ---> 2.67095
Weight[2]: -1.56661 ---> -1.19709
Training on data at index 22...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 2.67095 ---> 2.67095
Weight[2]: -1.19709 ---> -1.19709
Training on data at index 23...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 2.67095 ---> 2.67095
Weight[2]: -1.19709 ---> -1.19709
Training on data at index 24...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 2.67095 ---> 2.26418
Weight[2]: -1.19709 ---> -1.57817
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.26418 ---> 2.26418
Weight[2]: -1.57817 ---> -1.57817
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.26418 ---> 2.26418
Weight[2]: -1.57817 ---> -1.57817
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.26418 ---> 2.26418
Weight[2]: -1.57817 ---> -1.57817
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.26418 ---> 2.26418
Weight[2]: -1.57817 ---> -1.57817
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.26418 ---> 2.26418
Weight[2]: -1.57817 ---> -1.57817
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.26418 ---> 2.26418
Weight[2]: -1.57817 ---> -1.57817
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.26418 ---> 2.26418
Weight[2]: -1.57817 ---> -1.57817
Training on data at index 32...
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Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.26418 ---> 2.26418
Weight[2]: -1.57817 ---> -1.57817
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.26418 ---> 2.26418
Weight[2]: -1.57817 ---> -1.57817
Training on data at index 34...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 2.26418 ---> 2.48663
Weight[2]: -1.57817 ---> -1.56999
Training on data at index 35...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 2.48663 ---> 2.48663
Weight[2]: -1.56999 ---> -1.56999
Training on data at index 36...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 2.48663 ---> 2.48663
Weight[2]: -1.56999 ---> -1.56999
Training on data at index 37...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 2.48663 ---> 2.48663
Weight[2]: -1.56999 ---> -1.56999
Training on data at index 38...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 2.48663 ---> 2.48663
Weight[2]: -1.56999 ---> -1.56999
Training on data at index 39...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 2.48663 ---> 1.90446
Weight[2]: -1.56999 ---> -2.46171
Training on data at index 40...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 1.90446 ---> 1.90446
Weight[2]: -2.46171 ---> -2.46171
Training on data at index 41...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 1.90446 ---> 2.89600
Weight[2]: -2.46171 ---> -1.73613
Training on data at index 42...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 2.89600 ---> 2.89600
Weight[2]: -1.73613 ---> -1.73613
Training on data at index 43...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 2.89600 ---> 2.89600
Weight[2]: -1.73613 ---> -1.73613
Training on data at index 44...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 2.89600 ---> 2.22747
Weight[2]: -1.73613 ---> -2.57736
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.22747 ---> 2.22747
Weight[2]: -2.57736 ---> -2.57736
Training on data at index 46...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 2.22747 ---> 2.81646
Weight[2]: -2.57736 ---> -2.10169
Training on data at index 47...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 2.81646 ---> 2.81646
Weight[2]: -2.10169 ---> -2.10169
Training on data at index 48...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 2.81646 ---> 2.07183
Weight[2]: -2.10169 ---> -3.04348
Training on data at index 49...
```

```
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 2.07183 ---> 2.76087
Weight[2]: -3.04348 ---> -2.68029
Predictions: [1, 0.0, 1, 1, 0.0, 1, 1, 1, 1, 0.0, 0.0, 1, 1, 1, 1, 1, 1, 0.0,
1, 0.0, 0.0, 1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 1, 1, 1, 0.0, 1, 0.0, 1, 1, 1,
0.0, 1, 1, 0.0, 0.0, 0.0, 1, 1, 1, 0.0, 1]
```

```
Iteration 1
Weights: [0.19999999999999996, 2.760871878150309, -2.680288190510746]
Accuracy: 0.82
Training on data at index 0...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 2.76087 ---> 2.76087
Weight[2]: -2.68029 ---> -2.68029
Training on data at index 1...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 2.76087 ---> 2.76087
Weight[2]: -2.68029 ---> -2.68029
Training on data at index 2...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 2.76087 ---> 2.76087
Weight[2]: -2.68029 ---> -2.68029
Training on data at index 3...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 2.76087 ---> 2.76087
Weight[2]: -2.68029 ---> -2.68029
Training on data at index 4...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 2.76087 ---> 2.76087
Weight[2]: -2.68029 ---> -2.68029
Training on data at index 5...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 2.76087 ---> 2.76087
Weight[2]: -2.68029 ---> -2.68029
Training on data at index 6...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 2.76087 ---> 2.56284
Weight[2]: -2.68029 ---> -2.93076
Training on data at index 7...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 2.56284 ---> 3.20448
Weight[2]: -2.93076 ---> -2.47466
Training on data at index 8...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 3.20448 ---> 3.20448
Weight[2]: -2.47466 ---> -2.47466
Training on data at index 9...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 3.20448 ---> 3.20448
Weight[2]: -2.47466 ---> -2.47466
Training on data at index 10...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 3.20448 ---> 3.20448
Weight[2]: -2.47466 ---> -2.47466
Training on data at index 11...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 3.20448 ---> 2.55735
Weight[2]: -2.47466 ---> -3.08946
Training on data at index 12...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.55735 ---> 2.55735
Weight[2]: -3.08946 ---> -3.08946
Training on data at index 13...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.55735 ---> 2.55735
Weight[2]: -3.08946 ---> -3.08946
Training on data at index 14...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 2.55735 ---> 2.55735
Weight[2]: -3.08946 ---> -3.08946
Training on data at index 15...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 2.55735 ---> 3.31544
Weight[2]: -3.08946 ---> -2.46905
Training on data at index 16...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 3.31544 ---> 3.31544
Weight[2]: -2.46905 ---> -2.46905
Training on data at index 17...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 3.31544 ---> 3.31544
Weight[2]: -2.46905 ---> -2.46905
Training on data at index 18...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 3.31544 ---> 3.31544
Weight[2]: -2.46905 ---> -2.46905
Training on data at index 19...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 3.31544 ---> 3.31544
Weight[2]: -2.46905 ---> -2.46905
Training on data at index 20...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 3.31544 ---> 2.76692
Weight[2]: -2.46905 ---> -3.15522
Training on data at index 21...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 2.76692 ---> 3.37862
Weight[2]: -3.15522 ---> -2.78571
Training on data at index 22...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 3.37862 ---> 3.37862
Weight[2]: -2.78571 ---> -2.78571
Training on data at index 23...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 3.37862 ---> 3.37862
Weight[2]: -2.78571 ---> -2.78571
Training on data at index 24...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 3.37862 ---> 2.97185
Weight[2]: -2.78571 ---> -3.16678
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.97185 ---> 2.97185
Weight[2]: -3.16678 ---> -3.16678
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.97185 ---> 2.97185
Weight[2]: -3.16678 ---> -3.16678
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.97185 ---> 2.97185
Weight[2]: -3.16678 ---> -3.16678
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.97185 ---> 2.97185
Weight[2]: -3.16678 ---> -3.16678
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.97185 ---> 2.97185
Weight[2]: -3.16678 ---> -3.16678
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.97185 ---> 2.97185
Weight[2]: -3.16678 ---> -3.16678
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 2.97185 ---> 2.97185
Weight[2]: -3.16678 ---> -3.16678
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.97185 ---> 2.97185
Weight[2]: -3.16678 ---> -3.16678
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 2.97185 ---> 2.97185
Weight[2]: -3.16678 ---> -3.16678
Training on data at index 34...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 2.97185 ---> 3.19429
Weight[2]: -3.16678 ---> -3.15861
Training on data at index 35...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 3.19429 ---> 3.19429
Weight[2]: -3.15861 ---> -3.15861
Training on data at index 36...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 3.19429 ---> 3.19429
Weight[2]: -3.15861 ---> -3.15861
Training on data at index 37...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 3.19429 ---> 3.19429
Weight[2]: -3.15861 ---> -3.15861
Training on data at index 38...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 3.19429 ---> 3.19429
Weight[2]: -3.15861 ---> -3.15861
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 3.19429 ---> 3.19429
Weight[2]: -3.15861 ---> -3.15861
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 3.19429 ---> 3.05416
Weight[2]: -3.15861 ---> -3.31172
Training on data at index 41...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 3.05416 ---> 4.04571
Weight[2]: -3.31172 ---> -2.58615
Training on data at index 42...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.04571 ---> 4.04571
Weight[2]: -2.58615 ---> -2.58615
Training on data at index 43...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.04571 ---> 4.04571
Weight[2]: -2.58615 ---> -2.58615
Training on data at index 44...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 4.04571 ---> 3.37718
Weight[2]: -2.58615 ---> -3.42738
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.37718 ---> 3.37718
Weight[2]: -3.42738 ---> -3.42738
Training on data at index 46...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 3.37718 ---> 3.96617
Weight[2]: -3.42738 ---> -2.95171
Training on data at index 47...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 3.96617 ---> 3.96617
Weight[2]: -2.95171 ---> -2.95171
Training on data at index 48...
Weight[0]: 0.20000 ---> -0.80000
```

```
Weight[1]: 3.96617 ---> 3.22154
Weight[2]: -2.95171 ---> -3.89350
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.22154 ---> 3.22154
Weight[2]: -3.89350 ---> -3.89350
Predictions: [1, 0.0, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 0.0,
1, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1,
0.0, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 1,
0.0, 1]

Iteration 2
Weights: [-0.8, 3.221540740092305, -3.8934969836913607]
Accuracy: 0.76
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.22154 ---> 3.22154
Weight[2]: -3.89350 ---> -3.89350
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.22154 ---> 3.22154
Weight[2]: -3.89350 ---> -3.89350
Training on data at index 2...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 3.22154 ---> 4.00305
Weight[2]: -3.89350 ---> -3.41101
Training on data at index 3...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.00305 ---> 4.00305
Weight[2]: -3.41101 ---> -3.41101
Training on data at index 4...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.00305 ---> 4.00305
Weight[2]: -3.41101 ---> -3.41101
Training on data at index 5...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.00305 ---> 4.00305
Weight[2]: -3.41101 ---> -3.41101
Training on data at index 6...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 4.00305 ---> 3.80502
Weight[2]: -3.41101 ---> -3.66148
Training on data at index 7...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 3.80502 ---> 4.44665
Weight[2]: -3.66148 ---> -3.20538
Training on data at index 8...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.44665 ---> 4.44665
Weight[2]: -3.20538 ---> -3.20538
Training on data at index 9...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.44665 ---> 4.44665
Weight[2]: -3.20538 ---> -3.20538
Training on data at index 10...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.44665 ---> 4.44665
Weight[2]: -3.20538 ---> -3.20538
Training on data at index 11...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 4.44665 ---> 3.79953
Weight[2]: -3.20538 ---> -3.82018
Training on data at index 12...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.79953 ---> 3.79953
Weight[2]: -3.82018 ---> -3.82018
Training on data at index 13...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 3.79953 ---> 3.79953
Weight[2]: -3.82018 ---> -3.82018
Training on data at index 14...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.79953 ---> 3.79953
Weight[2]: -3.82018 ---> -3.82018
Training on data at index 15...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 3.79953 ---> 4.55761
Weight[2]: -3.82018 ---> -3.19977
Training on data at index 16...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.55761 ---> 4.55761
Weight[2]: -3.19977 ---> -3.19977
Training on data at index 17...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.55761 ---> 4.55761
Weight[2]: -3.19977 ---> -3.19977
Training on data at index 18...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.55761 ---> 4.55761
Weight[2]: -3.19977 ---> -3.19977
Training on data at index 19...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.55761 ---> 4.55761
Weight[2]: -3.19977 ---> -3.19977
Training on data at index 20...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 4.55761 ---> 4.00910
Weight[2]: -3.19977 ---> -3.88594
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.00910 ---> 4.00910
Weight[2]: -3.88594 ---> -3.88594
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 4.00910 ---> 4.27780
Weight[2]: -3.88594 ---> -3.71872
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.27780 ---> 4.27780
Weight[2]: -3.71872 ---> -3.71872
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 4.27780 ---> 4.13767
Weight[2]: -3.71872 ---> -3.87184
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.13767 ---> 4.13767
Weight[2]: -3.87184 ---> -3.87184
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.13767 ---> 4.13767
Weight[2]: -3.87184 ---> -3.87184
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.13767 ---> 4.13767
Weight[2]: -3.87184 ---> -3.87184
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.13767 ---> 4.13767
Weight[2]: -3.87184 ---> -3.87184
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.13767 ---> 4.13767
Weight[2]: -3.87184 ---> -3.87184
Training on data at index 46...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 4.13767 ---> 4.72666
Weight[2]: -3.87184 ---> -3.39617
Training on data at index 47...
Weight[0]: 0.20000 ---> 0.20000
```



```
Weight[1]: 4.72666 ---> 4.72666
Weight[2]: -3.39617 ---> -3.39617
Training on data at index 48...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 4.72666 ---> 3.98203
Weight[2]: -3.39617 ---> -4.33796
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.98203 ---> 3.98203
Weight[2]: -4.33796 ---> -4.33796
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 0.0, 1,
0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0,
0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 0.0, 1, 0.0, 1]
```

```
Iteration 3
Weights: [-0.8, 3.982030176874545, -4.337956283243203]
Accuracy: 0.9
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.98203 ---> 3.98203
Weight[2]: -4.33796 ---> -4.33796
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.98203 ---> 3.98203
Weight[2]: -4.33796 ---> -4.33796
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.98203 ---> 3.98203
Weight[2]: -4.33796 ---> -4.33796
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.98203 ---> 3.98203
Weight[2]: -4.33796 ---> -4.33796
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.98203 ---> 3.98203
Weight[2]: -4.33796 ---> -4.33796
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.98203 ---> 3.98203
Weight[2]: -4.33796 ---> -4.33796
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.98203 ---> 3.98203
Weight[2]: -4.33796 ---> -4.33796
Training on data at index 7...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 3.98203 ---> 4.62366
Weight[2]: -4.33796 ---> -3.88186
Training on data at index 8...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.62366 ---> 4.62366
Weight[2]: -3.88186 ---> -3.88186
Training on data at index 9...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.62366 ---> 4.62366
Weight[2]: -3.88186 ---> -3.88186
Training on data at index 10...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.62366 ---> 4.62366
Weight[2]: -3.88186 ---> -3.88186
Training on data at index 11...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 4.62366 ---> 3.97654
Weight[2]: -3.88186 ---> -4.49665
Training on data at index 12...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.97654 ---> 3.97654
```

