DBMS - Mini Project

Blood Bank Management

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V Semester

Short Description and Scope of the Project

Blood bank Management System is an online software system that aids in the better management of blood banks. This project provides information on numerous deposits and receiving, as well as the accompanying details. This information comprises donor information, donation history, receiver information, receiving history, list of donors, stock, and so on.... These facts aid in the maintenance and monitoring of blood deposits and withdrawals. PHP and MySQL are used to create this web system.

Scope of the Project

The system Functionalities and features of our system will include the following:

ADMIN

Login

This function allows the administrator to login to interact with the system.

Add Person

This function helps in registration of a new donor/receiver.

Search Person

we can search person using their uniquely generated P_ID that is displayed while registration or also their Aadhar number.

This function helps in getting the information of a donor/receiver including their donation and receiving history.

Update Person

This function helps in updating the donor/receiver details. Updating only part of the details has been taken care.

New donation

This function helps in adding new donations

New receive

This function helps in making new receiving.

Check Stock

This function keeps track of stock details.

Donation History

This function helps in viewing all donation made during a particular time interval.

Receiving History

This function helps in viewing all receiving made during a particular time interval.

List Donors

List the donor's name, blood group and their phone number if they are at present eligible to donate for any particular blood group selected.

Add User

This functionality allows the admin to add users i.e., Create login credentials for any Donor/Receiver.

Delete User

This functionality allows the admin to delete users i.e., Delete login credentials for any Donor/Receiver.

USER i.e.DONOR/RECEIVER

Login

This function requires the user to login to use his/her features.

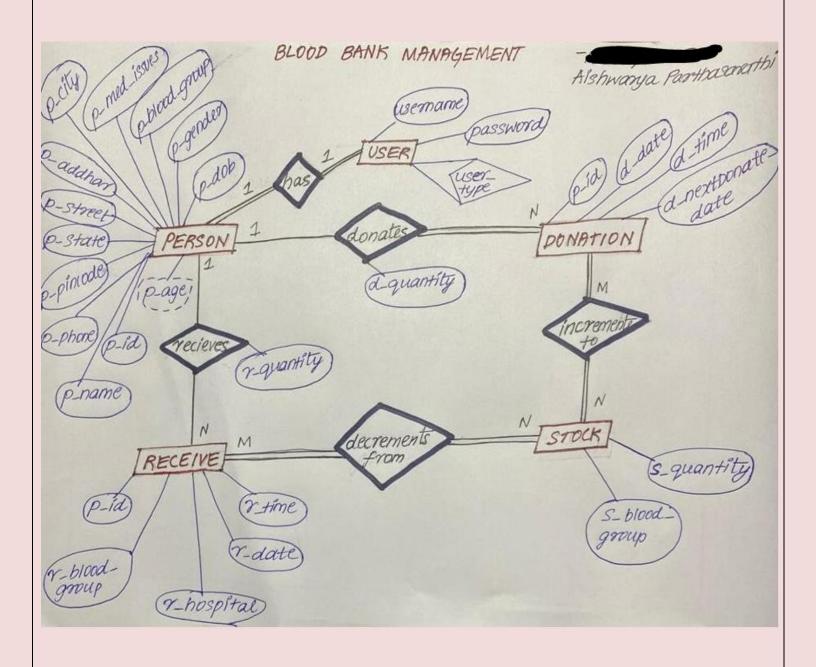
Request Blood

This function allows the User to request blood for any blood group required. Admitted hospital and units of blood needed must be specified.

