

Lab Task 11 – Classes and Objects

1. **Novertis Pharma Ltd.** is one of the top five pharmaceutical companies in **Lagos, Nigeria**. They maintain records to store medicines and sales details. Earlier, they used to store all these information in ledgers and files. In the recent years, they have found that this approach of storing information takes up a lot of physical space. In a move to conserve space and preserve data long term as well as reduce the effort required to maintain the data, **Novertis Pharma** has decided to shift to an automated data management system using .NET and C#.

You are recruited as one of the chief programmers for this task and need to implement the following:

a) Create classes for **Medicine** and **Sales**

Medicine details that will be stored are as follows:

1. Medicine Code
2. Medicine Name
3. Manufacturer Name
4. Unit Price
5. Quantity in Stock
6. Manufactured Date
7. Expiry Date
8. Batch Number

Sales details that are to be stored include:

1. Medicine Code
2. Quantity Sold
3. Planned Sales
4. Actual Sales
5. Region

- b) Each class should use the concept of constructors to initialize the data.
- c) Each instance variable in each class should have its own corresponding property's get and set accessors. Also, client code should only be able to get and not set these properties i.e. set accessors should only be possible when constructing object of the class and store the same into respective fields.
- d) A method **Print()** will be written in **Medicine** class to display all the details of medicines. Another method of the same name should be written for a different action, to display quantity in stock for a particular medicine whose code will be supplied to the method. Yet another **Print()** method should be written to display expiry date and manufactured date for a medicine whose code and name are supplied.
- e) A method **Display()** will be written in **Sales** class to display all the details of sales done. Another method of the same name should be written for a different action, to display difference between actual sales and planned sales for a particular medicine whose code will be supplied to the method.
- f) Assuming that a fresh order of medicines has arrived for those medicines whose quantity in stock was zero, write a method to increase the quantity on hand for each of these medicines by 50.
- g) Create a Test class to create objects of each of these two classes. Compile the test class and execute the same through Visual Studio/Code IDE.

=====SUBMISSION=====

Please note serious attention is now being drawn to the originality of every task submitted. As it is generally believe that no two persons can reason exactly the way, picking the same variable names, implementing logic exactly the same way etc. Therefore, each student is expected to submit only his/her own authentic work.