

ECE 2409

Fall 2020

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Homework 1

```
array1 = [(0:2:20)', ones(11,4), (10:-1:0)']
```

```
array1 = 11x6
    0     1     1     1     1    10
    2     1     1     1     1     9
    4     1     1     1     1     8
    6     1     1     1     1     7
    8     1     1     1     1     6
   10     1     1     1     1     5
   12     1     1     1     1     4
   14     1     1     1     1     3
   16     1     1     1     1     2
   18     1     1     1     1     1
      ⋮
      ⋮
```

Array 1 is created by horizontally concatenating the vector (0:2:20)' with the matrix ones(11,4) as well as the vector (10:-1:0)'.

```
array2 = [(0:2:10); (0:2:20)', ones(11,4), (10:-1:0)'; (20:-4:0)]
```

```
array2 = 13x6
    0     2     4     6     8    10
    0     1     1     1     1    10
    2     1     1     1     1     9
    4     1     1     1     1     8
    6     1     1     1     1     7
    8     1     1     1     1     6
   10     1     1     1     1     5
   12     1     1     1     1     4
   14     1     1     1     1     3
   16     1     1     1     1     2
      ⋮
      ⋮
```

Array 2 is created by using the same core as Array 1, but also vertically concatenating the vector (0:2:10) at the top, and the vector (20:-4:0) at the bottom.

```
x = [2 7 9 7; 3 1 5 6; 8 1 2 5];
y = x'
```

```
y = 4x3
    2     3     8
    7     1     1
    9     5     2
    7     6     5
```

y illustrates the 4x3 matrix x given in the problem once it is transposed to become 3x4