Introduction to Programming and Application Design

<u>Mandatory Assignment # 2</u>

Deadline: Please check Exam Portal
Scenario:
A car showroom in Gotham sells cars with the name BrandX. The showroom sells three types of cars (CarAlpha, CarBravo, CarCharlie) and price is in same respective order (45000 USD, 67000 USD, 98000 USD). Showroom owner Alfred wants to get a console app built for making his job easier. He wants to get a secure app so it gives access to its features only if correct username and password is given. Alfred wants to have following features/functionalities in his console job.

   a) Login using username and password (You can set a fixed username and password)
      - Print error if wrong username and/or password provided
      - On correct username and password display list of functions
   b) Following options should be shown to the user after successful login
      - Show number of cars Sold for each type
      - Show Total value of each car type in Stock
      - Possibility to register one car sold //that means a function named OneCarSold() that subtracts 1 from stock of cars
      - A method that returns whether stock is veryLow(less than 5 cars), Low(between 5 and 15 cars), Normal (above 15) or Over (above 50). Total stock needs to consider as **sum of all types of cars**.

Tasks:

Create a console application using Visual Studio and C# that performs following activity:

   - When the app starts it prompts for a username:
     "Please provide username to access the BrandX system"
   - Then prompt for a password
     "Please provide password"
   - Please note there should be one standard username and password for the app. You select your own. If password and username are wrong. Please show following text and exit the app.
     "You are not authorized to access this service"
   - On successful login a list of options should be presented:
     ****** Here are your options ******
     "Please select the action.
     1. Show stock count for each type
     2. Show total value of each car type for all cars in stock
     3. Register one car sold
     4. Get stock status //veryLow, Low, Normal, Over

   - At this point an input for 1 or 2 or 3 or 4 will be received from user and response will be shown

Solution ideas

There are multiple ways to solve the above assignment. One possible way could be as follows:

   - Create a class named **CarStock** and have properties for **TypeName, Price, TotalInStockAlpha, TotalInStockBravo, TotalInStockCharlie**
   - *Create a Processor class and One method named Process() in that class.*
   - Create required methods in the classes
   - In the Process Method start with writing code for creating object fill it with any fake values.
   - After that in the Process method write code for user interaction as stated above.

- Use methods wherever appropriate.
- In the Main method just call Process method.

Important points to remember:

a) Please use proper variable names.
b) Write three lines of what issues you had about writing this console app with respect to your understanding of programming so far.
c) You can also make a different implementation than suggested ones however you have to use classes and objects to pass this assignment.

Note: Please write the application code and submit in a txt, cs, word or pdf file. You can always print any file as pdf and then submit it.