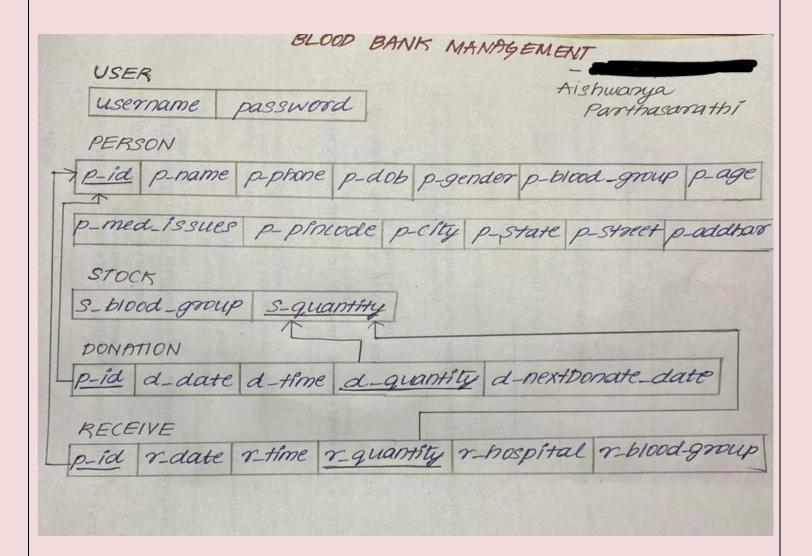
My profile

The User can view his details including his/her donations and receiving details

ER Diagram



Relational Schema



DDL statements - Building the database

1. CREATE STATEMENTS

```
CREATE TABLE `donation` (
`p_id` int(10) NOT NULL,
`d_date` date NOT NULL,
'd time' time NOT NULL,
`d_quantity` int(1) NOT NULL,
`d_nextDonate_date` date NOT NULL
CREATE TABLE 'person' (
 p_id` int(10) NOT NULL,
 `p_name` varchar(25) NOT NULL,
 `p_phone` char(10) NOT NULL,
 'p_dob' date NOT NULL,
 `p_gender` char(1) NOT NULL,
 p_blood_group` varchar(3) NOT NULL,
 `p_med_issues` varchar(100) DEFAULT NULL,
 `p_age` int(11) NOT NULL,
 `p_pincode` int(6) NOT NULL,
 `p_city` varchar(20) NOT NULL,
 `p_state` varchar(50) NOT NULL,
 p_street` varchar(20) NOT NULL,
 p_addhar` varchar(20) NOT NULL
CREATE TABLE `receive` (
 `p_id` int(10) NOT NULL,
 `r_date` date NOT NULL,
 'r time' time NOT NULL,
 `r_quantity` int(1) NOT NULL,
 `r_hospital` varchar(50) NOT NULL,
 `r_blood_group` varchar(3) NOT NULL
CREATE TABLE `stock` (
 `s_blood_group` varchar(3) NOT NULL,
 `s_quantity` int(5) NOT NULL DEFAULT 0
CREATE TABLE `user` (
 `username` varchar(10) NOT NULL,
 `password` varchar(16) NOT NULL
```

2. ALTER STATEMENTS

```
ALTER TABLE `donation`
 ADD PRIMARY KEY (`p_id`,`d_date`,`d_time`);
ALTER TABLE 'person'
 ADD PRIMARY KEY (`p_id`);
ALTER TABLE `receive`
 ADD PRIMARY KEY (`p_id`,`r_date`,`r_time`);
ALTER TABLE 'stock'
 ADD PRIMARY KEY (`s_blood_group`);
ALTER TABLE `user`
 ADD PRIMARY KEY ('username');
ALTER TABLE `person`
 MODIFY `p_id` int(10) NOT NULL AUTO_INCREMENT;
ALTER TABLE `donation`
 ADD CONSTRAINT `Donation_ibfk_1` FOREIGN KEY (`p_id`) REFERENCES `person` (`p_id`);
ALTER TABLE `receive`
 ADD CONSTRAINT `Receive_ibfk_1` FOREIGN KEY (`p_id`) REFERENCES `person` (`p_id`);
```

Populating the Database

```
INSERT INTO `stock` (`s_blood_group`, `s_quantity`) VALUES ('A+', 0), ('A-', 0), ('AB+', 0), ('AB-', 0), ('B+', 0), ('B+', 0), ('O+', 0), ('O-', 0);

INSERT INTO `user` (`username`, `password`) VALUES ('SuperAdmin', '12345678'), ('test_user', 'qwertyuiop');
```

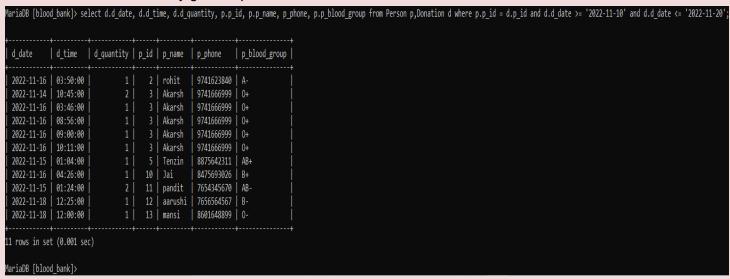
"DUMPING THE OTHER TABLES IS DONE THROUGH FRONT END "