```
Weight[2]: -4.49665 ---> -4.49665
Training on data at index 13...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.97654 ---> 3.97654
Weight[2]: -4.49665 ---> -4.49665
Training on data at index 14...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 3.97654 ---> 3.97654
Weight[2]: -4.49665 ---> -4.49665
Training on data at index 15...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 3.97654 ---> 4.73462
Weight[2]: -4.49665 ---> -3.87625
Training on data at index 16...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.73462 ---> 4.73462
Weight[2]: -3.87625 ---> -3.87625
Training on data at index 17...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.73462 ---> 4.73462
Weight[2]: -3.87625 ---> -3.87625
Training on data at index 18...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.73462 ---> 4.73462
Weight[2]: -3.87625 ---> -3.87625
Training on data at index 19...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.73462 ---> 4.73462
Weight[2]: -3.87625 ---> -3.87625
Training on data at index 20...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 4.73462 ---> 4.18611
Weight[2]: -3.87625 ---> -4.56242
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
```

```
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.18611 ---> 4.18611
Weight[2]: -4.56242 ---> -4.56242
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 4.18611 ---> 4.45481
Weight[2]: -4.56242 ---> -4.39520
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.45481 ---> 4.45481
Weight[2]: -4.39520 ---> -4.39520
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 4.45481 ---> 4.31468
Weight[2]: -4.39520 ---> -4.54832
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.31468 ---> 4.31468
Weight[2]: -4.54832 ---> -4.54832
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.31468 ---> 4.31468
Weight[2]: -4.54832 ---> -4.54832
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.31468 ---> 4.31468
Weight[2]: -4.54832 ---> -4.54832
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.31468 ---> 4.31468
Weight[2]: -4.54832 ---> -4.54832
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.31468 ---> 4.31468
Weight[2]: -4.54832 ---> -4.54832
Training on data at index 46...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 4.31468 ---> 4.90367
```

```
Weight[2]: -4.54832 ---> -4.07264
Training on data at index 47...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.90367 ---> 4.90367
Weight[2]: -4.07264 ---> -4.07264
Training on data at index 48...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 4.90367 ---> 4.15904
Weight[2]: -4.07264 ---> -5.01443
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.15904 ---> 4.15904
Weight[2]: -5.01443 ---> -5.01443
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 0.0, 1,
0.0, 1, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0,
0.0, 1, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 1, 0.0, 1]

Iteration 4
Weights: [-0.8, 4.159041928996823, -5.0144330775857355]
Accuracy: 0.84
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.15904 ---> 4.15904
Weight[2]: -5.01443 ---> -5.01443
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.15904 ---> 4.15904
Weight[2]: -5.01443 ---> -5.01443
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.15904 ---> 4.15904
Weight[2]: -5.01443 ---> -5.01443
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.15904 ---> 4.15904
Weight[2]: -5.01443 ---> -5.01443
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.15904 ---> 4.15904
Weight[2]: -5.01443 ---> -5.01443
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.15904 ---> 4.15904
Weight[2]: -5.01443 ---> -5.01443
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 4.15904 ---> 4.15904
Weight[2]: -5.01443 ---> -5.01443
Training on data at index 7...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 4.15904 ---> 4.80067
Weight[2]: -5.01443 ---> -4.55834
Training on data at index 8...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.80067 ---> 4.80067
Weight[2]: -4.55834 ---> -4.55834
Training on data at index 9...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.80067 ---> 4.80067
Weight[2]: -4.55834 ---> -4.55834
Training on data at index 10...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 4.80067 ---> 4.80067
Weight[2]: -4.55834 ---> -4.55834
Training on data at index 11...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 4.80067 ---> 4.15355
Weight[2]: -4.55834 ---> -5.17313
```

```
Training on data at index 12...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.15355 ---> 4.15355
  Weight[2]: -5.17313 ---> -5.17313
Training on data at index 13...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.15355 ---> 4.15355
  Weight[2]: -5.17313 ---> -5.17313
Training on data at index 14...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.15355 ---> 4.15355
  Weight[2]: -5.17313 ---> -5.17313
Training on data at index 15...
  Weight[0]: -0.80000 ---> 0.20000
  Weight[1]: 4.15355 ---> 4.91163
  Weight[2]: -5.17313 ---> -4.55273
Training on data at index 16...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 4.91163 ---> 4.91163
  Weight[2]: -4.55273 ---> -4.55273
Training on data at index 17...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 4.91163 ---> 4.91163
  Weight[2]: -4.55273 ---> -4.55273
Training on data at index 18...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 4.91163 ---> 4.91163
  Weight[2]: -4.55273 ---> -4.55273
Training on data at index 19...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 4.91163 ---> 4.91163
  Weight[2]: -4.55273 ---> -4.55273
Training on data at index 20...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 4.91163 ---> 4.91163
  Weight[2]: -4.55273 ---> -4.55273
Training on data at index 21...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 4.91163 ---> 4.91163
  Weight[2]: -4.55273 ---> -4.55273
Training on data at index 22...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 4.91163 ---> 4.91163
  Weight[2]: -4.55273 ---> -4.55273
Training on data at index 23...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 4.91163 ---> 4.91163
  Weight[2]: -4.55273 ---> -4.55273
Training on data at index 24...
  Weight[0]: 0.20000 ---> -0.80000
  Weight[1]: 4.91163 ---> 4.50486
  Weight[2]: -4.55273 ---> -4.93380
Training on data at index 25...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.50486 ---> 4.50486
  Weight[2]: -4.93380 ---> -4.93380
Training on data at index 26...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.50486 ---> 4.50486
  Weight[2]: -4.93380 ---> -4.93380
Training on data at index 27...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.50486 ---> 4.50486
  Weight[2]: -4.93380 ---> -4.93380
Training on data at index 28...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.50486 ---> 4.50486
  Weight[2]: -4.93380 ---> -4.93380
```

```
Training on data at index 29...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.50486 ---> 4.50486
  Weight[2]: -4.93380 ---> -4.93380
Training on data at index 30...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.50486 ---> 4.50486
  Weight[2]: -4.93380 ---> -4.93380
Training on data at index 31...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.50486 ---> 4.50486
  Weight[2]: -4.93380 ---> -4.93380
Training on data at index 32...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.50486 ---> 4.50486
  Weight[2]: -4.93380 ---> -4.93380
Training on data at index 33...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.50486 ---> 4.50486
  Weight[2]: -4.93380 ---> -4.93380
Training on data at index 34...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.50486 ---> 4.50486
  Weight[2]: -4.93380 ---> -4.93380
Training on data at index 35...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.50486 ---> 4.50486
  Weight[2]: -4.93380 ---> -4.93380
Training on data at index 36...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.50486 ---> 4.50486
  Weight[2]: -4.93380 ---> -4.93380
Training on data at index 37...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.50486 ---> 4.50486
  Weight[2]: -4.93380 ---> -4.93380
Training on data at index 38...
  Weight[0]: -0.80000 ---> 0.20000
  Weight[1]: 4.50486 ---> 4.77356
  Weight[2]: -4.93380 ---> -4.76659
Training on data at index 39...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 4.77356 ---> 4.77356
  Weight[2]: -4.76659 ---> -4.76659
Training on data at index 40...
  Weight[0]: 0.20000 ---> -0.80000
  Weight[1]: 4.77356 ---> 4.63343
  Weight[2]: -4.76659 ---> -4.91970
Training on data at index 41...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.63343 ---> 4.63343
  Weight[2]: -4.91970 ---> -4.91970
Training on data at index 42...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.63343 ---> 4.63343
  Weight[2]: -4.91970 ---> -4.91970
Training on data at index 43...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.63343 ---> 4.63343
  Weight[2]: -4.91970 ---> -4.91970
Training on data at index 44...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.63343 ---> 4.63343
  Weight[2]: -4.91970 ---> -4.91970
Training on data at index 45...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 4.63343 ---> 4.63343
  Weight[2]: -4.91970 ---> -4.91970
```

```
Training on data at index 46...
  Weight[0]: -0.80000 ---> 0.20000
  Weight[1]: 4.63343 ---> 5.22242
  Weight[2]: -4.91970 ---> -4.44403
Training on data at index 47...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 5.22242 ---> 5.22242
  Weight[2]: -4.44403 ---> -4.44403
Training on data at index 48...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 5.22242 ---> 5.22242
  Weight[2]: -4.44403 ---> -4.44403
Training on data at index 49...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 5.22242 ---> 5.22242
  Weight[2]: -4.44403 ---> -4.44403
Predictions: [1, 0.0, 1, 1, 0.0, 1, 1, 1, 1, 0.0, 0.0, 1, 1, 1, 1, 1, 1, 0.0,
1, 0.0, 1, 1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 1, 1, 1, 0.0, 1, 0.0, 1, 1, 1, 0.
0, 1, 1, 0.0, 0.0, 0.0, 1, 1, 1, 0.0, 1]
```

```
Iteration 5
Weights: [0.19999999999999996, 5.222419295364049, -4.444027944137374]
Accuracy: 0.8
```

```
Training on data at index 0...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 5.22242 ---> 5.22242
  Weight[2]: -4.44403 ---> -4.44403
Training on data at index 1...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 5.22242 ---> 5.22242
  Weight[2]: -4.44403 ---> -4.44403
Training on data at index 2...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 5.22242 ---> 5.22242
  Weight[2]: -4.44403 ---> -4.44403
Training on data at index 3...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 5.22242 ---> 5.22242
  Weight[2]: -4.44403 ---> -4.44403
Training on data at index 4...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 5.22242 ---> 5.22242
  Weight[2]: -4.44403 ---> -4.44403
Training on data at index 5...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 5.22242 ---> 5.22242
  Weight[2]: -4.44403 ---> -4.44403
Training on data at index 6...
  Weight[0]: 0.20000 ---> -0.80000
  Weight[1]: 5.22242 ---> 5.02439
  Weight[2]: -4.44403 ---> -4.69450
Training on data at index 7...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.02439 ---> 5.02439
  Weight[2]: -4.69450 ---> -4.69450
Training on data at index 8...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.02439 ---> 5.02439
  Weight[2]: -4.69450 ---> -4.69450
Training on data at index 9...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.02439 ---> 5.02439
  Weight[2]: -4.69450 ---> -4.69450
Training on data at index 10...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.02439 ---> 5.02439
  Weight[2]: -4.69450 ---> -4.69450
Training on data at index 11...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 12...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 13...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 14...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 15...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 28...
```



```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.02439 ---> 5.02439
Weight[2]: -4.69450 ---> -4.69450
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 5.02439 ---> 5.29309
Weight[2]: -4.69450 ---> -4.52728
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 5.29309 ---> 5.29309
Weight[2]: -4.52728 ---> -4.52728
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 5.29309 ---> 5.15296
Weight[2]: -4.52728 ---> -4.68040
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 45...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 6
Weights: [-0.8, 5.1529601411900074, -4.680396823604901]
Accuracy: 0.96
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.15296 ---> 5.15296
Weight[2]: -4.68040 ---> -4.68040
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 5.15296 ---> 4.36160
Weight[2]: -4.68040 ---> -5.37346
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 4.36160 ---> 4.36160
Weight[2]: -5.37346 ---> -5.37346
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 4.36160 ---> 4.36160
Weight[2]: -5.37346 ---> -5.37346
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 4.36160 ---> 5.11969
Weight[2]: -5.37346 ---> -4.75306
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.11969 ---> 5.11969
Weight[2]: -4.75306 ---> -4.75306
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 5.11969 ---> 5.38839
Weight[2]: -4.75306 ---> -4.58584
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 5.38839 ---> 5.38839
Weight[2]: -4.58584 ---> -4.58584
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 5.38839 ---> 5.24826
Weight[2]: -4.58584 ---> -4.73896
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
```

```

Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

```

```

Iteration 7
Weights: [-0.8, 5.24825721376229, -4.738955863692822]
Accuracy: 0.96
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826

```

```
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.24826 ---> 5.24826
Weight[2]: -4.73896 ---> -4.73896
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 5.24826 ---> 4.45690
Weight[2]: -4.73896 ---> -5.43202
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 4.45690 ---> 4.45690
Weight[2]: -5.43202 ---> -5.43202
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 4.45690 ---> 4.45690
Weight[2]: -5.43202 ---> -5.43202
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 4.45690 ---> 5.21498
Weight[2]: -5.43202 ---> -4.81162
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
```

```
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.21498 ---> 5.21498
Weight[2]: -4.81162 ---> -4.81162
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 5.21498 ---> 5.48368
Weight[2]: -4.81162 ---> -4.64440
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 5.48368 ---> 5.48368
Weight[2]: -4.64440 ---> -4.64440
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 5.48368 ---> 5.34355
Weight[2]: -4.64440 ---> -4.79751
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
```

```
Weight[2]: -4.79751 ---> -4.79751
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 8
Weights: [-0.8, 5.343554286334573, -4.797514903780743]
Accuracy: 0.96
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.34355 ---> 5.34355
Weight[2]: -4.79751 ---> -4.79751
```



```
Training on data at index 9...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.34355 ---> 5.34355
  Weight[2]: -4.79751 ---> -4.79751
Training on data at index 10...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.34355 ---> 5.34355
  Weight[2]: -4.79751 ---> -4.79751
Training on data at index 11...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.34355 ---> 5.34355
  Weight[2]: -4.79751 ---> -4.79751
Training on data at index 12...
  Weight[0]: -0.80000 ---> -1.80000
  Weight[1]: 5.34355 ---> 4.55220
  Weight[2]: -4.79751 ---> -5.49058
Training on data at index 13...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 4.55220 ---> 4.55220
  Weight[2]: -5.49058 ---> -5.49058
Training on data at index 14...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 4.55220 ---> 4.55220
  Weight[2]: -5.49058 ---> -5.49058
Training on data at index 15...
  Weight[0]: -1.80000 ---> -0.80000
  Weight[1]: 4.55220 ---> 5.31028
  Weight[2]: -5.49058 ---> -4.87018
Training on data at index 16...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 17...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 18...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 19...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 20...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 21...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 22...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 23...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 24...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 25...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
```

