

CIEG 675

Homework #1 Due **Wednesday, February 18, 2009**

In a m-file do the following and verify it works by copy and pasting into the command window or running your m-file.

- 1) Make a row vector that starts at 1 and ends at 10 with spacing of 0.02;
- 2) Make a 3x3 two-dimensional matrix that has the numbers 1 through 9 for entries.
- 3) Define a variable from question 2 data that consists of the diagonal elements.
- 4) Define a second variable from question 2 data that consists of the elements in the corners of the matrix.
- 5) Define a third variable from question 2 data that consists of the middle row.
- 6) Define a fourth variable from question 2 data that consists of the last column.

Matlab can also handle multi-dimensional variables (i.e. a 3D matrix). As an example, a 3D matrix is good for bathymetry data interpolated to a grid that has been collected over time.

To define 3D data, matlab uses (row,column,level) where level is my term that specifies the depth of the matrix (think of the layers of a cake).

7) Given the following 3 bathymetry data sets develop a single variable comprised of them that is a 3D matrix.

```
Survey1 = [1 2; 3 4]; % survey 1  
Survey2 = [5 6; 7 8]; % survey 2  
Survey3 = [9 10; 11 12]; % survey 3
```

8) Define a variable that has entries extending from 1 to 8 and then also includes entries extending from 15 through 24.

