Programming Assignment 1

Contact Manager Application

Instructions:

1. Write an application to implement "**Contact manager**" as described below.
2. The solution is to be presented in a **report**. This report is to contain
   - A through description of the application,
   - Classes Diagram,
   - A description of underlying data structures used to solve the problem,
   - A copy of the C++ code,
   - A description of all the function/routines which have been used, and
   - Test data used and sample execution screenshots of output produced.
3. A copy of the code and an executable is to be placed in a folder called **OOP1**. A copy of the code must also be uploaded on teams. You will be required to demo your application for assessment after the due date.
4. **Due Date (Over Teams)**: 10th March 2022 @11:59PM (**By Handed**) in the lab of 3rd week from 5th to 10th March 2022.

Components:

1: The Contact

Store the list of users. With the ability to add/edit and delete users. There is a count value that returns the number of users. Also there is a search function to look up on any data and return the matched users if found. A show all function returns all users in suitable format.

2: The User

The user has the following attributes: id, firstname, lastname, gender, city, addedDate. And included the following *composed* attributes as an array: address, phone and email. The user should include a search function to find any data (phone number, address, email, and so on) in users and return 1 if found and 0 otherwise. It also includes the following functions: add, edit and delete for each phone, email, and address. A show function to display user information in suitable format

3: The Address

The address includes the following attributes: place, type, and description. And the following functions: edit (i.e. setPlace, setType, and setDescription), and getAddress (full address format).

4: The Email

The Email includes the following attributes: email, type, and description. And the following functions: edit (i.e. setEmail, setType, and setDescription), and getEmail (full email format).
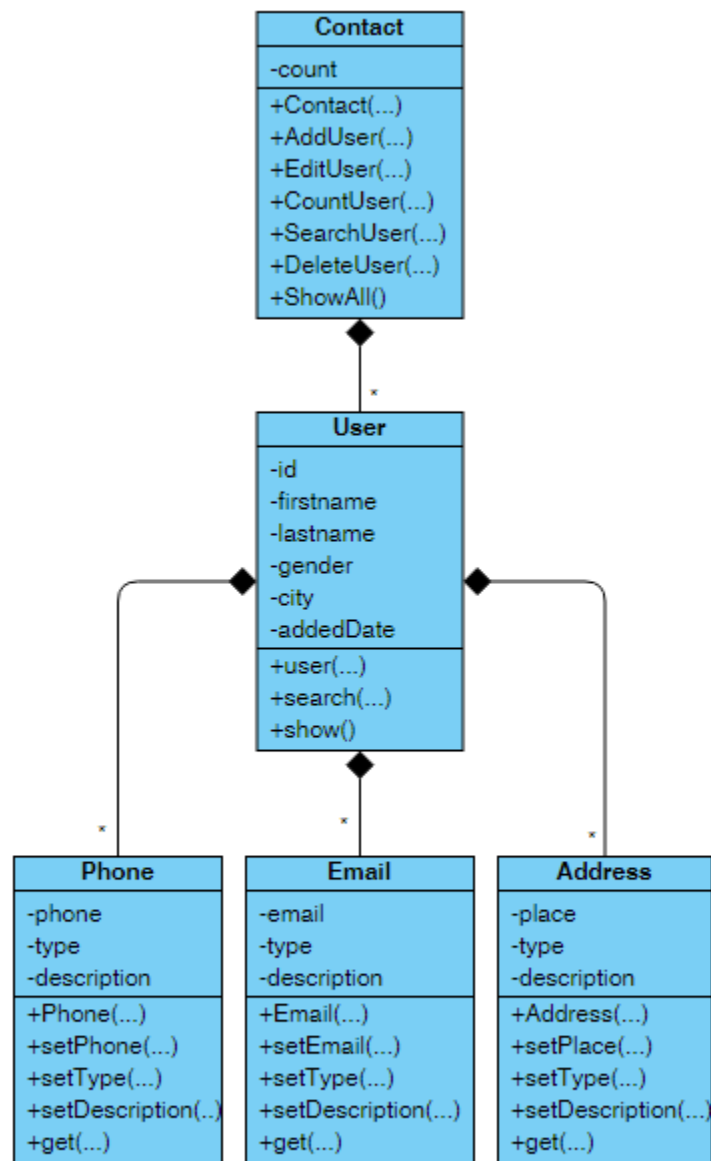
5: The Phone

The Phone includes the following attributes: phone, type, and description. And the following functions: edit (i.e. setPhone, setType, and setDescription), and getPhone (full phone format).

6: Demo

The main function should display a list of options to add/edit/delete/search in the contact list. **Bouns**: (add a save contact option to store in a file and read form file)

Starter Class Diagram

Contact

-count

+Contact(...)
+AddUser(...)
+EditUser(...)
+CountUser(...)
+SearchUser(...)
+DeleteUser(...)
+ShowAll()

User

-id
-firstname
-lastname
-gender
-city
-addedDate

+user(...)
+search(...)
+show()

Phone

-phone
-type
-description

+Phone(...)
+setPhone(...)
+setType(...)
+setDescription(..)
+get(...)

Email

-email
-type
-description

+Email(...)
+setEmail(...)
+setType(...)
+setDescription(...)
+get(...)

Address

-place
-type
-description

+Address(...)
+setPlace(...)
+setType(...)
+setDescription(...)
+get(...)

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