BAHIRDAR UNIVERSITY INSTITUTE OF TECHNOLOGY

School of Computing and Electrical Engineering

Artificial Neural Network Home Work

**Course: Neural Network**

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Focus: Hardware

%ShortProblems.m from Question no. 1 to 7

% #1

% a

a=10

% b

b=2.5\*(10^23)

% c

c=2+3i

% d

d=exp((1i\*2\*pi)/3)

% #2

%a

aVec=[3.14 15 9 26]

%b

bVec=[2.71;8;28;182]

%c

cVec=[5:-0.2:-5]

%d

dVec=logspace(0,1,10)

%e

eVec=['Hello']

% #3

%a

aMat=ones(9,9)\*2

% or aMat=zeros(9,9)+2;

%b

bMat=[diag(1:5) zeros(5,4);zeros(4,5) diag(4:-1:1)]

% using only diagonal bMat=diag([1 2 3 4 5 4 3 2 1],0);

%c

cMat=reshape([1:100],10,10)

%d

dMat=nan(3,4)

%e

eMat=[13 -1 5;-22 10 -87]

% f

fMat=floor(3.\*rand(5,3))

% or using ceil fMat=ceil(3.\*rand(5,3));

% #4

%a

x=1/(1+exp(-(a-15)/6))

%b

y = power(sqrt(a)+power(b,1/21),pi)

%c

z=log(real((c+d)\*(c-d))\*sin((a\*pi)/3))/c\*conj(c)

% #5

%a

xVec=exp(-(cVec.^2)./(2.\*(2.5.^2)))./sqrt(2.\*pi.\*(2.5.^2))

%b

yVec=sqrt((aVec'.^2)+(bVec.^2))

%c

zVec=log10(1./dVec)

%#6

%a

xMat=(aVec\*bVec)\*(aMat^2)

%b

yMat=(bVec\*aVec)

%c

zMat=det(cMat)\*(aMat\*bMat)'

% #7

%a

cSum = [sum(cMat)]'

%b

eMean = mean(eMat')

%c

eMat(1,1:3)=[1 1 1]

%d

cSub = cMat(2:9,2:9)

%e

lin=[1:20]

lin(2:2:20)=-(2:2:20)

%f

y=rand([1,5]);

v=find(y<0.5);

y(v)=(0)

% twoLinePlot.m Question no. 8

figure;

t=0:pi/100:2\*pi;

x=sin(t);

plot(t,x);

hold on

y=cos(t);

plot(t,y,'r--');

hold off

xlabel('Time (s)');

ylabel('Function value');

title('Sine and Cos functions')

legend('sin','cos');

xlim([0 2\*pi]);

ylim([-1.4 1.4]);