

OBJECT ORIENTED PROGRAMMING

Lab 3.4 – on struct datatype objects, array of 5, **Length** propriety, List: **Count** propriety; **Add()**, **AddRange()** and **Clear()** methods, placeholders and try and catch using for and foreach loops.

Objective

You will do some programming exercises of variables and data types in C#. It will help you to improve your programming skills in using **struct**, **array**, **list**, and **object(instance)** creation using **struct** in C#.

Q1: Use Visual Studio editor to write a console program in C# to display complete student information.

Create a struct **Person** with members for the **first name**, **last name** and **age**. Create another struct **Student** with members: **Person**, **student ID**, **college name**, **city**, and **address**. (*Check the solution of Lab 3.3*)

Create minimum two objects for representing two students from the same college, one is hard-coded and the second is entered by the user on run time. Accept (*validate*) student's and college values into the appropriate struct variable's datatypes (*use **Convert** class*). Add the try & catch to all your conversions from string to some other datatypes (*use **goto** instruction if you have an exception*). Store all those values into an object, and then, save it into an array.

Create a menu with 7 options and the switch with 7 cases and default. Have the option **1** that allow you to add the student instance into an array of 5 (up to 5).

Create a list of the same type as the array (*Student*) with those instances of the array. Have the option **2** that allow you to add the student instance into the list (use the method **Add()**).

Create option **3** to display all the student's information from the array (use **for** loop). Display student data on 3 lines, using the **interpolation** (*align all the numbers to the left using 10 spaces and the text to the left using 15 spaces*). Add a dashed line (-----) at the end of the display.

Create option **4** to display all the student's information from the list (use **for** loop). Display student data on 4 lines, using the **placeholders** (*align all the numbers to the right using 8 spaces and the text to the right using 10 spaces*). Add a double dashed line (====) at the end of the display.

Create option **5** to add the students of the array to the list (use the method **Clear()**).

Create option **6** to remove all students from the list (use the method **AddRange()**).

Create option **7** to quit the program, with confirmation from the user.

Test and debug your application, identify yourself and the work, comment your code. Send your solution folder as zip file by LEA of Omnivox