```
Training on data at index 26...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 27...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 28...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 29...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 30...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 31...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 32...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 33...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 34...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 35...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 36...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 37...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.31028 ---> 5.31028
  Weight[2]: -4.87018 ---> -4.87018
Training on data at index 38...
  Weight[0]: -0.80000 ---> 0.20000
  Weight[1]: 5.31028 ---> 5.57898
  Weight[2]: -4.87018 ---> -4.70296
Training on data at index 39...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 5.57898 ---> 5.57898
  Weight[2]: -4.70296 ---> -4.70296
Training on data at index 40...
  Weight[0]: 0.20000 ---> -0.80000
  Weight[1]: 5.57898 ---> 5.43885
  Weight[2]: -4.70296 ---> -4.85607
Training on data at index 41...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
Training on data at index 42...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
```

```
Training on data at index 43...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
Training on data at index 44...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
Training on data at index 45...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
Training on data at index 46...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
Training on data at index 47...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
Training on data at index 48...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
Training on data at index 49...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 9
Weights: [-0.8, 5.438851358906856, -4.856073943868664]
Accuracy: 0.96
Training on data at index 0...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
Training on data at index 1...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
Training on data at index 2...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
Training on data at index 3...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
Training on data at index 4...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
Training on data at index 5...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
Training on data at index 6...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
Training on data at index 7...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.43885 ---> 5.43885
  Weight[2]: -4.85607 ---> -4.85607
Training on data at index 8...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.43885 ---> 5.43885
Weight[2]: -4.85607 ---> -4.85607
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.43885 ---> 5.43885
Weight[2]: -4.85607 ---> -4.85607
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.43885 ---> 5.43885
Weight[2]: -4.85607 ---> -4.85607
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.43885 ---> 5.43885
Weight[2]: -4.85607 ---> -4.85607
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 5.43885 ---> 4.64750
Weight[2]: -4.85607 ---> -5.54914
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 4.64750 ---> 4.64750
Weight[2]: -5.54914 ---> -5.54914
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 4.64750 ---> 4.64750
Weight[2]: -5.54914 ---> -5.54914
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 4.64750 ---> 5.40558
Weight[2]: -5.54914 ---> -4.92874
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 25...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.40558 ---> 5.40558
Weight[2]: -4.92874 ---> -4.92874
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 5.40558 ---> 5.67428
Weight[2]: -4.92874 ---> -4.76152
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 5.67428 ---> 5.67428
Weight[2]: -4.76152 ---> -4.76152
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 5.67428 ---> 5.53415
Weight[2]: -4.76152 ---> -4.91463
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 42...
```

```

Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

```

```

Iteration 10
Weights: [-0.8, 5.534148431479139, -4.914632983956586]
Accuracy: 0.96
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000

```

```
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.53415 ---> 5.53415
Weight[2]: -4.91463 ---> -4.91463
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 5.53415 ---> 4.74279
Weight[2]: -4.91463 ---> -5.60770
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 4.74279 ---> 4.74279
Weight[2]: -5.60770 ---> -5.60770
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 4.74279 ---> 4.74279
Weight[2]: -5.60770 ---> -5.60770
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 4.74279 ---> 5.50088
Weight[2]: -5.60770 ---> -4.98729
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.50088 ---> 5.50088
Weight[2]: -4.98729 ---> -4.98729
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 5.50088 ---> 5.76958
Weight[2]: -4.98729 ---> -4.82008
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 5.76958 ---> 5.76958
Weight[2]: -4.82008 ---> -4.82008
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 5.76958 ---> 5.62945
Weight[2]: -4.82008 ---> -4.97319
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
```



```
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 11
Weights: [-0.8, 5.6294455040514215, -4.973192024044507]
Accuracy: 0.96
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
```

```
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.62945 ---> 5.62945
Weight[2]: -4.97319 ---> -4.97319
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 5.62945 ---> 4.83809
Weight[2]: -4.97319 ---> -5.66625
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 4.83809 ---> 4.83809
Weight[2]: -5.66625 ---> -5.66625
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 4.83809 ---> 4.83809
Weight[2]: -5.66625 ---> -5.66625
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 4.83809 ---> 5.59617
Weight[2]: -5.66625 ---> -5.04585
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
```

```
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.59617 ---> 5.59617
Weight[2]: -5.04585 ---> -5.04585
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 5.59617 ---> 5.86487
Weight[2]: -5.04585 ---> -4.87863
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 5.86487 ---> 5.86487
Weight[2]: -4.87863 ---> -4.87863
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 5.86487 ---> 5.72474
```

```
Weight[2]: -4.87863 ---> -5.03175
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.72474 ---> 5.72474
Weight[2]: -5.03175 ---> -5.03175
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.72474 ---> 5.72474
Weight[2]: -5.03175 ---> -5.03175
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.72474 ---> 5.72474
Weight[2]: -5.03175 ---> -5.03175
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.72474 ---> 5.72474
Weight[2]: -5.03175 ---> -5.03175
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.72474 ---> 5.72474
Weight[2]: -5.03175 ---> -5.03175
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.72474 ---> 5.72474
Weight[2]: -5.03175 ---> -5.03175
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.72474 ---> 5.72474
Weight[2]: -5.03175 ---> -5.03175
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.72474 ---> 5.72474
Weight[2]: -5.03175 ---> -5.03175
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.72474 ---> 5.72474
Weight[2]: -5.03175 ---> -5.03175
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 12
Weights: [-0.8, 5.724742576623704, -5.031751064132428]
Accuracy: 0.96
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.72474 ---> 5.72474
Weight[2]: -5.03175 ---> -5.03175
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.72474 ---> 5.72474
Weight[2]: -5.03175 ---> -5.03175
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.72474 ---> 5.72474
Weight[2]: -5.03175 ---> -5.03175
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.72474 ---> 5.72474
Weight[2]: -5.03175 ---> -5.03175
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.72474 ---> 5.72474
Weight[2]: -5.03175 ---> -5.03175
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.72474 ---> 5.72474
Weight[2]: -5.03175 ---> -5.03175
```

```
Training on data at index 6...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.72474 ---> 5.72474
  Weight[2]: -5.03175 ---> -5.03175
Training on data at index 7...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.72474 ---> 5.72474
  Weight[2]: -5.03175 ---> -5.03175
Training on data at index 8...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.72474 ---> 5.72474
  Weight[2]: -5.03175 ---> -5.03175
Training on data at index 9...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.72474 ---> 5.72474
  Weight[2]: -5.03175 ---> -5.03175
Training on data at index 10...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.72474 ---> 5.72474
  Weight[2]: -5.03175 ---> -5.03175
Training on data at index 11...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.72474 ---> 5.72474
  Weight[2]: -5.03175 ---> -5.03175
Training on data at index 12...
  Weight[0]: -0.80000 ---> -1.80000
  Weight[1]: 5.72474 ---> 4.93339
  Weight[2]: -5.03175 ---> -5.72481
Training on data at index 13...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 4.93339 ---> 4.93339
  Weight[2]: -5.72481 ---> -5.72481
Training on data at index 14...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 4.93339 ---> 4.93339
  Weight[2]: -5.72481 ---> -5.72481
Training on data at index 15...
  Weight[0]: -1.80000 ---> -0.80000
  Weight[1]: 4.93339 ---> 5.69147
  Weight[2]: -5.72481 ---> -5.10441
Training on data at index 16...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 17...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 18...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 19...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 20...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 21...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 22...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
```

```
Training on data at index 23...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 24...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 25...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 26...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 27...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 28...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 29...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 30...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 31...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 32...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 33...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 34...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 35...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 36...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 37...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.69147 ---> 5.69147
  Weight[2]: -5.10441 ---> -5.10441
Training on data at index 38...
  Weight[0]: -0.80000 ---> 0.20000
  Weight[1]: 5.69147 ---> 5.96017
  Weight[2]: -5.10441 ---> -4.93719
Training on data at index 39...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 5.96017 ---> 5.96017
  Weight[2]: -4.93719 ---> -4.93719
```

```
Training on data at index 40...
  Weight[0]: 0.20000 ---> -0.80000
  Weight[1]: 5.96017 ---> 5.82004
  Weight[2]: -4.93719 ---> -5.09031
Training on data at index 41...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.82004 ---> 5.82004
  Weight[2]: -5.09031 ---> -5.09031
Training on data at index 42...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.82004 ---> 5.82004
  Weight[2]: -5.09031 ---> -5.09031
Training on data at index 43...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.82004 ---> 5.82004
  Weight[2]: -5.09031 ---> -5.09031
Training on data at index 44...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.82004 ---> 5.82004
  Weight[2]: -5.09031 ---> -5.09031
Training on data at index 45...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.82004 ---> 5.82004
  Weight[2]: -5.09031 ---> -5.09031
Training on data at index 46...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.82004 ---> 5.82004
  Weight[2]: -5.09031 ---> -5.09031
Training on data at index 47...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.82004 ---> 5.82004
  Weight[2]: -5.09031 ---> -5.09031
Training on data at index 48...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.82004 ---> 5.82004
  Weight[2]: -5.09031 ---> -5.09031
Training on data at index 49...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.82004 ---> 5.82004
  Weight[2]: -5.09031 ---> -5.09031
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 13
Weights: [-0.8, 5.820039649195987, -5.090310104220349]
Accuracy: 0.96
Training on data at index 0...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.82004 ---> 5.82004
  Weight[2]: -5.09031 ---> -5.09031
Training on data at index 1...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.82004 ---> 5.82004
  Weight[2]: -5.09031 ---> -5.09031
Training on data at index 2...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.82004 ---> 5.82004
  Weight[2]: -5.09031 ---> -5.09031
Training on data at index 3...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.82004 ---> 5.82004
  Weight[2]: -5.09031 ---> -5.09031
Training on data at index 4...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 5.82004 ---> 5.82004
  Weight[2]: -5.09031 ---> -5.09031
Training on data at index 5...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.82004 ---> 5.82004
Weight[2]: -5.09031 ---> -5.09031
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.82004 ---> 5.82004
Weight[2]: -5.09031 ---> -5.09031
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.82004 ---> 5.82004
Weight[2]: -5.09031 ---> -5.09031
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.82004 ---> 5.82004
Weight[2]: -5.09031 ---> -5.09031
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.82004 ---> 5.82004
Weight[2]: -5.09031 ---> -5.09031
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.82004 ---> 5.82004
Weight[2]: -5.09031 ---> -5.09031
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.82004 ---> 5.82004
Weight[2]: -5.09031 ---> -5.09031
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 5.82004 ---> 5.02868
Weight[2]: -5.09031 ---> -5.78337
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 5.02868 ---> 5.02868
Weight[2]: -5.78337 ---> -5.78337
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 5.02868 ---> 5.02868
Weight[2]: -5.78337 ---> -5.78337
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 5.02868 ---> 5.78677
Weight[2]: -5.78337 ---> -5.16297
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 22...
```



```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.78677 ---> 5.78677
Weight[2]: -5.16297 ---> -5.16297
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 5.78677 ---> 6.05547
Weight[2]: -5.16297 ---> -4.99575
Training on data at index 39...
```

```

Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 6.05547 ---> 6.05547
Weight[2]: -4.99575 ---> -4.99575
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 6.05547 ---> 5.91534
Weight[2]: -4.99575 ---> -5.14887
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

```

```

Iteration 14
Weights: [-0.8, 5.91533672176827, -5.148869144308271]
Accuracy: 0.96
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000

```

```
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.91534 ---> 5.91534
Weight[2]: -5.14887 ---> -5.14887
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 5.91534 ---> 5.12398
Weight[2]: -5.14887 ---> -5.84193
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 5.12398 ---> 5.12398
Weight[2]: -5.84193 ---> -5.84193
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 5.12398 ---> 5.12398
Weight[2]: -5.84193 ---> -5.84193
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 5.12398 ---> 5.88206
Weight[2]: -5.84193 ---> -5.22153
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.88206 ---> 5.88206
Weight[2]: -5.22153 ---> -5.22153
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
```

```

Weight[1]: 5.88206 ---> 6.15076
Weight[2]: -5.22153 ---> -5.05431
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 6.15076 ---> 6.15076
Weight[2]: -5.05431 ---> -5.05431
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 6.15076 ---> 6.01063
Weight[2]: -5.05431 ---> -5.20743
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

```

Iteration 15

Weights: [-0.8, 6.010633794340553, -5.207428184396192]

Accuracy: 0.96

```

Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063

```

```
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.01063 ---> 6.01063
Weight[2]: -5.20743 ---> -5.20743
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 6.01063 ---> 5.21928
Weight[2]: -5.20743 ---> -5.90049
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 5.21928 ---> 5.21928
Weight[2]: -5.90049 ---> -5.90049
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 5.21928 ---> 5.21928
Weight[2]: -5.90049 ---> -5.90049
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 5.21928 ---> 5.97736
Weight[2]: -5.90049 ---> -5.28009
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
```

```
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 5.97736 ---> 5.97736
```

```
Weight[2]: -5.28009 ---> -5.28009
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 5.97736 ---> 6.24606
Weight[2]: -5.28009 ---> -5.11287
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 6.24606 ---> 6.24606
Weight[2]: -5.11287 ---> -5.11287
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 6.24606 ---> 6.10593
Weight[2]: -5.11287 ---> -5.26599
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.10593 ---> 6.10593
Weight[2]: -5.26599 ---> -5.26599
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.10593 ---> 6.10593
Weight[2]: -5.26599 ---> -5.26599
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.10593 ---> 6.10593
Weight[2]: -5.26599 ---> -5.26599
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.10593 ---> 6.10593
Weight[2]: -5.26599 ---> -5.26599
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.10593 ---> 6.10593
Weight[2]: -5.26599 ---> -5.26599
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.10593 ---> 6.10593
Weight[2]: -5.26599 ---> -5.26599
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.10593 ---> 6.10593
Weight[2]: -5.26599 ---> -5.26599
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.10593 ---> 6.10593
Weight[2]: -5.26599 ---> -5.26599
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.10593 ---> 6.10593
Weight[2]: -5.26599 ---> -5.26599
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