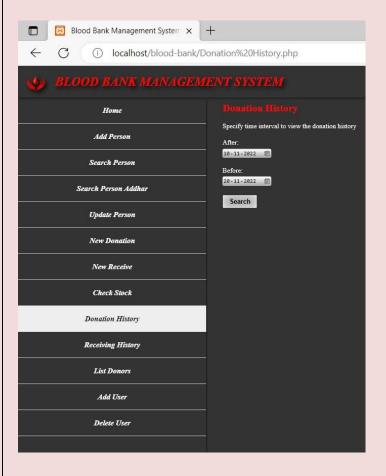
Join Queries

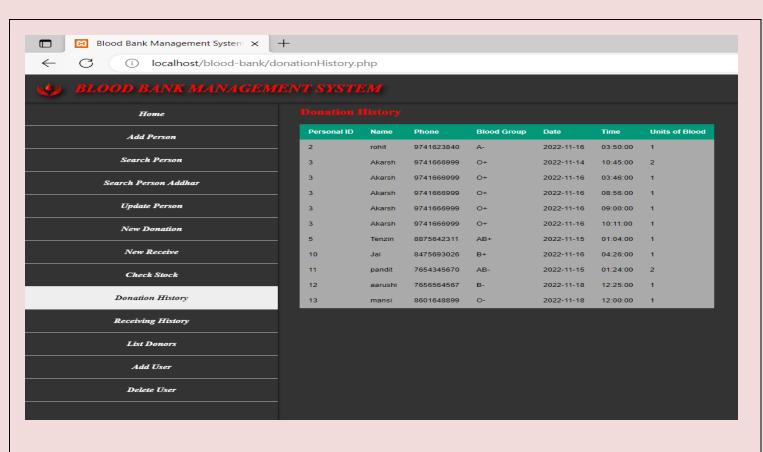
Showcase join queries

Write the query in English Language, Show the equivalent SQL statement and also a screenshot of the query and the results.

1. To view donation history given a particular time line







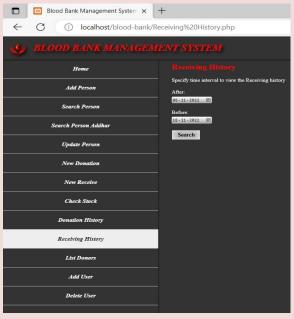
2. To view receiving history given a particular time line

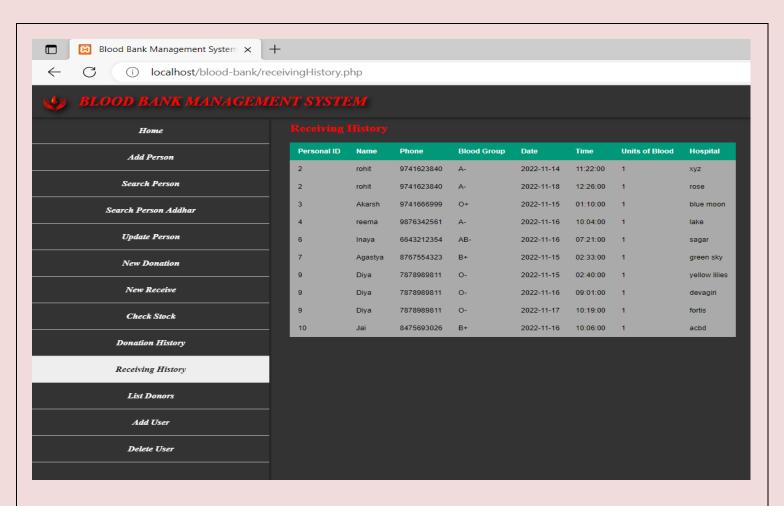
MariaDB [blood_bank]> select r.r_date, r.r_time, r.r_hospital, r.r_quantity, p.p_id, p.p_name, p_phone, p.p_blood_group from Person p,Receive r where p.p_id = r.p_id and r.r_date >= '2022-11-08' and r.r_date <= '2022-11-18';

r_date	r_time	r_hospital	r_quantity	p_id	p_name	p_phone	p_blood_group
2022-11-14 2022-11-18 2022-11-15 2022-11-16 2022-11-16 2022-11-15	11:22:00 12:26:00 01:10:00 10:04:00 07:21:00 02:33:00	xyz rose blue moon lake sagar green sky	1 1 1 1 1	+	rohit rohit Akarsh reema Inaya Agastya	9741623840 9741623840 9741666999 9876342561 6643212354 8767554323	A- A- O+ A- AB- B+
2022-11-15 2022-11-16 2022-11-17	02:40:00 09:01:00 10:19:00	yellow lilies devagiri fortis	1 1 1		Diya Diya Diya	7878989811 7878989811 7878989811	0- 0- 0-
2022-11-16	10:06:00	acbd	1	10	Jai 	8475693026 +	B+ +

