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**ANN (SL-II)**

**Practical 4  
Problem Statement:** Write a python program to recognize the numbers 0, 1, 2, 39. A 5 \* 3 matrix form the numbers. For any valid point is taken as 1 and invalid point is taken as 0. The net has to be trained to recognize all the numbers and when the test data is given, the network has to recognize the particular numbers

**Code:**

import numpy as np

X = np.array([[1, 1, 1, -1], [-1, -1, 1, 1]])

Y = np.array([[1, -1], [-1, 1]])

W = np.dot(Y.T, X)

def bam(x):

return np.sign(np.dot(W, x))

x\_test = np.array([1, -1, -1, -1])

y\_test = bam(x\_test)

print("Input x:", x\_test)

print("Output y:", y\_test)

**Output:**

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