Iteration 16
Weights: [-0.8, 6.105930866912836, -5.265987224484113]
Accuracy: 0.96
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.10593 ---> 6.10593
Weight[2]: -5.26599 ---> -5.26599
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.10593 ---> 6.10593
Weight[2]: -5.26599 ---> -5.26599
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.10593 ---> 6.10593
Weight[2]: -5.26599 ---> -5.26599
```



```
Training on data at index 3...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.10593 ---> 6.10593
  Weight[2]: -5.26599 ---> -5.26599
Training on data at index 4...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.10593 ---> 6.10593
  Weight[2]: -5.26599 ---> -5.26599
Training on data at index 5...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.10593 ---> 6.10593
  Weight[2]: -5.26599 ---> -5.26599
Training on data at index 6...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.10593 ---> 6.10593
  Weight[2]: -5.26599 ---> -5.26599
Training on data at index 7...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.10593 ---> 6.10593
  Weight[2]: -5.26599 ---> -5.26599
Training on data at index 8...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.10593 ---> 6.10593
  Weight[2]: -5.26599 ---> -5.26599
Training on data at index 9...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.10593 ---> 6.10593
  Weight[2]: -5.26599 ---> -5.26599
Training on data at index 10...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.10593 ---> 6.10593
  Weight[2]: -5.26599 ---> -5.26599
Training on data at index 11...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.10593 ---> 6.10593
  Weight[2]: -5.26599 ---> -5.26599
Training on data at index 12...
  Weight[0]: -0.80000 ---> -1.80000
  Weight[1]: 6.10593 ---> 5.31458
  Weight[2]: -5.26599 ---> -5.95905
Training on data at index 13...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 5.31458 ---> 5.31458
  Weight[2]: -5.95905 ---> -5.95905
Training on data at index 14...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 5.31458 ---> 5.31458
  Weight[2]: -5.95905 ---> -5.95905
Training on data at index 15...
  Weight[0]: -1.80000 ---> -0.80000
  Weight[1]: 5.31458 ---> 6.07266
  Weight[2]: -5.95905 ---> -5.33865
Training on data at index 16...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 17...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 18...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 19...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
```

```
Training on data at index 20...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 21...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 22...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 23...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 24...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 25...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 26...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 27...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 28...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 29...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 30...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 31...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 32...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 33...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 34...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 35...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 36...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
```

```

Training on data at index 37...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.07266 ---> 6.07266
  Weight[2]: -5.33865 ---> -5.33865
Training on data at index 38...
  Weight[0]: -0.80000 ---> 0.20000
  Weight[1]: 6.07266 ---> 6.34136
  Weight[2]: -5.33865 ---> -5.17143
Training on data at index 39...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 6.34136 ---> 6.34136
  Weight[2]: -5.17143 ---> -5.17143
Training on data at index 40...
  Weight[0]: 0.20000 ---> -0.80000
  Weight[1]: 6.34136 ---> 6.20123
  Weight[2]: -5.17143 ---> -5.32455
Training on data at index 41...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.20123 ---> 6.20123
  Weight[2]: -5.32455 ---> -5.32455
Training on data at index 42...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.20123 ---> 6.20123
  Weight[2]: -5.32455 ---> -5.32455
Training on data at index 43...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.20123 ---> 6.20123
  Weight[2]: -5.32455 ---> -5.32455
Training on data at index 44...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.20123 ---> 6.20123
  Weight[2]: -5.32455 ---> -5.32455
Training on data at index 45...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.20123 ---> 6.20123
  Weight[2]: -5.32455 ---> -5.32455
Training on data at index 46...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.20123 ---> 6.20123
  Weight[2]: -5.32455 ---> -5.32455
Training on data at index 47...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.20123 ---> 6.20123
  Weight[2]: -5.32455 ---> -5.32455
Training on data at index 48...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.20123 ---> 6.20123
  Weight[2]: -5.32455 ---> -5.32455
Training on data at index 49...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.20123 ---> 6.20123
  Weight[2]: -5.32455 ---> -5.32455
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

Iteration 17
Weights: [-0.8, 6.201227939485118, -5.324546264572034]
Accuracy: 0.96
Training on data at index 0...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.20123 ---> 6.20123
  Weight[2]: -5.32455 ---> -5.32455
Training on data at index 1...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.20123 ---> 6.20123
  Weight[2]: -5.32455 ---> -5.32455
Training on data at index 2...

```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.20123 ---> 6.20123
Weight[2]: -5.32455 ---> -5.32455
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.20123 ---> 6.20123
Weight[2]: -5.32455 ---> -5.32455
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.20123 ---> 6.20123
Weight[2]: -5.32455 ---> -5.32455
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.20123 ---> 6.20123
Weight[2]: -5.32455 ---> -5.32455
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.20123 ---> 6.20123
Weight[2]: -5.32455 ---> -5.32455
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.20123 ---> 6.20123
Weight[2]: -5.32455 ---> -5.32455
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.20123 ---> 6.20123
Weight[2]: -5.32455 ---> -5.32455
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.20123 ---> 6.20123
Weight[2]: -5.32455 ---> -5.32455
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.20123 ---> 6.20123
Weight[2]: -5.32455 ---> -5.32455
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.20123 ---> 6.20123
Weight[2]: -5.32455 ---> -5.32455
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 6.20123 ---> 5.40987
Weight[2]: -5.32455 ---> -6.01761
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 5.40987 ---> 5.40987
Weight[2]: -6.01761 ---> -6.01761
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 5.40987 ---> 5.40987
Weight[2]: -6.01761 ---> -6.01761
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 5.40987 ---> 6.16796
Weight[2]: -6.01761 ---> -5.39721
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 19...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 36...
```

```

Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.16796 ---> 6.16796
Weight[2]: -5.39721 ---> -5.39721
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 6.16796 ---> 6.43666
Weight[2]: -5.39721 ---> -5.22999
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 6.43666 ---> 6.43666
Weight[2]: -5.22999 ---> -5.22999
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 6.43666 ---> 6.29653
Weight[2]: -5.22999 ---> -5.38311
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

Iteration 18
Weights: [-0.8, 6.296525012057401, -5.3831053046599555]
Accuracy: 0.96
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000

```

```
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.29653 ---> 6.29653
Weight[2]: -5.38311 ---> -5.38311
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 6.29653 ---> 5.50517
Weight[2]: -5.38311 ---> -6.07617
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 5.50517 ---> 5.50517
Weight[2]: -6.07617 ---> -6.07617
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 5.50517 ---> 5.50517
Weight[2]: -6.07617 ---> -6.07617
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 5.50517 ---> 6.26325
Weight[2]: -6.07617 ---> -5.45577
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
```



```

Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.26325 ---> 6.26325
Weight[2]: -5.45577 ---> -5.45577
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 6.26325 ---> 6.53195
Weight[2]: -5.45577 ---> -5.28855
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 6.53195 ---> 6.53195
Weight[2]: -5.28855 ---> -5.28855
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 6.53195 ---> 6.39182
Weight[2]: -5.28855 ---> -5.44166
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

Iteration 19
Weights: [-0.8, 6.391822084629684, -5.441664344747877]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182

```

```
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.39182 ---> 6.39182
Weight[2]: -5.44166 ---> -5.44166
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 6.39182 ---> 5.60047
Weight[2]: -5.44166 ---> -6.13473
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 5.60047 ---> 5.60047
Weight[2]: -6.13473 ---> -6.13473
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 5.60047 ---> 5.60047
Weight[2]: -6.13473 ---> -6.13473
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 5.60047 ---> 6.35855
Weight[2]: -6.13473 ---> -5.51433
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
```

```
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
```

```
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.35855 ---> 6.35855
Weight[2]: -5.51433 ---> -5.51433
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 6.35855 ---> 6.62725
Weight[2]: -5.51433 ---> -5.34711
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 6.62725 ---> 6.62725
Weight[2]: -5.34711 ---> -5.34711
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 6.62725 ---> 6.48712
Weight[2]: -5.34711 ---> -5.50022
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.48712 ---> 6.48712
Weight[2]: -5.50022 ---> -5.50022
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.48712 ---> 6.48712
Weight[2]: -5.50022 ---> -5.50022
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.48712 ---> 6.48712
Weight[2]: -5.50022 ---> -5.50022
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.48712 ---> 6.48712
Weight[2]: -5.50022 ---> -5.50022
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.48712 ---> 6.48712
Weight[2]: -5.50022 ---> -5.50022
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.48712 ---> 6.48712
Weight[2]: -5.50022 ---> -5.50022
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.48712 ---> 6.48712
Weight[2]: -5.50022 ---> -5.50022
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.48712 ---> 6.48712
Weight[2]: -5.50022 ---> -5.50022
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.48712 ---> 6.48712
Weight[2]: -5.50022 ---> -5.50022
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 1, 1, 0.0, 1, 1, 1,
0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1, 0.
0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

Iteration 20
Weights: [-0.8, 6.487119157201967, -5.500223384835798]
Accuracy: 0.96
```

```
Training on data at index 0...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.48712 ---> 6.48712
  Weight[2]: -5.50022 ---> -5.50022
Training on data at index 1...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.48712 ---> 6.48712
  Weight[2]: -5.50022 ---> -5.50022
Training on data at index 2...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.48712 ---> 6.48712
  Weight[2]: -5.50022 ---> -5.50022
Training on data at index 3...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.48712 ---> 6.48712
  Weight[2]: -5.50022 ---> -5.50022
Training on data at index 4...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.48712 ---> 6.48712
  Weight[2]: -5.50022 ---> -5.50022
Training on data at index 5...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.48712 ---> 6.48712
  Weight[2]: -5.50022 ---> -5.50022
Training on data at index 6...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.48712 ---> 6.48712
  Weight[2]: -5.50022 ---> -5.50022
Training on data at index 7...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.48712 ---> 6.48712
  Weight[2]: -5.50022 ---> -5.50022
Training on data at index 8...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.48712 ---> 6.48712
  Weight[2]: -5.50022 ---> -5.50022
Training on data at index 9...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.48712 ---> 6.48712
  Weight[2]: -5.50022 ---> -5.50022
Training on data at index 10...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.48712 ---> 6.48712
  Weight[2]: -5.50022 ---> -5.50022
Training on data at index 11...
  Weight[0]: -0.80000 ---> -1.80000
  Weight[1]: 6.48712 ---> 5.84000
  Weight[2]: -5.50022 ---> -6.11501
Training on data at index 12...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 5.84000 ---> 5.84000
  Weight[2]: -6.11501 ---> -6.11501
Training on data at index 13...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 5.84000 ---> 5.84000
  Weight[2]: -6.11501 ---> -6.11501
Training on data at index 14...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 5.84000 ---> 5.84000
  Weight[2]: -6.11501 ---> -6.11501
Training on data at index 15...
  Weight[0]: -1.80000 ---> -0.80000
  Weight[1]: 5.84000 ---> 6.59808
  Weight[2]: -6.11501 ---> -5.49461
Training on data at index 16...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
```

```
Training on data at index 17...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 18...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 19...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 20...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 21...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 22...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 23...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 24...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 25...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 26...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 27...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 28...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 29...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 30...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 31...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 32...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 33...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
```

```
Training on data at index 34...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 35...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 36...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 37...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 38...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 39...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 40...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 41...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 42...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 43...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 44...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 45...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 46...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 47...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 48...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 49...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 1, 1, 1, 1, 1, 1, 0.
0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0,
1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 21
Weights: [-0.8, 6.598078478241945, -5.494613677564157]
Accuracy: 0.94
Training on data at index 0...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 1...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 2...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 3...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 4...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 5...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 6...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 7...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 8...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 9...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 10...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.59808 ---> 6.59808
  Weight[2]: -5.49461 ---> -5.49461
Training on data at index 11...
  Weight[0]: -0.80000 ---> -1.80000
  Weight[1]: 6.59808 ---> 5.95095
  Weight[2]: -5.49461 ---> -6.10941
Training on data at index 12...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 5.95095 ---> 5.95095
  Weight[2]: -6.10941 ---> -6.10941
Training on data at index 13...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 5.95095 ---> 5.95095
  Weight[2]: -6.10941 ---> -6.10941
Training on data at index 14...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 5.95095 ---> 5.95095
  Weight[2]: -6.10941 ---> -6.10941
Training on data at index 15...
  Weight[0]: -1.80000 ---> -0.80000
  Weight[1]: 5.95095 ---> 6.70904
  Weight[2]: -6.10941 ---> -5.48900
Training on data at index 16...
```



```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 33...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 38...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 39...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 40...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70904 ---> 6.70904
Weight[2]: -5.48900 ---> -5.48900
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 1, 1, 1, 1, 1, 1, 0.]
```

```
0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0,
1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

Iteration 22
Weights: [-0.8, 6.709037799281923, -5.489003970292516]
Accuracy: 0.94
Training on data at index 0...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.70904 ---> 6.70904
  Weight[2]: -5.48900 ---> -5.48900
Training on data at index 1...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.70904 ---> 6.70904
  Weight[2]: -5.48900 ---> -5.48900
Training on data at index 2...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.70904 ---> 6.70904
  Weight[2]: -5.48900 ---> -5.48900
Training on data at index 3...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.70904 ---> 6.70904
  Weight[2]: -5.48900 ---> -5.48900
Training on data at index 4...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.70904 ---> 6.70904
  Weight[2]: -5.48900 ---> -5.48900
Training on data at index 5...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.70904 ---> 6.70904
  Weight[2]: -5.48900 ---> -5.48900
Training on data at index 6...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.70904 ---> 6.70904
  Weight[2]: -5.48900 ---> -5.48900
Training on data at index 7...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.70904 ---> 6.70904
  Weight[2]: -5.48900 ---> -5.48900
Training on data at index 8...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.70904 ---> 6.70904
  Weight[2]: -5.48900 ---> -5.48900
Training on data at index 9...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.70904 ---> 6.70904
  Weight[2]: -5.48900 ---> -5.48900
Training on data at index 10...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.70904 ---> 6.70904
  Weight[2]: -5.48900 ---> -5.48900
Training on data at index 11...
  Weight[0]: -0.80000 ---> -1.80000
  Weight[1]: 6.70904 ---> 6.06191
  Weight[2]: -5.48900 ---> -6.10380
Training on data at index 12...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.06191 ---> 6.06191
  Weight[2]: -6.10380 ---> -6.10380
Training on data at index 13...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.06191 ---> 6.06191
  Weight[2]: -6.10380 ---> -6.10380
Training on data at index 14...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.06191 ---> 6.06191
  Weight[2]: -6.10380 ---> -6.10380
Training on data at index 15...
  Weight[0]: -1.80000 ---> -0.80000
```

```
Weight[1]: 6.06191 ---> 6.82000
Weight[2]: -6.10380 ---> -5.48339
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 38...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 39...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 40...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 6.82000 ---> 6.82000
Weight[2]: -5.48339 ---> -5.48339
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 1, 1, 1, 1, 1, 1, 0.
0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0,
1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

Iteration 23

Weights: [-0.8, 6.819997120321901, -5.483394263020875]

Accuracy: 0.94

Training on data at index 0...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 6.82000 ---> 6.82000

Weight[2]: -5.48339 ---> -5.48339

Training on data at index 1...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 6.82000 ---> 6.82000

Weight[2]: -5.48339 ---> -5.48339

Training on data at index 2...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 6.82000 ---> 6.82000

Weight[2]: -5.48339 ---> -5.48339

Training on data at index 3...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 6.82000 ---> 6.82000

Weight[2]: -5.48339 ---> -5.48339

Training on data at index 4...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 6.82000 ---> 6.82000

Weight[2]: -5.48339 ---> -5.48339

Training on data at index 5...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 6.82000 ---> 6.82000

Weight[2]: -5.48339 ---> -5.48339

Training on data at index 6...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 6.82000 ---> 6.82000

Weight[2]: -5.48339 ---> -5.48339

Training on data at index 7...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 6.82000 ---> 6.82000

Weight[2]: -5.48339 ---> -5.48339

Training on data at index 8...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 6.82000 ---> 6.82000

Weight[2]: -5.48339 ---> -5.48339

Training on data at index 9...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 6.82000 ---> 6.82000

Weight[2]: -5.48339 ---> -5.48339

Training on data at index 10...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 6.82000 ---> 6.82000

Weight[2]: -5.48339 ---> -5.48339

Training on data at index 11...

Weight[0]: -0.80000 ---> -1.80000

Weight[1]: 6.82000 ---> 6.17287

Weight[2]: -5.48339 ---> -6.09819

Training on data at index 12...

Weight[0]: -1.80000 ---> -1.80000

Weight[1]: 6.17287 ---> 6.17287

Weight[2]: -6.09819 ---> -6.09819

Training on data at index 13...

Weight[0]: -1.80000 ---> -1.80000

Weight[1]: 6.17287 ---> 6.17287

Weight[2]: -6.09819 ---> -6.09819

Training on data at index 14...

Weight[0]: -1.80000 ---> -1.80000

Weight[1]: 6.17287 ---> 6.17287

