NNFL Expt. 05

Code:

clc

clear all

close all

p= [1 1 -1 -1;1 -1 1 -1];

t= [1 -1 -1 -1];

alpha=input('Enter the value of alpha: ');

theta=input('Enter the value of theta: ');

w1=rand;

w2=rand;

w=[w1;w2]'

b=0

axis([-2 2 -2 2])

hold on

plot(p(1,1),p(2,1),'\*')

plot(p(1,2),p(2,2),'o')

plot(p(1,3),p(2,3),'o')

plot(p(1,4),p(2,4),'o')

linehandle=plotpc(w,b)

% pause

flag=1;

while(flag==1)

for i=1:4

yin=(p(1,i)\*w1)+(p(2,i)\*w2)+b;

if yin>theta

y=1;

end

if yin<-theta

y=-1;

end

if -theta<=yin && yin<=theta

y=0;

end

if y~=t(i)

w1=w1+(alpha\*t(i)\*p(1,i));

w2=w2+(alpha\*t(i)\*p(2,i));

b=b+(alpha\*t(i));

disp(w1)

disp(w2)

disp(b)

% axis([-2 2 -2 2])

% hold on

% plot(p(1,1),p(2,1),'\*')

% plot(p(1,2),p(2,2),'o')

% plot(p(1,3),p(2,3),'o')

% plot(p(1,4),p(2,4),'o')

else

flag=0;

end

linehandle=plotpc(w,b,linehandle)

pause

end

end

**Outputs:**

Enter the value of alpha: 0.1

Enter the value of theta: 0.2

**Epoch 1:**

[w1,w2] = [0.4387 0.3816]; b = 0



**Epoch 2:**

[w1,w2] = [0.3387 0.4816];

b = -0.1000

