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//CHAPTER 4

//PROBLEMS: Questions 1-6

#Q1 Matrix, max/min

matrix\_minmax.m

% Make matrix

A = rand(3,3);

% Process

[M, N] = size(A);

A = reshape(A,M\*N,1);

Amin = min(A);

Amax = max(A);

% Display

fprintf('The matrix min is: %2.2f\n', Amin);

fprintf('The matrix max is: %2.2f\n\n', Amax);

#Q2

Create vector 1 by 25 containing random elements uniformly distributed in the interval [-0.5, 0.5]. Then generate and display a random signal of length 100 with elements uniformly distributed in the interval [-2,2]

vector = rand(25,1)-0.5;

signal = 4\*(rand(100,1)-0.5);

bar(signal); hist(signal);

#Q3

Create 3\*3 matrix. Extract the 1'st and the 2'nd row with the 1'st and 3'th column

A = rand(3);

B = [A(1:2,1),A(1:2,3)];

#Q4

Create 3\*3 matrix of 0's and 1's. Find the indices for the zeros

A = round(rand(3));

[ nr , nc ] = size(A);

[ indices ] = find(ones( nr , nc )-A,9);

#Q5

Create a vector x containing integer number from 1 to 100. Create a vector containing 1, 0.9, 0.8, 0.7 ... 0.1

x = 1:1:100;

a = 1:-0.1:0.1;

#Q6

Create a vector x = [3, 1, 2, 5, 4]. From x create y containing the same elements in the reverse order, find indices of elements greater than 2, create z containing elements of x which are smaller than 4.

x = [3,1,2,5,4];

y = fliplr(x);

indices = y > 2;

z = (x < 4).\*x;