```
Weight[2]: -6.09819 ---> -6.09819
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.17287 ---> 6.93096
Weight[2]: -6.09819 ---> -5.47778
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.93096 ---> 6.93096
Weight[2]: -5.47778 ---> -5.47778
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.93096 ---> 6.93096
Weight[2]: -5.47778 ---> -5.47778
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.93096 ---> 6.93096
Weight[2]: -5.47778 ---> -5.47778
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.93096 ---> 6.93096
Weight[2]: -5.47778 ---> -5.47778
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.93096 ---> 6.93096
Weight[2]: -5.47778 ---> -5.47778
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.93096 ---> 6.93096
Weight[2]: -5.47778 ---> -5.47778
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.93096 ---> 6.93096
Weight[2]: -5.47778 ---> -5.47778
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.93096 ---> 6.93096
Weight[2]: -5.47778 ---> -5.47778
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.93096 ---> 6.93096
Weight[2]: -5.47778 ---> -5.47778
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.93096 ---> 6.93096
Weight[2]: -5.47778 ---> -5.47778
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.93096 ---> 6.93096
Weight[2]: -5.47778 ---> -5.47778
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.93096 ---> 6.93096
Weight[2]: -5.47778 ---> -5.47778
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.93096 ---> 6.93096
Weight[2]: -5.47778 ---> -5.47778
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.93096 ---> 6.93096
Weight[2]: -5.47778 ---> -5.47778
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.93096 ---> 6.93096
Weight[2]: -5.47778 ---> -5.47778
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.93096 ---> 6.93096
```

```
Weight[2]: -5.47778 ---> -5.47778
Training on data at index 32...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 6.93096 ---> 6.41655
Weight[2]: -5.47778 ---> -5.97262
Training on data at index 33...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.41655 ---> 6.41655
Weight[2]: -5.97262 ---> -5.97262
Training on data at index 34...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.41655 ---> 6.63899
Weight[2]: -5.97262 ---> -5.96444
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.63899 ---> 6.63899
Weight[2]: -5.96444 ---> -5.96444
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.63899 ---> 6.63899
Weight[2]: -5.96444 ---> -5.96444
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.63899 ---> 6.63899
Weight[2]: -5.96444 ---> -5.96444
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 6.63899 ---> 6.90769
Weight[2]: -5.96444 ---> -5.79722
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 6.90769 ---> 6.90769
Weight[2]: -5.79722 ---> -5.79722
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 6.90769 ---> 6.76756
Weight[2]: -5.79722 ---> -5.95034
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
```



```
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

Iteration 24
Weights: [-0.8, 6.767558267657751, -5.950337865538256]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.76756 ---> 6.76756
Weight[2]: -5.95034 ---> -5.95034
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 6.76756 ---> 5.97620
Weight[2]: -5.95034 ---> -6.64340
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 5.97620 ---> 5.97620
Weight[2]: -6.64340 ---> -6.64340
```

```
Training on data at index 14...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 5.97620 ---> 5.97620
  Weight[2]: -6.64340 ---> -6.64340
Training on data at index 15...
  Weight[0]: -1.80000 ---> -0.80000
  Weight[1]: 5.97620 ---> 6.73429
  Weight[2]: -6.64340 ---> -6.02300
Training on data at index 16...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 17...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 18...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 19...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 20...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 21...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 22...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 23...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 24...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 25...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 26...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 27...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 28...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 29...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 30...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
```

```
Training on data at index 31...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 32...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 33...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 34...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 35...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 36...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 37...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 38...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 39...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 40...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 41...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 42...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 43...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 44...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 45...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 46...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 47...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
```

```
Training on data at index 48...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 49...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

Iteration 25

Weights: [-0.8, 6.7342859633001435, -6.022999227990466]

Accuracy: 0.98

```
Training on data at index 0...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 1...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 2...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 3...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 4...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 5...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 6...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 7...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 8...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 9...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 10...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 11...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.73429 ---> 6.73429
  Weight[2]: -6.02300 ---> -6.02300
Training on data at index 12...
  Weight[0]: -0.80000 ---> -1.80000
  Weight[1]: 6.73429 ---> 5.94293
  Weight[2]: -6.02300 ---> -6.71606
Training on data at index 13...
```

```
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 5.94293 ---> 5.94293
Weight[2]: -6.71606 ---> -6.71606
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 5.94293 ---> 5.94293
Weight[2]: -6.71606 ---> -6.71606
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 5.94293 ---> 6.70101
Weight[2]: -6.71606 ---> -6.09566
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 30...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.70101 ---> 6.70101
Weight[2]: -6.09566 ---> -6.09566
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 6.70101 ---> 6.96971
Weight[2]: -6.09566 ---> -5.92844
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 6.96971 ---> 6.96971
Weight[2]: -5.92844 ---> -5.92844
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 6.96971 ---> 6.82958
Weight[2]: -5.92844 ---> -6.08156
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 47...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 26
Weights: [-0.8, 6.829583035872426, -6.081558268078387]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.82958 ---> 6.82958
Weight[2]: -6.08156 ---> -6.08156
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
```

```
Weight[1]: 6.82958 ---> 6.03823
Weight[2]: -6.08156 ---> -6.77462
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.03823 ---> 6.03823
Weight[2]: -6.77462 ---> -6.77462
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.03823 ---> 6.03823
Weight[2]: -6.77462 ---> -6.77462
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.03823 ---> 6.79631
Weight[2]: -6.77462 ---> -6.15422
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
```



```
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.79631 ---> 6.79631
Weight[2]: -6.15422 ---> -6.15422
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 6.79631 ---> 7.06501
Weight[2]: -6.15422 ---> -5.98700
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 7.06501 ---> 7.06501
Weight[2]: -5.98700 ---> -5.98700
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 7.06501 ---> 6.92488
Weight[2]: -5.98700 ---> -6.14012
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 27
Weights: [-0.8, 6.924880108444709, -6.1401173081663085]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92488 ---> 6.92488
```

```
Weight[2]: -6.14012 ---> -6.14012
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 6.92488 ---> 6.13352
Weight[2]: -6.14012 ---> -6.83318
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.13352 ---> 6.13352
Weight[2]: -6.83318 ---> -6.83318
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.13352 ---> 6.13352
Weight[2]: -6.83318 ---> -6.83318
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.13352 ---> 6.89161
Weight[2]: -6.83318 ---> -6.21278
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
```

```
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 38...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 39...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 40...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
```

```
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 28
Weights: [-0.8, 6.891607804087101, -6.212778670618518]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.89161 ---> 6.89161
Weight[2]: -6.21278 ---> -6.21278
```

```
Training on data at index 11...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.89161 ---> 6.89161
  Weight[2]: -6.21278 ---> -6.21278
Training on data at index 12...
  Weight[0]: -0.80000 ---> -1.80000
  Weight[1]: 6.89161 ---> 6.10025
  Weight[2]: -6.21278 ---> -6.90584
Training on data at index 13...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.10025 ---> 6.10025
  Weight[2]: -6.90584 ---> -6.90584
Training on data at index 14...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.10025 ---> 6.10025
  Weight[2]: -6.90584 ---> -6.90584
Training on data at index 15...
  Weight[0]: -1.80000 ---> -0.80000
  Weight[1]: 6.10025 ---> 6.85834
  Weight[2]: -6.90584 ---> -6.28544
Training on data at index 16...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 17...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 18...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 19...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 20...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 21...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 22...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 23...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 24...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 25...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 26...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 27...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
```

```
Training on data at index 28...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 29...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 30...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 31...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 32...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 33...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 34...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 35...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 36...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 37...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.85834 ---> 6.85834
  Weight[2]: -6.28544 ---> -6.28544
Training on data at index 38...
  Weight[0]: -0.80000 ---> 0.20000
  Weight[1]: 6.85834 ---> 7.12704
  Weight[2]: -6.28544 ---> -6.11822
Training on data at index 39...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 7.12704 ---> 7.12704
  Weight[2]: -6.11822 ---> -6.11822
Training on data at index 40...
  Weight[0]: 0.20000 ---> -0.80000
  Weight[1]: 7.12704 ---> 6.98690
  Weight[2]: -6.11822 ---> -6.27134
Training on data at index 41...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 42...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 43...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 44...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
```

```
Training on data at index 45...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 46...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 47...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 48...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 49...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 29
Weights: [-0.8, 6.986904876659384, -6.271337710706439]
Accuracy: 0.98
Training on data at index 0...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 1...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 2...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 3...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 4...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 5...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 6...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 7...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 8...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 9...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98690 ---> 6.98690
  Weight[2]: -6.27134 ---> -6.27134
Training on data at index 10...
```



```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.98690 ---> 6.98690
Weight[2]: -6.27134 ---> -6.27134
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.98690 ---> 6.98690
Weight[2]: -6.27134 ---> -6.27134
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 6.98690 ---> 6.19555
Weight[2]: -6.27134 ---> -6.96440
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.19555 ---> 6.19555
Weight[2]: -6.96440 ---> -6.96440
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.19555 ---> 6.19555
Weight[2]: -6.96440 ---> -6.96440
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.19555 ---> 6.95363
Weight[2]: -6.96440 ---> -6.34400
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 27...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 38...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 39...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 40...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 44...
```

```

Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

```

```

Iteration 30
Weights: [-0.8, 6.9536325723017764, -6.343999073158649]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000

