**Objective:**

The purpose of this assignment is to get you started with using Visual Studio and manipulating multidimensional arrays and passing parameters to methods.

You will need to develop a Console application (in C#, of course) where you will ask the user for the dimensions of a matrix, how many rows? And how many columns? After the user enters such data, your program will create a two dimensional array (**not an array of arrays**) of the appropriate size, initialize each element of the matrix drawing random numbers between 0 and 99 (using the Random class).

After initialization, the program should print the matrix to the screen (properly formatted), then proceed to compute and print to the screen the following data:

1. Largest number in the matrix,
2. Smallest number in the matrix,
3. Average of all the numbers in the matrix
4. Largest number in each row of the matrix,
5. Smallest number in each row of the matrix
6. Average of all the numbers in each row of the matrix
7. Largest number in each column of the matrix,
8. Smallest number in each column of the matrix
9. Average of all the numbers in each column of the matrix

There should be a **method** that is used to perform each of the calculations in a) through i) rather than doing those calculations in the main program.

For instance for d) you could have a method like:

public int largestinrow(int [,] matrix, int row) { . . . }

This method could find the largest element in the specified row of the matrix and return it. This method could be called from the main program to obtain the answers to part d).

Note that once you write methods for d) through f), methods for g) through i) are identical, with the index in the matrix switched, so you really are only writing six methods, not nine.

You can use a matrix of ints, doubles, or whichever other type you want.

**(10% extra credit)**

Create a “MatrixHandling” class with the nine static methods that can be called to perform calculations a) through i)