

Objective

The objective of this lab is to

- Revise your previously learned concepts so far
- Understanding of how to make class libraries
- Understanding of different access modifiers i.e., internal, private, public, static etc
- Understanding of passing arguments by reference in C#
- Understanding of CRUD Operations in Database

Blood Donation Management System

As you know, PUCIT Blood donor society stays active in helping needy people in case of emergency or crucial situations. But as we know with each passing year, senior members of society pass out and new members are introduced into the society which makes the management process quite handy. Thus, in this Lab, we will help our society by creating a **“PUCIT Blood Donation Management System”** with the help of Database to save all information in a systematic way.

Blood Type Compatibility Table

Blood Type	Gives	Receives
A+	A+, AB+	A+, A-, O+, O-
O+	O+, A+, B+, AB+	O+, O-
B+	B+, AB+	B+, B-, O+, O-
AB+	AB+	Everyone
A-	A+, A-, AB+, AB-	A-, O-
O-	Everyone	O-
B-	B+, B-, AB+, AB-	B-, O-
AB-	AB+, AB-	AB-, A-, B-, O-

Implementation details are listed below:

Donor Class:

(3)

This class will be used to make Donor objects.

Data Members:

- Id
- DonorName
- DonorBloodGroup
- DonorAge
- IsBloodDonated
- DonorPhone
- DonorEmail(optional, By default empty string "")
- RegistrationDate

Methods:

You have to define Getters/Setters for all above mentioned attributes and a constructor. ***Registration Date must not be changed after object creation.***

Donation Information Class:_____ (3)

This class will be used to save all records of blood donations.

Data Members:

- Id
- Donor_Id
- ReceptorName
- Date

Methods:

You have to define Getters/Setters for all above mentioned attributes and a constructor.

DonationRepository Class:_____ (3)

This class will be used to handle all management operations of our PUCIT Blood Donation Management System. It will have following Methods

1. AddNewDonor: (3)

This function will be used to Add new Donor in the database.

2. UpdateDonorInformation: (3)

This function will be used to update information of already existing donors in database. It will receive Id of Donor to be updated as parameter.

3. DeleteDonor: (3)

This function will be used to delete donor information from database. It will receive the Id of Donor whose information/record we want to delete.

4. DisplayAllDonorsInformation: (4)

This function will get all the information of donors from the database, and then will display it in proper formatting and alignment.

5. SearchDonor (3)

This function will ask the user for Donor's Information i.e., Name, Age, Id, Blood Group and then will display All Donors whose attributes matched with any attribute(mentioned above) entered by the user, in proper formatting.

6. DonateBlood: (6)

This function will receive the receptor's name and blood group as parameters. Then it will check whether blood can be donated or not?. If blood can be donated, then it will update Donation Information as well as Donor Information in the database.

DonationManagementSystem Class: (3)

This class will only have one static method **DisplayMenu()** which will be used to call different functions of the Donation Repository Class.

1. DisplayMenu: (3)

This function will be used to display menu/interface of our Blood Donation Management System Like

a. Press 1 to Add... etc