```

```
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.95363 ---> 6.95363
Weight[2]: -6.34400 ---> -6.34400
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 6.95363 ---> 6.16228
Weight[2]: -6.34400 ---> -7.03706
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.16228 ---> 6.16228
Weight[2]: -7.03706 ---> -7.03706
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.16228 ---> 6.16228
Weight[2]: -7.03706 ---> -7.03706
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.16228 ---> 6.92036
Weight[2]: -7.03706 ---> -6.41666
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 6.92036 ---> 6.92036
Weight[2]: -6.41666 ---> -6.41666
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 6.92036 ---> 7.18906
Weight[2]: -6.41666 ---> -6.24944
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 7.18906 ---> 7.18906
Weight[2]: -6.24944 ---> -6.24944
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 7.18906 ---> 7.04893
Weight[2]: -6.24944 ---> -6.40256
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 31
Weights: [-0.8, 7.048929644874059, -6.40255811324657]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
```

```
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.04893 ---> 7.04893
Weight[2]: -6.40256 ---> -6.40256
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 7.04893 ---> 6.25757
Weight[2]: -6.40256 ---> -7.09562
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.25757 ---> 6.25757
Weight[2]: -7.09562 ---> -7.09562
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.25757 ---> 6.25757
Weight[2]: -7.09562 ---> -7.09562
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.25757 ---> 7.01566
Weight[2]: -7.09562 ---> -6.47522
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
```

```
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 38...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 39...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 40...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
```



```
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 32
Weights: [-0.8, 7.0156573405164515, -6.47521947569878]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.01566 ---> 7.01566
Weight[2]: -6.47522 ---> -6.47522
```

```
Training on data at index 8...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.01566 ---> 7.01566
  Weight[2]: -6.47522 ---> -6.47522
Training on data at index 9...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.01566 ---> 7.01566
  Weight[2]: -6.47522 ---> -6.47522
Training on data at index 10...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.01566 ---> 7.01566
  Weight[2]: -6.47522 ---> -6.47522
Training on data at index 11...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.01566 ---> 7.01566
  Weight[2]: -6.47522 ---> -6.47522
Training on data at index 12...
  Weight[0]: -0.80000 ---> -1.80000
  Weight[1]: 7.01566 ---> 6.22430
  Weight[2]: -6.47522 ---> -7.16828
Training on data at index 13...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.22430 ---> 6.22430
  Weight[2]: -7.16828 ---> -7.16828
Training on data at index 14...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.22430 ---> 6.22430
  Weight[2]: -7.16828 ---> -7.16828
Training on data at index 15...
  Weight[0]: -1.80000 ---> -0.80000
  Weight[1]: 6.22430 ---> 6.98239
  Weight[2]: -7.16828 ---> -6.54788
Training on data at index 16...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 17...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 18...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 19...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 20...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 21...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 22...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 23...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 24...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
```

```
Training on data at index 25...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 26...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 27...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 28...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 29...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 30...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 31...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 32...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 33...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 34...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 35...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 36...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 37...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 6.98239 ---> 6.98239
  Weight[2]: -6.54788 ---> -6.54788
Training on data at index 38...
  Weight[0]: -0.80000 ---> 0.20000
  Weight[1]: 6.98239 ---> 7.25108
  Weight[2]: -6.54788 ---> -6.38066
Training on data at index 39...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 7.25108 ---> 7.25108
  Weight[2]: -6.38066 ---> -6.38066
Training on data at index 40...
  Weight[0]: 0.20000 ---> -0.80000
  Weight[1]: 7.25108 ---> 7.11095
  Weight[2]: -6.38066 ---> -6.53378
Training on data at index 41...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.11095 ---> 7.11095
  Weight[2]: -6.53378 ---> -6.53378
```

```
Training on data at index 42...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.11095 ---> 7.11095
  Weight[2]: -6.53378 ---> -6.53378
Training on data at index 43...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.11095 ---> 7.11095
  Weight[2]: -6.53378 ---> -6.53378
Training on data at index 44...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.11095 ---> 7.11095
  Weight[2]: -6.53378 ---> -6.53378
Training on data at index 45...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.11095 ---> 7.11095
  Weight[2]: -6.53378 ---> -6.53378
Training on data at index 46...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.11095 ---> 7.11095
  Weight[2]: -6.53378 ---> -6.53378
Training on data at index 47...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.11095 ---> 7.11095
  Weight[2]: -6.53378 ---> -6.53378
Training on data at index 48...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.11095 ---> 7.11095
  Weight[2]: -6.53378 ---> -6.53378
Training on data at index 49...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.11095 ---> 7.11095
  Weight[2]: -6.53378 ---> -6.53378
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

Iteration 33
Weights: [-0.8, 7.110954413088734, -6.533778515786701]
Accuracy: 0.98
Training on data at index 0...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.11095 ---> 7.11095
  Weight[2]: -6.53378 ---> -6.53378
Training on data at index 1...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.11095 ---> 7.11095
  Weight[2]: -6.53378 ---> -6.53378
Training on data at index 2...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.11095 ---> 7.11095
  Weight[2]: -6.53378 ---> -6.53378
Training on data at index 3...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.11095 ---> 7.11095
  Weight[2]: -6.53378 ---> -6.53378
Training on data at index 4...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.11095 ---> 7.11095
  Weight[2]: -6.53378 ---> -6.53378
Training on data at index 5...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.11095 ---> 7.11095
  Weight[2]: -6.53378 ---> -6.53378
Training on data at index 6...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.11095 ---> 7.11095
  Weight[2]: -6.53378 ---> -6.53378
Training on data at index 7...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.11095 ---> 7.11095
Weight[2]: -6.53378 ---> -6.53378
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.11095 ---> 7.11095
Weight[2]: -6.53378 ---> -6.53378
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.11095 ---> 7.11095
Weight[2]: -6.53378 ---> -6.53378
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.11095 ---> 7.11095
Weight[2]: -6.53378 ---> -6.53378
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.11095 ---> 7.11095
Weight[2]: -6.53378 ---> -6.53378
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 7.11095 ---> 6.31960
Weight[2]: -6.53378 ---> -7.22684
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.31960 ---> 6.31960
Weight[2]: -7.22684 ---> -7.22684
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.31960 ---> 6.31960
Weight[2]: -7.22684 ---> -7.22684
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.31960 ---> 7.07768
Weight[2]: -7.22684 ---> -6.60644
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 24...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.07768 ---> 7.07768
Weight[2]: -6.60644 ---> -6.60644
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 7.07768 ---> 7.34638
Weight[2]: -6.60644 ---> -6.43922
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 7.34638 ---> 7.34638
Weight[2]: -6.43922 ---> -6.43922
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 7.34638 ---> 7.20625
Weight[2]: -6.43922 ---> -6.59234
Training on data at index 41...
```

```

Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

```

```

Iteration 34
Weights: [-0.8, 7.206251485661017, -6.5923375558746224]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000

```

```
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20625 ---> 7.20625
Weight[2]: -6.59234 ---> -6.59234
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 7.20625 ---> 6.41490
Weight[2]: -6.59234 ---> -7.28540
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.41490 ---> 6.41490
Weight[2]: -7.28540 ---> -7.28540
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.41490 ---> 6.41490
Weight[2]: -7.28540 ---> -7.28540
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.41490 ---> 7.17298
Weight[2]: -7.28540 ---> -6.66500
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
```



```
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 38...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 39...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 40...
Weight[0]: -0.80000 ---> -0.80000
```

```

Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

```

```

Iteration 35
Weights: [-0.8, 7.172979181303409, -6.664998918326832]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298

```

```
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.17298 ---> 7.17298
Weight[2]: -6.66500 ---> -6.66500
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 7.17298 ---> 6.38162
Weight[2]: -6.66500 ---> -7.35806
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.38162 ---> 6.38162
Weight[2]: -7.35806 ---> -7.35806
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.38162 ---> 6.38162
Weight[2]: -7.35806 ---> -7.35806
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.38162 ---> 7.13971
Weight[2]: -7.35806 ---> -6.73766
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
```

```
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.13971 ---> 7.13971
Weight[2]: -6.73766 ---> -6.73766
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 7.13971 ---> 7.40841
Weight[2]: -6.73766 ---> -6.57044
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 7.40841 ---> 7.40841
```

```

        Weight[2]: -6.57044 ---> -6.57044
Training on data at index 40...
        Weight[0]: 0.20000 ---> -0.80000
        Weight[1]: 7.40841 ---> 7.26828
        Weight[2]: -6.57044 ---> -6.72356
Training on data at index 41...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.26828 ---> 7.26828
        Weight[2]: -6.72356 ---> -6.72356
Training on data at index 42...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.26828 ---> 7.26828
        Weight[2]: -6.72356 ---> -6.72356
Training on data at index 43...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.26828 ---> 7.26828
        Weight[2]: -6.72356 ---> -6.72356
Training on data at index 44...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.26828 ---> 7.26828
        Weight[2]: -6.72356 ---> -6.72356
Training on data at index 45...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.26828 ---> 7.26828
        Weight[2]: -6.72356 ---> -6.72356
Training on data at index 46...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.26828 ---> 7.26828
        Weight[2]: -6.72356 ---> -6.72356
Training on data at index 47...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.26828 ---> 7.26828
        Weight[2]: -6.72356 ---> -6.72356
Training on data at index 48...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.26828 ---> 7.26828
        Weight[2]: -6.72356 ---> -6.72356
Training on data at index 49...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.26828 ---> 7.26828
        Weight[2]: -6.72356 ---> -6.72356
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

```

```

Iteration 36
Weights:  [-0.8, 7.268276253875692, -6.723557958414753]
Accuracy: 0.98
Training on data at index 0...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.26828 ---> 7.26828
        Weight[2]: -6.72356 ---> -6.72356
Training on data at index 1...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.26828 ---> 7.26828
        Weight[2]: -6.72356 ---> -6.72356
Training on data at index 2...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.26828 ---> 7.26828
        Weight[2]: -6.72356 ---> -6.72356
Training on data at index 3...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.26828 ---> 7.26828
        Weight[2]: -6.72356 ---> -6.72356
Training on data at index 4...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.26828 ---> 7.26828
        Weight[2]: -6.72356 ---> -6.72356

```

```
Training on data at index 5...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.26828 ---> 7.26828
  Weight[2]: -6.72356 ---> -6.72356
Training on data at index 6...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.26828 ---> 7.26828
  Weight[2]: -6.72356 ---> -6.72356
Training on data at index 7...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.26828 ---> 7.26828
  Weight[2]: -6.72356 ---> -6.72356
Training on data at index 8...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.26828 ---> 7.26828
  Weight[2]: -6.72356 ---> -6.72356
Training on data at index 9...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.26828 ---> 7.26828
  Weight[2]: -6.72356 ---> -6.72356
Training on data at index 10...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.26828 ---> 7.26828
  Weight[2]: -6.72356 ---> -6.72356
Training on data at index 11...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.26828 ---> 7.26828
  Weight[2]: -6.72356 ---> -6.72356
Training on data at index 12...
  Weight[0]: -0.80000 ---> -1.80000
  Weight[1]: 7.26828 ---> 6.47692
  Weight[2]: -6.72356 ---> -7.41662
Training on data at index 13...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.47692 ---> 6.47692
  Weight[2]: -7.41662 ---> -7.41662
Training on data at index 14...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.47692 ---> 6.47692
  Weight[2]: -7.41662 ---> -7.41662
Training on data at index 15...
  Weight[0]: -1.80000 ---> -0.80000
  Weight[1]: 6.47692 ---> 7.23500
  Weight[2]: -7.41662 ---> -6.79622
Training on data at index 16...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 17...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 18...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 19...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 20...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 21...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
```

```
Training on data at index 22...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 23...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 24...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 25...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 26...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 27...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 28...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 29...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 30...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 31...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 32...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 33...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 34...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 35...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 36...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 37...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 38...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
```

```
Training on data at index 39...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 40...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 41...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 42...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 43...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 44...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 45...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 46...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 47...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 48...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 49...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 37
Weights: [-0.8, 7.2350039495180845, -6.796219320866963]
Accuracy: 0.98
Training on data at index 0...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 1...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 2...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 3...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.23500 ---> 7.23500
  Weight[2]: -6.79622 ---> -6.79622
Training on data at index 4...
```



```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.23500 ---> 7.23500
Weight[2]: -6.79622 ---> -6.79622
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.23500 ---> 7.23500
Weight[2]: -6.79622 ---> -6.79622
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.23500 ---> 7.23500
Weight[2]: -6.79622 ---> -6.79622
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.23500 ---> 7.23500
Weight[2]: -6.79622 ---> -6.79622
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.23500 ---> 7.23500
Weight[2]: -6.79622 ---> -6.79622
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.23500 ---> 7.23500
Weight[2]: -6.79622 ---> -6.79622
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.23500 ---> 7.23500
Weight[2]: -6.79622 ---> -6.79622
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.23500 ---> 7.23500
Weight[2]: -6.79622 ---> -6.79622
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 7.23500 ---> 6.44365
Weight[2]: -6.79622 ---> -7.48928
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.44365 ---> 6.44365
Weight[2]: -7.48928 ---> -7.48928
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.44365 ---> 6.44365
Weight[2]: -7.48928 ---> -7.48928
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.44365 ---> 7.20173
Weight[2]: -7.48928 ---> -6.86888
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 21...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.20173 ---> 7.20173
Weight[2]: -6.86888 ---> -6.86888
Training on data at index 38...
```

```
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 7.20173 ---> 7.47043
Weight[2]: -6.86888 ---> -6.70166
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 7.47043 ---> 7.47043
Weight[2]: -6.70166 ---> -6.70166
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 7.47043 ---> 7.33030
Weight[2]: -6.70166 ---> -6.85478
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 38
Weights: [-0.8, 7.330301022090367, -6.854778360954884]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.33030 ---> 7.33030
Weight[2]: -6.85478 ---> -6.85478
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 7.33030 ---> 6.53895
Weight[2]: -6.85478 ---> -7.54784
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.53895 ---> 6.53895
Weight[2]: -7.54784 ---> -7.54784
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.53895 ---> 6.53895
Weight[2]: -7.54784 ---> -7.54784
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.53895 ---> 7.29703
Weight[2]: -7.54784 ---> -6.92744
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 38...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 39...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 40...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

Iteration 39
Weights: [-0.8, 7.2970287177327595, -6.927439723407094]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
```

```
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.29703 ---> 7.29703
Weight[2]: -6.92744 ---> -6.92744
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 7.29703 ---> 6.50567
Weight[2]: -6.92744 ---> -7.62050
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.50567 ---> 6.50567
Weight[2]: -7.62050 ---> -7.62050
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.50567 ---> 6.50567
Weight[2]: -7.62050 ---> -7.62050
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.50567 ---> 7.26376
Weight[2]: -7.62050 ---> -7.00010
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
```

```
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
Weight[2]: -7.00010 ---> -7.00010
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.26376 ---> 7.26376
```



```

        Weight[2]: -7.00010 ---> -7.00010
Training on data at index 37...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.26376 ---> 7.26376
        Weight[2]: -7.00010 ---> -7.00010
Training on data at index 38...
        Weight[0]: -0.80000 ---> 0.20000
        Weight[1]: 7.26376 ---> 7.53246
        Weight[2]: -7.00010 ---> -6.83288
Training on data at index 39...
        Weight[0]: 0.20000 ---> 0.20000
        Weight[1]: 7.53246 ---> 7.53246
        Weight[2]: -6.83288 ---> -6.83288
Training on data at index 40...
        Weight[0]: 0.20000 ---> -0.80000
        Weight[1]: 7.53246 ---> 7.39233
        Weight[2]: -6.83288 ---> -6.98600
Training on data at index 41...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.39233 ---> 7.39233
        Weight[2]: -6.98600 ---> -6.98600
Training on data at index 42...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.39233 ---> 7.39233
        Weight[2]: -6.98600 ---> -6.98600
Training on data at index 43...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.39233 ---> 7.39233
        Weight[2]: -6.98600 ---> -6.98600
Training on data at index 44...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.39233 ---> 7.39233
        Weight[2]: -6.98600 ---> -6.98600
Training on data at index 45...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.39233 ---> 7.39233
        Weight[2]: -6.98600 ---> -6.98600
Training on data at index 46...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.39233 ---> 7.39233
        Weight[2]: -6.98600 ---> -6.98600
Training on data at index 47...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.39233 ---> 7.39233
        Weight[2]: -6.98600 ---> -6.98600
Training on data at index 48...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.39233 ---> 7.39233
        Weight[2]: -6.98600 ---> -6.98600
Training on data at index 49...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.39233 ---> 7.39233
        Weight[2]: -6.98600 ---> -6.98600
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

Iteration 40
Weights: [-0.8, 7.392325790305042, -6.985998763495015]
Accuracy: 0.98
Training on data at index 0...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.39233 ---> 7.39233
        Weight[2]: -6.98600 ---> -6.98600
Training on data at index 1...
        Weight[0]: -0.80000 ---> -0.80000
        Weight[1]: 7.39233 ---> 7.39233
        Weight[2]: -6.98600 ---> -6.98600

