ELET 4309 (C++) **Homework No. 3** **Dr. F. Attarzadeh**
60 Points **Due 3/7/2019** **2/25/2019**
9PM

Midterm Exam on Thursday 3/7/2019 in room 116A-T1

It is very important that you read the notes at the end of each assignment for this and all other assignments.

Develop a functional flowchart and then write a C++ program as explained below. You will be using classes and objects, and appropriate member functions, constructors, destructor, etc. to handle the tasks outlined below.

Develop a **C++** program that declares three classes. The first class is named ***General*** and will contain the following data member in the private access region:

Manufacturer	- PC manufacturer
Model	- PC Model
Model Year	- Year Manufactured

The second class is named ***Spec*** and will contain the following data members in the private access region:

Registration Number	- PC Registration Number
Owner	- PC Owner

The third class is named ***PC*** and will contain objects of the other two classes as its members (declared in the private access region). This class is an example of ***has a*** relationship.

You will declare and define all member functions for all three classes as needed, including constructors and destructors.

Declare two objects of the class ***PC*** named ***pcOne*** and ***pcTwo***. Initialize ***pcOne*** in the program, using specifications for the ***pcOne***. Prompt the user to provide the necessary data for the ***pcTwo***. Your program will then display the information about the PCs in a tabulated format shown below.

	PC 1	**PC 2**
Model		
Registration Number		
Owner		
Model Year		

Grading:

Flowchart	5 points
Choice of data selected	5 points
Documentation	5 points

Proper development of class and member functions	20 points
Program completeness	20 points, this includes program correctness, efficient programming, using right constructs for the solution, and proper use of coding as emphasized in class
Sample correct outputs	5 points

Notes:(please read very carefully)

1. Make sure your media is **VIRUS FREE**!(grade of 0 will be given for infected media). Use Technology lab PCs for the test.
2. Comment your program.
3. Use meaningful prompts.
4. Provide a brief description of the problem being solved.
5. Be sure to include a header file at the beginning of your program as shown in the course syllabus and sample folder.
6. **NO global declarations allowed, except for the function prototypes and class declarations.**
7. Use classes, member functions, and strings.
8. Full member -function prototyping is required. Member functions must have their purposes fully explained.
8A. No member function should be defined within a class (i.e., no body of a function should be seen inside any class)
9. Make sure to use constructor(s) and destructors for each class. A class may have more than one constructor.
10. Parameter passing to functions will be ***by value,*** and return value from functions will be ***as specified in the member function prototypes.***
11. Use data types as specified in the member function prototypes.
12. At the due date, submit your **H3 folder containing all components of the program.** Create a Word file that contains the flowchart, the list of your .cpp file, and the sample runs of the data selected by you. Name this file **H3.docx**. Unrelated files to this homework should not be present when you upload them to the Blackboard. Homework must be uploaded to Blackboard by **9PM** of the due date and ***late homework will not be accepted***.
14. Your program will work for any set of data.
15. Use **Microsoft Visual Studio** compiler using default compiler settings.
14. No artificial data should appear in your program.
15.
16. Adherence to the ***ANSI C*** and ***ANSI C++*** required.
17. ***Do not*** use **<stdio.h> and <conio.h>** in this assignment and all other assignments.
18. ***Do not*** use any **#define** in your program until the time that is required for class declaration header files.
19. No ***goto*** statements allowed in any program that you develop in this course.
20. ***Non-compliance with these notes will cost you points***.
21. No collaboration on this assignment and all other assignments allowed. If you violate this policy, your grade for the course will be **F**.