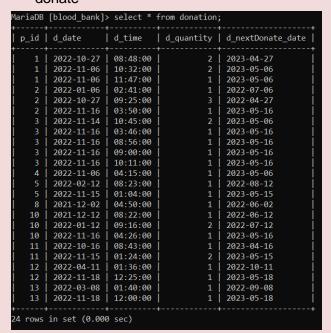
10 rows in set (0.001 sec)

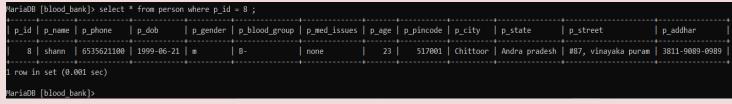
MariaDB [blood_bank]>



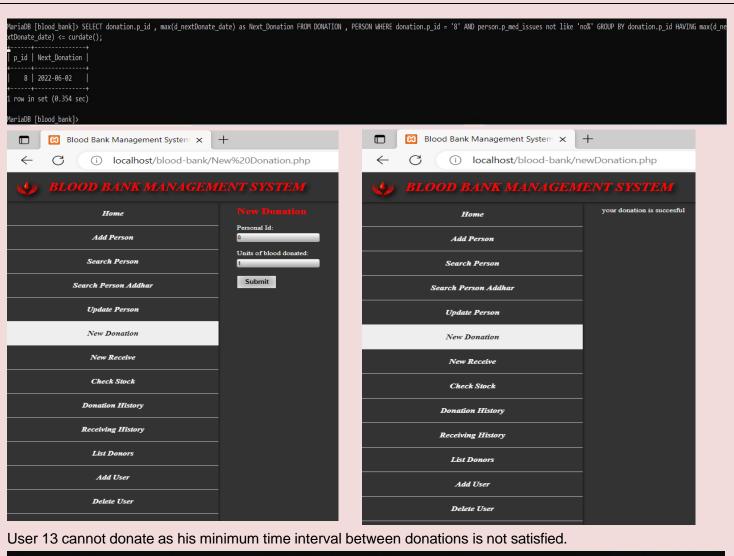


3. To ensure that only users with 6 months gap from their previous donation and no medical issues can donate



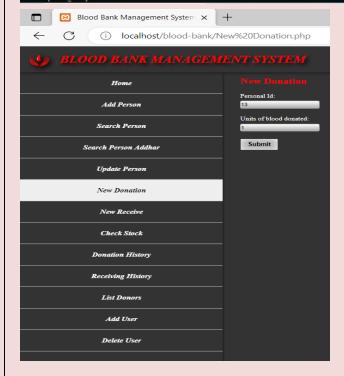


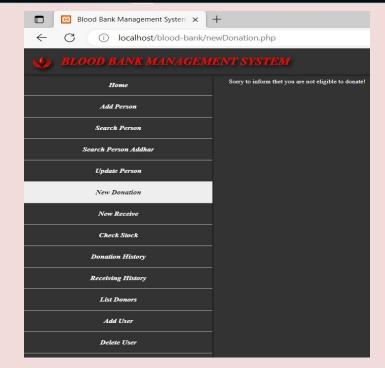
Only user 8 can donate at present as his medical issue and time interval satisfies the condition.



MariaDB [blood_bank]> SELECT donation.p_id , max(d_nextDonate_date) as Next_Donation FROM DONATION , PERSON WHERE donation.p_id = '13' AND person.p_med_issues not like 'no%' GROUP BY donation.p_id HAVING max(d_n extDonate_date) <= curdate(); Empty set (0.001 sec)

MariaDB [blood_bank]>





Aggregate Functions

Showcase function queries

Write the query in English Language, Show the equivalent SQL statement and also a screenshot of the query and the result

1. To know the number of registrations the blood bank has got.

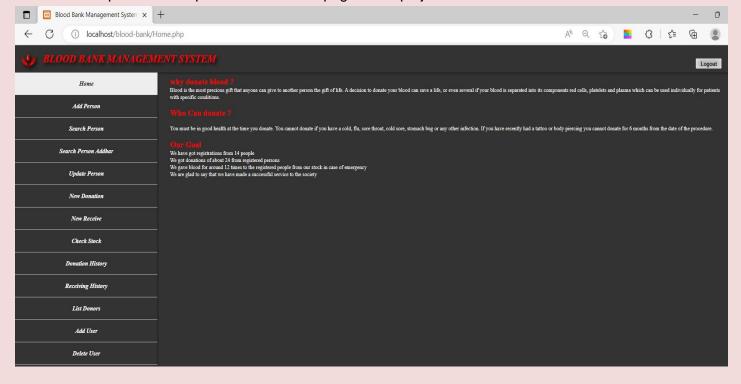
```
MariaDB [blood_bank]> select count(p_id) from Person;
+------+
| count(p_id) |
+------+
| 14 |
+------+
1 row in set (0.001 sec)
MariaDB [blood_bank]>
```

2. To know the number of donations the blood bank has got.

```
MariaDB [blood_bank]> select count(p_id) from Donation;
+------
| count(p_id) |
+-------
| 24 |
+-------
1 row in set (0.001 sec)
MariaDB [blood_bank]>
```

3. To know the number of times the blood bank has given blood in case of emergency.

All the above queries are implemented in home page of the project.