```

```
Training on data at index 2...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.39233 ---> 7.39233
  Weight[2]: -6.98600 ---> -6.98600
Training on data at index 3...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.39233 ---> 7.39233
  Weight[2]: -6.98600 ---> -6.98600
Training on data at index 4...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.39233 ---> 7.39233
  Weight[2]: -6.98600 ---> -6.98600
Training on data at index 5...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.39233 ---> 7.39233
  Weight[2]: -6.98600 ---> -6.98600
Training on data at index 6...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.39233 ---> 7.39233
  Weight[2]: -6.98600 ---> -6.98600
Training on data at index 7...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.39233 ---> 7.39233
  Weight[2]: -6.98600 ---> -6.98600
Training on data at index 8...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.39233 ---> 7.39233
  Weight[2]: -6.98600 ---> -6.98600
Training on data at index 9...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.39233 ---> 7.39233
  Weight[2]: -6.98600 ---> -6.98600
Training on data at index 10...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.39233 ---> 7.39233
  Weight[2]: -6.98600 ---> -6.98600
Training on data at index 11...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.39233 ---> 7.39233
  Weight[2]: -6.98600 ---> -6.98600
Training on data at index 12...
  Weight[0]: -0.80000 ---> -1.80000
  Weight[1]: 7.39233 ---> 6.60097
  Weight[2]: -6.98600 ---> -7.67906
Training on data at index 13...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.60097 ---> 6.60097
  Weight[2]: -7.67906 ---> -7.67906
Training on data at index 14...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.60097 ---> 6.60097
  Weight[2]: -7.67906 ---> -7.67906
Training on data at index 15...
  Weight[0]: -1.80000 ---> -0.80000
  Weight[1]: 6.60097 ---> 7.35905
  Weight[2]: -7.67906 ---> -7.05866
Training on data at index 16...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 17...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 18...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
```

```
Training on data at index 19...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 20...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 21...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 22...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 23...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 24...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 25...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 26...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 27...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 28...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 29...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 30...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 31...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 32...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 33...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 34...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 35...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
```

```

Training on data at index 36...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 37...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.35905 ---> 7.35905
  Weight[2]: -7.05866 ---> -7.05866
Training on data at index 38...
  Weight[0]: -0.80000 ---> 0.20000
  Weight[1]: 7.35905 ---> 7.62775
  Weight[2]: -7.05866 ---> -6.89144
Training on data at index 39...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 7.62775 ---> 7.62775
  Weight[2]: -6.89144 ---> -6.89144
Training on data at index 40...
  Weight[0]: 0.20000 ---> -0.80000
  Weight[1]: 7.62775 ---> 7.48762
  Weight[2]: -6.89144 ---> -7.04456
Training on data at index 41...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48762 ---> 7.48762
  Weight[2]: -7.04456 ---> -7.04456
Training on data at index 42...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48762 ---> 7.48762
  Weight[2]: -7.04456 ---> -7.04456
Training on data at index 43...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48762 ---> 7.48762
  Weight[2]: -7.04456 ---> -7.04456
Training on data at index 44...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48762 ---> 7.48762
  Weight[2]: -7.04456 ---> -7.04456
Training on data at index 45...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48762 ---> 7.48762
  Weight[2]: -7.04456 ---> -7.04456
Training on data at index 46...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48762 ---> 7.48762
  Weight[2]: -7.04456 ---> -7.04456
Training on data at index 47...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48762 ---> 7.48762
  Weight[2]: -7.04456 ---> -7.04456
Training on data at index 48...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48762 ---> 7.48762
  Weight[2]: -7.04456 ---> -7.04456
Training on data at index 49...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48762 ---> 7.48762
  Weight[2]: -7.04456 ---> -7.04456
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

Iteration 41
Weights: [-0.8, 7.487622862877325, -7.044557803582936]
Accuracy: 0.98
Training on data at index 0...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48762 ---> 7.48762
  Weight[2]: -7.04456 ---> -7.04456
Training on data at index 1...

```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.48762 ---> 7.48762
Weight[2]: -7.04456 ---> -7.04456
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.48762 ---> 7.48762
Weight[2]: -7.04456 ---> -7.04456
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.48762 ---> 7.48762
Weight[2]: -7.04456 ---> -7.04456
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.48762 ---> 7.48762
Weight[2]: -7.04456 ---> -7.04456
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.48762 ---> 7.48762
Weight[2]: -7.04456 ---> -7.04456
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.48762 ---> 7.48762
Weight[2]: -7.04456 ---> -7.04456
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.48762 ---> 7.48762
Weight[2]: -7.04456 ---> -7.04456
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.48762 ---> 7.48762
Weight[2]: -7.04456 ---> -7.04456
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.48762 ---> 7.48762
Weight[2]: -7.04456 ---> -7.04456
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.48762 ---> 7.48762
Weight[2]: -7.04456 ---> -7.04456
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.48762 ---> 7.48762
Weight[2]: -7.04456 ---> -7.04456
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 7.48762 ---> 6.69627
Weight[2]: -7.04456 ---> -7.73762
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.69627 ---> 6.69627
Weight[2]: -7.73762 ---> -7.73762
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.69627 ---> 6.69627
Weight[2]: -7.73762 ---> -7.73762
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.69627 ---> 7.45435
Weight[2]: -7.73762 ---> -7.11722
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 18...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 35...
```

```

Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 38...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 39...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 40...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

Iteration 42
Weights: [-0.8, 7.454350558519717, -7.117219166035146]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000

```

```
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.45435 ---> 7.45435
Weight[2]: -7.11722 ---> -7.11722
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 7.45435 ---> 6.66300
Weight[2]: -7.11722 ---> -7.81028
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.66300 ---> 6.66300
Weight[2]: -7.81028 ---> -7.81028
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.66300 ---> 6.66300
Weight[2]: -7.81028 ---> -7.81028
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.66300 ---> 7.42108
Weight[2]: -7.81028 ---> -7.18988
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
```



```
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.42108 ---> 7.42108
Weight[2]: -7.18988 ---> -7.18988
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 7.42108 ---> 7.68978
Weight[2]: -7.18988 ---> -7.02266
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 7.68978 ---> 7.68978
Weight[2]: -7.02266 ---> -7.02266
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 7.68978 ---> 7.54965
Weight[2]: -7.02266 ---> -7.17578
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54965 ---> 7.54965
Weight[2]: -7.17578 ---> -7.17578
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54965 ---> 7.54965
Weight[2]: -7.17578 ---> -7.17578
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54965 ---> 7.54965
Weight[2]: -7.17578 ---> -7.17578
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54965 ---> 7.54965
Weight[2]: -7.17578 ---> -7.17578
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54965 ---> 7.54965
Weight[2]: -7.17578 ---> -7.17578
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54965 ---> 7.54965
Weight[2]: -7.17578 ---> -7.17578
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54965 ---> 7.54965
Weight[2]: -7.17578 ---> -7.17578
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54965 ---> 7.54965
Weight[2]: -7.17578 ---> -7.17578
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54965 ---> 7.54965
Weight[2]: -7.17578 ---> -7.17578
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

Iteration 43
Weights: [-0.8, 7.549647631092, -7.175778206123067]
```

```
Accuracy: 0.98
Training on data at index 0...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.54965 ---> 7.54965
  Weight[2]: -7.17578 ---> -7.17578
Training on data at index 1...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.54965 ---> 7.54965
  Weight[2]: -7.17578 ---> -7.17578
Training on data at index 2...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.54965 ---> 7.54965
  Weight[2]: -7.17578 ---> -7.17578
Training on data at index 3...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.54965 ---> 7.54965
  Weight[2]: -7.17578 ---> -7.17578
Training on data at index 4...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.54965 ---> 7.54965
  Weight[2]: -7.17578 ---> -7.17578
Training on data at index 5...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.54965 ---> 7.54965
  Weight[2]: -7.17578 ---> -7.17578
Training on data at index 6...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.54965 ---> 7.54965
  Weight[2]: -7.17578 ---> -7.17578
Training on data at index 7...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.54965 ---> 7.54965
  Weight[2]: -7.17578 ---> -7.17578
Training on data at index 8...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.54965 ---> 7.54965
  Weight[2]: -7.17578 ---> -7.17578
Training on data at index 9...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.54965 ---> 7.54965
  Weight[2]: -7.17578 ---> -7.17578
Training on data at index 10...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.54965 ---> 7.54965
  Weight[2]: -7.17578 ---> -7.17578
Training on data at index 11...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.54965 ---> 7.54965
  Weight[2]: -7.17578 ---> -7.17578
Training on data at index 12...
  Weight[0]: -0.80000 ---> -1.80000
  Weight[1]: 7.54965 ---> 6.75829
  Weight[2]: -7.17578 ---> -7.86884
Training on data at index 13...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.75829 ---> 6.75829
  Weight[2]: -7.86884 ---> -7.86884
Training on data at index 14...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.75829 ---> 6.75829
  Weight[2]: -7.86884 ---> -7.86884
Training on data at index 15...
  Weight[0]: -1.80000 ---> -0.80000
  Weight[1]: 6.75829 ---> 7.51638
  Weight[2]: -7.86884 ---> -7.24844
Training on data at index 16...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.51638 ---> 7.51638
```

```
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
```

```
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 38...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 39...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 40...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.51638 ---> 7.51638
Weight[2]: -7.24844 ---> -7.24844
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 44
Weights: [-0.8, 7.5163753267343925, -7.248439568575277]
Accuracy: 0.98
Training on data at index 0...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.51638 ---> 7.51638
  Weight[2]: -7.24844 ---> -7.24844
Training on data at index 1...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.51638 ---> 7.51638
  Weight[2]: -7.24844 ---> -7.24844
Training on data at index 2...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.51638 ---> 7.51638
  Weight[2]: -7.24844 ---> -7.24844
Training on data at index 3...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.51638 ---> 7.51638
  Weight[2]: -7.24844 ---> -7.24844
Training on data at index 4...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.51638 ---> 7.51638
  Weight[2]: -7.24844 ---> -7.24844
Training on data at index 5...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.51638 ---> 7.51638
  Weight[2]: -7.24844 ---> -7.24844
Training on data at index 6...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.51638 ---> 7.51638
  Weight[2]: -7.24844 ---> -7.24844
Training on data at index 7...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.51638 ---> 7.51638
  Weight[2]: -7.24844 ---> -7.24844
Training on data at index 8...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.51638 ---> 7.51638
  Weight[2]: -7.24844 ---> -7.24844
Training on data at index 9...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.51638 ---> 7.51638
  Weight[2]: -7.24844 ---> -7.24844
Training on data at index 10...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.51638 ---> 7.51638
  Weight[2]: -7.24844 ---> -7.24844
Training on data at index 11...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.51638 ---> 7.51638
  Weight[2]: -7.24844 ---> -7.24844
Training on data at index 12...
  Weight[0]: -0.80000 ---> -1.80000
  Weight[1]: 7.51638 ---> 6.72502
  Weight[2]: -7.24844 ---> -7.94150
Training on data at index 13...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.72502 ---> 6.72502
  Weight[2]: -7.94150 ---> -7.94150
Training on data at index 14...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.72502 ---> 6.72502
  Weight[2]: -7.94150 ---> -7.94150
Training on data at index 15...
  Weight[0]: -1.80000 ---> -0.80000
  Weight[1]: 6.72502 ---> 7.48310
  Weight[2]: -7.94150 ---> -7.32110
```

```
Training on data at index 16...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 17...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 18...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 19...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 20...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 21...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 22...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 23...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 24...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 25...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 26...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 27...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 28...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 29...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 30...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 31...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 32...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
```

