Pharmacy Management System in C++ Documentation

Team Members:

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Phase Three:

Project Requirements:

1) Medication Class:

This class contains:

1- Private class members (name_ , description_ , barcode_) of type string, (price_) of type float , (quantity_,medicationID_) of type integer, object class member (expiryDate) of type Date, static integer (`nextMedicationID`).
2- `In public there is setters to set each class member to a value according to some validations and constant getters for each class member.`
3- `Default parameterized constructor to initialize medication attributes.`
4- `Void print function to display information about the medication.`
5- `Destructor (~Medication())`

2) Date class:

This class contains:

1- private class members (day_ , month_ , year_) of type integer.
2- `In public there is setters to set each class member to a value according to some validations and constant getters for each class member.`
3- `Default parameterized constructor to set class members to values entered by the user.`
4- `Void print function to display the date.`

3) `Costumer class:`

`This class contains:`
`1- Private class members (costumerName) of type string , (coustomerID) of type integer , object class member of type Address, static integer (count)`
`2- In the public: Default parameterized constructor to set the class members to default values.`
`3- Setters to set each class member to a value according to some validations and constant getters to return each class member.`
`4- Void print function to display the customer information.`
`5- One destructor (~Customer())`

4) Address class:

This class contains:

1- Private class members (email_ , city_ , streetName_) of type string,(mobileno_) of type long integer.
2- In the public: Setters to set each class member to a value according to some validations and constant getters to return each class member.
3- Default parameterized constructor to set class members to values entered by the user.
4- Copy constructor that sets the class members to values from another object.
5- Void print function that displays the address.
6- One destructor (~Address()).

5) Pharmacy class:

This class contains:

1- Private class members (PharmacyName_) of type string, static integer (pharmacyIDCounter_),constant integer (pharmacyID_), pointer object of type Medication, pointer object Prescription, pointer object of type OffTheShelf, pointer object of type Customer, (medicationCount_, customerCount_) of type integer, private member function to resize medication array for Prescript, Private member function to resize medication array for off the shelf, private member function to resize medication array for prescript, private member function to resize medication array for costumers.
2- Default parameterized constructor to set class members to values entered by the user.
3- Setters to set the pharmacy name.
4- Getters to return the pharmacy name and pharmacy id.
5- Void function to add medication to the pharmacy.
6- Void function to remove medication from the pharmacy by medication id.
7- Void function to add prescription for the medication.
8- Void function to add medication to the pharmacy.
9- Void function off-the-shelf medication.
10- Void function to remove medication from the pharmacy by medication name.
11- Void function to add costumer.
12- Void function to print medications for a Pharmacy.
13- Void function to print costumers of the Pharmacy.
14- Bool function to compare 2 Pharmacies By Medication Count Function.
15- Long double function compute Total Revenue for a Pharmacy Function.
16- Bool function to compare 2 Pharmacies By Total Revenue Function.
17- Bool function to Compare 2 Pharmacies By Customer Count Function.
18- Function that returns an integer to return the Number of Medications in the Pharmacy.
19- Function that returns an integer to return the Number of costumers in the Pharmacy.
20- Void function to print the pharmacy information.
21- void function to buy a Medicine from a Pharmacy (Make Purchase).
22- void function to Sort Medications by Name.
23- void function to Search for Medication by ID.
24- void function to Search for Customer by ID.
25- Void function to display Expired Medications for a Pharmacy.
26- Void function to Remove Expired Medications for a Pharmacy.
27- Void function to display Medications Running Low in a Pharmacy.
28- Void function to update Customer Information (the function will update the name and the address of the customer and it's ID will stay the same).

29- Void function to Update Medication Information.
30- `static Pharmacy*` indicates that the function returns a pointer to a `Pharmacy` type, Copy Pharmacies information to another Pharmacies (it's return type is a pointer to array of type Pharmacy)
31- One destructor (~Pharmacy())

6) Prescription class:

This class is inherited from the medication class.
This class contains:
1- Private data members: (FDAnumber) of type integer, object class member of type Date.
2- In the public: default constructor to give default values to the class members.
3- Parameterized constructor to set the class members with values from the user.
4- Setters to set each class member to a value according to some validations and constant getters to return each class member.
5- Void print function.

7) OffTheShelf class:

This class contains:
1- Private class members: (BOGOF_) of type bool, object class member (`OfftheEnds_`) of type Date.
2- In the public: Default parameterized constructor to set class members to values entered by the user.
3- Setters to set each class member to a value according to some validations and constant getters to return each class member.
4- Void print function.

8) Main class:

Outside the main:

1- Void printOption function to display the the user interface and asking the user to enter an option for performing operations like adding medications, adding customers, making purchases, displaying available medications, and calculating total sales and profit.
2- Void validatePharmacyID function to enter the pharmacy index.
3- Void afterCase function.
4- Void MakePurchase to enter the name of the medication the user wants to purchase.
5- Void AddCustomer function to add the details of the costumers to the pharmacy.
6- Void AddMedication function to add the details of the medication to the pharmacy.
7- Void printPharmacyInformation function to add the details of the pharmacy.

In the main:

While loop that contains a switch with 27 switch cases.