**BCS 450 C# Lab – Arrays**

***Overview***

Create a project in C# using Visual Studio. You will need to write code that uses arrays and methods to manipulate those arrays.

***Part 1 – Create the project***

Create a C# console application in Visual Studio. Name the project Lab-Arrays.

***Part 2 – Array of double***

In Main declare and allocate an array of double.

* Load the array with double type data. The data should NOT be loaded in order (sort will be used on the next step).
* Display method. Write a static method called Display that takes a double array as a parameter. This method should iterate through all the array data and display it on the screen.
* Before sorting (next step) display all original data in the array by calling the Display method.
* Sort. Use the Sort method of the Array class to sort the array.
* After sorting display all data in the array by calling the Display method.
* Clone. Use the Clone method of the array instance to make a copy of the array.
* Display all data in the array clone on the screen.

***Part 3 – Grade Class***

Create a class called Grade.

* Member variables. There should be score (double) and description (string) member variables. Use auto-implemented properties for the member variables.
* This class should implement the IComparable<Grade> interface. Use the score member to do the comparison.
* ToString. Add a ToString method that returns a string containing the grade and description.

***Part 4 – Array of Grade***

In Main declare and allocate an array of Grade class objects.

* Load the array with Grade type data. Make sure data is loaded out of order with respect to the score.
* Use a foreach loop to display grade data on the screen. Use the Grade.ToString method to help with this.
* Sort. Sort the array using the Array.Sort method.
* Display the array again. The data should show up in sorted order.