clear all; close all; clc;

data=load('train1.txt');

d=size(data)

d=d(2)

m=length(data);

x=data(:,1:(d-1));

y=data(:,d);

pos = find(y==1); neg = find(y == 0);

%plot(x(pos, 1), x(pos, 2), 'k+', 'MarkerFaceColor', 'g','MarkerSize', 7);

%hold on;

%plot(x(neg, 1), x(neg, 2), 'ko', 'MarkerFaceColor', 'y','MarkerSize', 7)

%hold on;

x1=ones(m,1)

x=[x1,x];

theta=zeros(d,1);

alpha=.01;

for i=1:50000

theta(1)=theta(1)-(alpha/m)\*(sum((1./(1+exp(-x\*theta)))-y));

theta(2)=theta(2)-(alpha/m)\*(sum(((1./(1+exp(-x\*theta)))-y).\*x(:,2)));

theta(3)=theta(3)-(alpha/m)\*(sum(((1./(1+exp(-x\*theta)))-y).\*x(:,3)));

end

w=theta

nTest = size(x,1);

res = zeros(nTest,1);

for i = 1:nTest

sigm = sigmoid([x(i,:)] \* w);

if sigm >= 0.5

res(i) = 1;

else

res(i) = 0;

end

end

errors = abs(y - res);

err = sum(errors)

percentage = (1 - err / size(x, 1))\*100