```
Training on data at index 33...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 34...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 35...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 36...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 37...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.48310 ---> 7.48310
  Weight[2]: -7.32110 ---> -7.32110
Training on data at index 38...
  Weight[0]: -0.80000 ---> 0.20000
  Weight[1]: 7.48310 ---> 7.75180
  Weight[2]: -7.32110 ---> -7.15388
Training on data at index 39...
  Weight[0]: 0.20000 ---> 0.20000
  Weight[1]: 7.75180 ---> 7.75180
  Weight[2]: -7.15388 ---> -7.15388
Training on data at index 40...
  Weight[0]: 0.20000 ---> -0.80000
  Weight[1]: 7.75180 ---> 7.61167
  Weight[2]: -7.15388 ---> -7.30700
Training on data at index 41...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.61167 ---> 7.61167
  Weight[2]: -7.30700 ---> -7.30700
Training on data at index 42...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.61167 ---> 7.61167
  Weight[2]: -7.30700 ---> -7.30700
Training on data at index 43...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.61167 ---> 7.61167
  Weight[2]: -7.30700 ---> -7.30700
Training on data at index 44...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.61167 ---> 7.61167
  Weight[2]: -7.30700 ---> -7.30700
Training on data at index 45...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.61167 ---> 7.61167
  Weight[2]: -7.30700 ---> -7.30700
Training on data at index 46...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.61167 ---> 7.61167
  Weight[2]: -7.30700 ---> -7.30700
Training on data at index 47...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.61167 ---> 7.61167
  Weight[2]: -7.30700 ---> -7.30700
Training on data at index 48...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.61167 ---> 7.61167
  Weight[2]: -7.30700 ---> -7.30700
Training on data at index 49...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.61167 ---> 7.61167
  Weight[2]: -7.30700 ---> -7.30700
```



```
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

Iteration 45

Weights: [-0.8, 7.611672399306675, -7.306998608663198]

Accuracy: 0.98

Training on data at index 0...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 7.61167 ---> 7.61167

Weight[2]: -7.30700 ---> -7.30700

Training on data at index 1...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 7.61167 ---> 7.61167

Weight[2]: -7.30700 ---> -7.30700

Training on data at index 2...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 7.61167 ---> 7.61167

Weight[2]: -7.30700 ---> -7.30700

Training on data at index 3...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 7.61167 ---> 7.61167

Weight[2]: -7.30700 ---> -7.30700

Training on data at index 4...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 7.61167 ---> 7.61167

Weight[2]: -7.30700 ---> -7.30700

Training on data at index 5...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 7.61167 ---> 7.61167

Weight[2]: -7.30700 ---> -7.30700

Training on data at index 6...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 7.61167 ---> 7.61167

Weight[2]: -7.30700 ---> -7.30700

Training on data at index 7...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 7.61167 ---> 7.61167

Weight[2]: -7.30700 ---> -7.30700

Training on data at index 8...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 7.61167 ---> 7.61167

Weight[2]: -7.30700 ---> -7.30700

Training on data at index 9...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 7.61167 ---> 7.61167

Weight[2]: -7.30700 ---> -7.30700

Training on data at index 10...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 7.61167 ---> 7.61167

Weight[2]: -7.30700 ---> -7.30700

Training on data at index 11...

Weight[0]: -0.80000 ---> -0.80000

Weight[1]: 7.61167 ---> 7.61167

Weight[2]: -7.30700 ---> -7.30700

Training on data at index 12...

Weight[0]: -0.80000 ---> -1.80000

Weight[1]: 7.61167 ---> 6.82032

Weight[2]: -7.30700 ---> -8.00006

Training on data at index 13...

Weight[0]: -1.80000 ---> -1.80000

Weight[1]: 6.82032 ---> 6.82032

Weight[2]: -8.00006 ---> -8.00006

Training on data at index 14...

Weight[0]: -1.80000 ---> -1.80000

Weight[1]: 6.82032 ---> 6.82032

Weight[2]: -8.00006 ---> -8.00006

Training on data at index 15...

```
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.82032 ---> 7.57840
Weight[2]: -8.00006 ---> -7.37966
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 32...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 38...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 39...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 40...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 49...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 46
Weights: [-0.8, 7.5784000949490675, -7.379659971115408]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.57840 ---> 7.57840
Weight[2]: -7.37966 ---> -7.37966
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 7.57840 ---> 6.78704
Weight[2]: -7.37966 ---> -8.07272
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.78704 ---> 6.78704
Weight[2]: -8.07272 ---> -8.07272
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
```

```
Weight[1]: 6.78704 ---> 6.78704
Weight[2]: -8.07272 ---> -8.07272
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.78704 ---> 7.54513
Weight[2]: -8.07272 ---> -7.45232
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.54513 ---> 7.54513
Weight[2]: -7.45232 ---> -7.45232
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 7.54513 ---> 7.81383
Weight[2]: -7.45232 ---> -7.28510
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 7.81383 ---> 7.81383
Weight[2]: -7.28510 ---> -7.28510
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 7.81383 ---> 7.67370
Weight[2]: -7.28510 ---> -7.43822
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]

Iteration 47
Weights: [-0.8, 7.67369716752135, -7.43821901120333]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.67370 ---> 7.67370
Weight[2]: -7.43822 ---> -7.43822
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 7.67370 ---> 6.88234
Weight[2]: -7.43822 ---> -8.13128
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.88234 ---> 6.88234
```

```
Weight[2]: -8.13128 ---> -8.13128
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.88234 ---> 6.88234
Weight[2]: -8.13128 ---> -8.13128
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.88234 ---> 7.64042
Weight[2]: -8.13128 ---> -7.51088
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
```



```
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.64042 ---> 7.64042
Weight[2]: -7.51088 ---> -7.51088
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 7.64042 ---> 7.90912
Weight[2]: -7.51088 ---> -7.34366
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 7.90912 ---> 7.90912
Weight[2]: -7.34366 ---> -7.34366
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 7.90912 ---> 7.76899
Weight[2]: -7.34366 ---> -7.49678
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
```

```
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 48
Weights: [-0.8, 7.768994240093633, -7.496778051291251]
Accuracy: 0.98
```

```
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76899 ---> 7.76899
Weight[2]: -7.49678 ---> -7.49678
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 7.76899 ---> 6.97764
Weight[2]: -7.49678 ---> -8.18984
```

```
Training on data at index 13...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.97764 ---> 6.97764
  Weight[2]: -8.18984 ---> -8.18984
Training on data at index 14...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 6.97764 ---> 6.97764
  Weight[2]: -8.18984 ---> -8.18984
Training on data at index 15...
  Weight[0]: -1.80000 ---> -0.80000
  Weight[1]: 6.97764 ---> 7.73572
  Weight[2]: -8.18984 ---> -7.56944
Training on data at index 16...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 17...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 18...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 19...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 20...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 21...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 22...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 23...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 24...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 25...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 26...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 27...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 28...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 29...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
```

```
Training on data at index 30...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 31...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 32...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 33...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 34...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 35...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 36...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 37...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 38...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 39...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 40...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 41...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 42...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 43...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 44...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 45...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 46...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
```

```
Training on data at index 47...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 48...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 49...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

Iteration 49  
Weights: [-0.8, 7.735721935736025, -7.569439413743461]  
Accuracy: 0.98

```
Training on data at index 0...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 1...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 2...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 3...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 4...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 5...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 6...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 7...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 8...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 9...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 10...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 11...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.73572 ---> 7.73572
  Weight[2]: -7.56944 ---> -7.56944
Training on data at index 12...
```

```
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 7.73572 ---> 6.94437
Weight[2]: -7.56944 ---> -8.26250
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.94437 ---> 6.94437
Weight[2]: -8.26250 ---> -8.26250
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 6.94437 ---> 6.94437
Weight[2]: -8.26250 ---> -8.26250
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 6.94437 ---> 7.70245
Weight[2]: -8.26250 ---> -7.64210
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 29...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.70245 ---> 7.70245
Weight[2]: -7.64210 ---> -7.64210
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 7.70245 ---> 7.97115
Weight[2]: -7.64210 ---> -7.47488
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 7.97115 ---> 7.97115
Weight[2]: -7.47488 ---> -7.47488
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 7.97115 ---> 7.83102
Weight[2]: -7.47488 ---> -7.62800
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 46...
```

```
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 50
Weights: [-0.8, 7.831019008308308, -7.627998453831383]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
```



```
Weight[1]: 7.83102 ---> 7.83102
Weight[2]: -7.62800 ---> -7.62800
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 7.83102 ---> 7.03966
Weight[2]: -7.62800 ---> -8.32106
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 7.03966 ---> 7.03966
Weight[2]: -8.32106 ---> -8.32106
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 7.03966 ---> 7.03966
Weight[2]: -8.32106 ---> -8.32106
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 7.03966 ---> 7.79775
Weight[2]: -8.32106 ---> -7.70066
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 38...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 39...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 40...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
```

```
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 51
Weights: [-0.8, 7.7977467039507005, -7.700659816283593]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 10...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
```

```
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 11...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.79775 ---> 7.79775
Weight[2]: -7.70066 ---> -7.70066
Training on data at index 12...
Weight[0]: -0.80000 ---> -1.80000
Weight[1]: 7.79775 ---> 7.00639
Weight[2]: -7.70066 ---> -8.39372
Training on data at index 13...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 7.00639 ---> 7.00639
Weight[2]: -8.39372 ---> -8.39372
Training on data at index 14...
Weight[0]: -1.80000 ---> -1.80000
Weight[1]: 7.00639 ---> 7.00639
Weight[2]: -8.39372 ---> -8.39372
Training on data at index 15...
Weight[0]: -1.80000 ---> -0.80000
Weight[1]: 7.00639 ---> 7.76447
Weight[2]: -8.39372 ---> -7.77332
Training on data at index 16...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 17...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 18...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 19...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 20...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 21...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 22...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 23...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 24...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 25...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 26...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 27...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
```

```
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 28...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 29...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 30...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 31...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 32...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 33...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 34...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 35...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 36...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 37...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.76447 ---> 7.76447
Weight[2]: -7.77332 ---> -7.77332
Training on data at index 38...
Weight[0]: -0.80000 ---> 0.20000
Weight[1]: 7.76447 ---> 8.03317
Weight[2]: -7.77332 ---> -7.60610
Training on data at index 39...
Weight[0]: 0.20000 ---> 0.20000
Weight[1]: 8.03317 ---> 8.03317
Weight[2]: -7.60610 ---> -7.60610
Training on data at index 40...
Weight[0]: 0.20000 ---> -0.80000
Weight[1]: 8.03317 ---> 7.89304
Weight[2]: -7.60610 ---> -7.75922
Training on data at index 41...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 42...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 43...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 44...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
```

```
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 45...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 46...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 47...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 48...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 49...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Predictions: [1, 0.0, 1, 1, 0.0, 1, 0.0, 1, 1, 0.0, 0.0, 0.0, 1, 0.0, 1, 1,
1, 0.0, 1, 0.0, 0.0, 1, 0.0, 1, 0.0, 0.0, 1, 0.0, 0.0, 1, 1, 0.0, 0.0, 1,
0.0, 1, 1, 1, 0.0, 0.0, 1, 0.0, 0.0, 0.0, 0.0, 1, 1, 0.0, 1]
```

```
Iteration 52
Weights: [-0.8, 7.893043776522983, -7.759218856371515]
Accuracy: 0.98
Training on data at index 0...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 1...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 2...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 3...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 4...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 5...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 6...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 7...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 8...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
Training on data at index 9...
Weight[0]: -0.80000 ---> -0.80000
Weight[1]: 7.89304 ---> 7.89304
Weight[2]: -7.75922 ---> -7.75922
```

```
Training on data at index 10...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.89304 ---> 7.89304
  Weight[2]: -7.75922 ---> -7.75922
Training on data at index 11...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.89304 ---> 7.89304
  Weight[2]: -7.75922 ---> -7.75922
Training on data at index 12...
  Weight[0]: -0.80000 ---> -1.80000
  Weight[1]: 7.89304 ---> 7.10169
  Weight[2]: -7.75922 ---> -8.45228
Training on data at index 13...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 7.10169 ---> 7.10169
  Weight[2]: -8.45228 ---> -8.45228
Training on data at index 14...
  Weight[0]: -1.80000 ---> -1.80000
  Weight[1]: 7.10169 ---> 7.10169
  Weight[2]: -8.45228 ---> -8.45228
Training on data at index 15...
  Weight[0]: -1.80000 ---> -0.80000
  Weight[1]: 7.10169 ---> 7.85977
  Weight[2]: -8.45228 ---> -7.83188
Training on data at index 16...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.85977 ---> 7.85977
  Weight[2]: -7.83188 ---> -7.83188
Training on data at index 17...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.85977 ---> 7.85977
  Weight[2]: -7.83188 ---> -7.83188
Training on data at index 18...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.85977 ---> 7.85977
  Weight[2]: -7.83188 ---> -7.83188
Training on data at index 19...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.85977 ---> 7.85977
  Weight[2]: -7.83188 ---> -7.83188
Training on data at index 20...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.85977 ---> 7.85977
  Weight[2]: -7.83188 ---> -7.83188
Training on data at index 21...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.85977 ---> 7.85977
  Weight[2]: -7.83188 ---> -7.83188
Training on data at index 22...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.85977 ---> 7.85977
  Weight[2]: -7.83188 ---> -7.83188
Training on data at index 23...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.85977 ---> 7.85977
  Weight[2]: -7.83188 ---> -7.83188
Training on data at index 24...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.85977 ---> 7.85977
  Weight[2]: -7.83188 ---> -7.83188
Training on data at index 25...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.85977 ---> 7.85977
  Weight[2]: -7.83188 ---> -7.83188
Training on data at index 26...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.85977 ---> 7.85977
  Weight[2]: -7.83188 ---> -7.83188
```

```
Training on data at index 27...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.85977 ---> 7.85977
  Weight[2]: -7.83188 ---> -7.83188
Training on data at index 28...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.85977 ---> 7.85977
  Weight[2]: -7.83188 ---> -7.83188
Training on data at index 29...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.85977 ---> 7.85977
  Weight[2]: -7.83188 ---> -7.83188
Training on data at index 30...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.85977 ---> 7.85977
  Weight[2]: -7.83188 ---> -7.83188
Training on data at index 31...
  Weight[0]: -0.80000 ---> -0.80000
  Weight[1]: 7.85977 ---> 7.85977
  Weight[2]: -7.83188 ---> -7.83188
Out[4]: [-0.8, 7.8597714721653755, -7.831880218823724]
```