Programming II

Assignment #1 – Advance Methods Concepts

Due Date: **Sunday 27th Jan. 2019 - at the start of the class – 8:30am**

Marks/Weight: **30 / 10%**

Purpose: The purpose of this Assignment is to:

- Practice the use of advance methods concepts in C#

References:
- Text book "Visual C# 2017, Intro to Object Oriented Programming", Chapter 08
- http://csharpindepth.com/Articles/General/Overloading.aspx
- https://www.c-sharpcorner.com/UploadFile/ff2f08/ref-vs-out-keywords-in-C-Sharp/
- https://www.c-sharpcorner.com/UploadFile/c63ec5/use-params-keyword-in-C-Sharp/
- Lecture notes/ppts

Instructions: Be sure to read the following general instructions carefully:
This assignment should be completed individually by all the students. Submit the project **through e-Centennial, Assessments / Assignment**. You must name your Visual Studio solution according to the following rule: *FirstName-lastName_SectionNumber_COMP123_AssignmentNumber*
For Example: **John-Smith_Sec002_COMP123_01**

Each exercise should be added to the solution as separate project. Your IDE is Visual Studio 2017 and C#.

Submit your assignment in a **zip file** that is named according to the following rule:
FirstName-lastName_SectionNumber_COMP123_AssignmentNumber.zip
Example: **John-Smith_Sec002_COMP123_01.zip**

Apply the naming conventions for variables, methods, classes, and namespaces:
- *variable names* start with a lowercase character for the first word and uppercase for every other word
- *classes* start with an uppercase character of every word
- *namespaces* use only lowercase characters
- *methods* start with an uppercase character for the first word and uppercase for every other word

Exercise 1:   *[10 marks]*

Write an app which contains the following two overloaded functions:

a) private static int **Maximum**(int, int) which returns the largest of two numbers
b) private static int **Maximum**(int, int, int) which returns the largest of three numbers
c) private static int **Square**(int) which returns square of an integer value
d) private static double **Square**(double) which returns square of a double value

Exercise 2:   *[10 marks]*

Write an app which contains the following function which makes use of variable number of arguments by use of params keyword:

a) private static int **Addition**(params int[] numbers) which returns the sum of three different numbers , four different numbers and five different numbers. So you need to call this method in the Main() according to above requirements.
b) private static void **DisplayNames**(params string[] names) which prints the one or two or three or four strings passed to it. Since it is of type params, you can pass any number of strings/names and it should be able to display it. So you need to call this method in the Main() according to above requirements.

Exercise 3:   *[10 marks]*

Write an app which contains the following functions which make use of **ref** and **out** parameters:

a) private static void **Swap**(ref int, ref int) which exchanges the contents of two variables
b) private static void **Initialize**(out int, out int) which initializes two numbers and then you need to find their average in Main() and print the result.