Arrays I

# Instructions

Complete the array practice problems below by having MATLAB compute them sequentially from a .m file. U**se ; to suppress the values of everything but the answer from the command window**.

Most of the variable names should be given in the problem. If not, name them something that makes sense. Please make sure that you are commenting appropriately and that you are following the problem instructions.

# Problems

1. Define the variables , , and then use them to create a column vector that has the following elements: , ,, and
2. Define the variables , and , and then use them to create a row vector that has the following elements: , ,, and
3. Use a single command to create a row vector (assign it to a variable named b) with 11 elements such that  
   b =   
   0 2 4 6 8 10 12 9 6 3 0  
   *Do not type the vector explicitly.*
4. Create a vector (name it vctC) that has 12 elements of which the first is 5, the increment is 4, and the last element is 49. Then, by assigning elements of vctC to new vectors, create the following 2 vectors:
   1. A vector (name it Codd) that contains all the elements with odd index of vctC; i.e., Codd = 5 13 21 … 45
   2. A vector (name it Ceven) that contains all the elements with even index of vctC: i.e., Ceven = 9 17 25 … 49

In both parts use vectors of off and even numbers for the index of Codd and Ceven, respectively. *Do not type the elements of the vectors explicitly*.

1. Create the following matrix by using vector notation for creating vectors using the linspace command. *Do not type individual elements explicitly*.

A =

130.0000 110.0000 90.0000 70.0000 50.0000 30.0000 10.0000

1.0000 2.8333 4.6667 6.5000 8.3333 10.1667 12.0000

12.0000 22.0000 32.0000 42.0000 52.0000 62.0000 72.0000

1. Using the zeros, ones, and eye commands, create the following arrays by typing one command:  
   1. a6 = 1 1 0 0  
       1 1 0 0
   2. b6 = 1 0 0 0 1 1  
       0 1 0 0 1 1
   3. c6 = 1 1 1 1  
       0 0 0 0  
       0 0 0 0
2. The following vector is defined in MATLAB:  
   v = [6 11 -4 5 8 1 -0.2 -7 19 5]  
     
   By hand (pencil and paper) write what will be displayed if the following commands are executed by MATLAB. You can check your answers by executing the command in MATLAB. *Do not do this until after you have tried by hand.*

1. a=v(3:8)

2. b=v([1,3,2:7,4,6])

3. c=v([9,1,5,4])’