School of Applied Sciences And Technology
Department of IST
Program: CNT

CMPE 1666-ICA08- File Processing And Sorting

In this assignment, you will read data from a text file and sort them using the 2 N^2 Sorting techniques discussed in class. You will use drag and drop to add a file to your application, read the data from the file, and use any the sorting methods to sort the data.

Create an application with the controls shown below. The 2 big boxes on the left and right are read-only multiline textboxes with vertical scroll bars. Declare, as form class member variable, a List of integers. This will be the only class level variable you require.

To the application, add 2 sorting methods based on the N^2 sorting techniques discussed in class (Selection Sort and Insertion Sort). Each method must have a List of integers as parameter and the sorting must be performed on the parameter.

Implement the required event handlers such that when the user drags and drops a file in the "**Drag And Drop Your File Here**" label, the mouse pointer must change to a cross. The program must read all the data from the file as one string (using **File.ReadAllText()**) and display it in the left textbox. If the textbox already contains data, the data must be cleared before the new display.
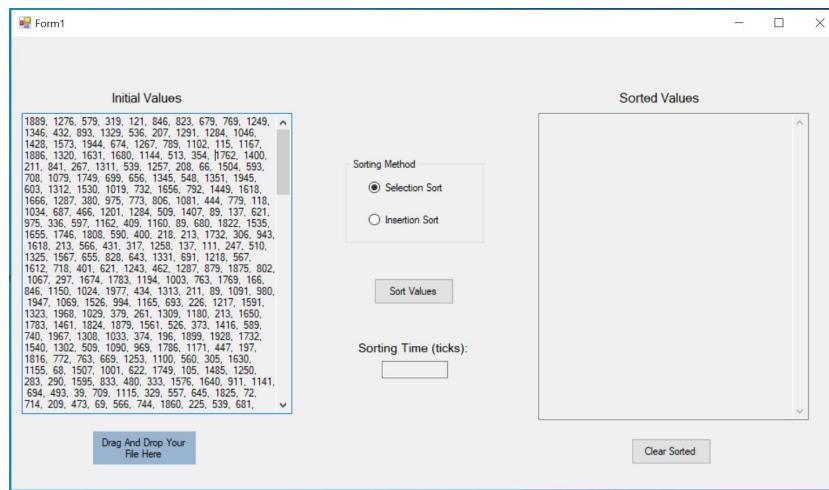
Test the drag-and-drop event handlers using the text file provided. Your program must also be able to obtain the values from the file and place them in the List member variable (You'll need to use the string **Split()**), then use the array to populate the List.

When the user clicks on the "**Sort Values**" button, the program must sort the List through the selected sorting method (as per the radio button) and display the sorted values in the right (multiline) textbox. It must also display the time taken for the sorting in terms of number of stopwatch ticks in the middle textbox (Use the property **ElapsedTicks** of the **StopWatch** class).
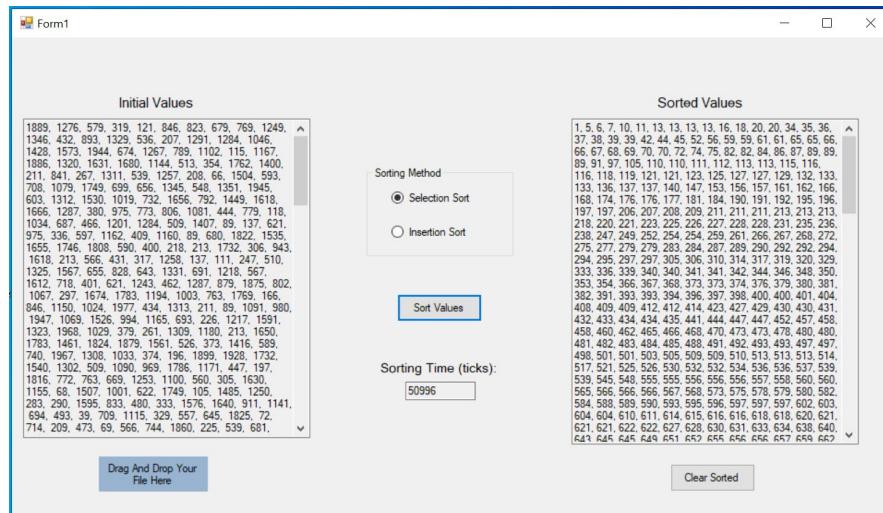
The "Clear Sorted" button must clear the "Sorted Values" textbox.

Sample Runs of the program are as below

1. **Values have been loaded**

2. **Values sorted**

Rubrics- Max marks 30

Item	Marks	Penalty
UI as shown	5	Inappropriate control names: -2 No default for Radio buttons: -2 Inappropriate Tab order: -2 Unprofessional layout: -2
Drag and Drop Working and values displayed in left textbox	8	Mouse pointer not changing to cross: -3
Values Sorted and Displayed, by both sorting methods and as per radio button	12	Using more class-level variables than required: -3 Each sorting technique not implemented as a separate method: -4
Time calculated using a stop watch and displayed as required	3	
"Clear Sorted" button clears the right textbox.	2	
Documentation • Programmer Block • Well commented code • Appropriate Variable Names • Proper spacing between blocks of code • Control names are consistent and appropriate.		Penalty -1 to -6 for not meeting documentation requirements