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CSE-BDA

Section C1

**Objective: Implementation of AND NOT Logic Gate using MP Neuron**

**Code:**

#importing the library

import numpy as np

#initializing

x=np.array([[1,1],[1,0],[0,1],[0,0]])

t=np.array([[0],[1],[0],[0]])

w=np.array([[0],[0]])

theta=1

yin=np.zeros(shape=(4,1))

y=np.zeros(shape=(4,1))

yin=np.dot(x,w)

i=0

found=0

#logic

while(found==0):

    i=0

    yin=np.dot(x,w)

    print("Y is initiallised",yin)

    while(i<4):

        if yin[i]>=theta:

            y[i]=1

            i=i+1

        else:

            y[i]=0

            i=i+1

    print("Calculated y",y)

    print("Expected Target t",t)

    if (y==t).all():

        print("MODEL IS TRAINED ")

        print("\nOutput : \n",y)

        print("\nweights : ",w,"\n")

        print("theta : ",theta)

        found=1

    else:

        print("MODEL IS NOT TRAINED")

        w=np.zeros(shape=(0,0))

        theta=int(input("Enter New Theta : "))

        for k in range(int(2)):

            w1=int(input("Enter Weight : "))

            w=np.append(w,w1)

**Output:**