Set Operations

Showcase Set Operations queries

Write the query in English Language, Show the equivalent SQL statement and also a screenshot of the query and the results

1. Listing the number of registered donors who donated blood ages 20-30 years and older male and female donors who also donated blood.

```
MariaDB [blood_bank]> select p_name as name ,p_gender as gender ,p_age as age
   -> from person p
   -> where p_age >= 20 and p_age <= 30 and p_med_issues like 'n%'
   -> union
   -> select p_name,p_gender,max(p_age)
   -> from person p
   -> where p_gender='M' and p_med_issues like 'n%'
   -> union
   -> select p_name,p_gender,max(p_age)
   -> from person p
   -> where p_gender='F' and p_med_issues like 'n%';
 name
         gender age
 Tenzin m
                     26
                     23
 shann
                     29
 Jai
         m
 aarushi | f
                     20
 mansi
                     52
 rohit
 Anushka | f
                     47
 rows in set (0.001 sec)
MariaDB [blood_bank]>
```

2. Listing the registered donors who donated blood and who belong to the blood group considered universe donor, as well as the patients who belong to the blood group considered universal recipient.

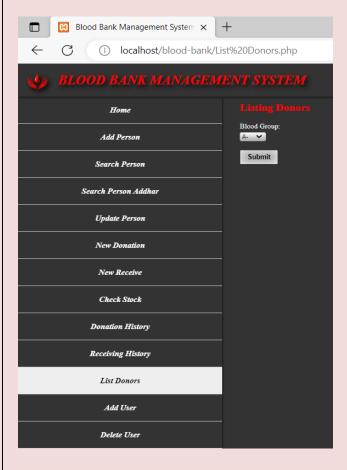
Procedures

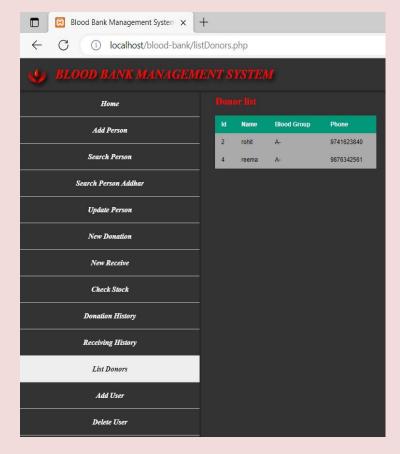
Create a Procedure. State the objective of the Procedure. Run and display the results.

Objective:

Listing all users of particular blood group who are eligible to donate if their specific blood group is selected.

```
🚞 🖥 | 💯 💯 👰 🔘 | 🔞 | 🥥 🚳 | 📗 | Limit to 1000 rows 🔹 | 🚖 | 🥩 🔍 🗻 🖃
       DELIMITER $$
 1
 2 .
      CREATE procedure Donors(IN b_type varchar (3))
 3
    ⊖ BEGIN
       DELETE FROM Donor_list;
 4
 5
       INSERT INTO Donor_list
      SELECT p_id, p_name, p_blood_group, p_phone
 6
 7
       WHERE p_blood_group = b_type AND p_med_issues like 'n%';
 8
 9
      END;$$
10
11
       DELIMITER;
```





Triggers

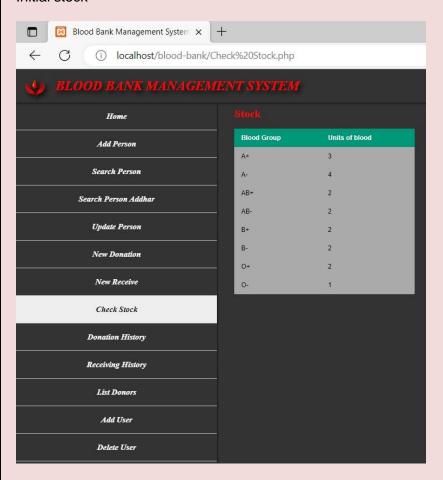
Create a Trigger. State the objective. Run and display the results.

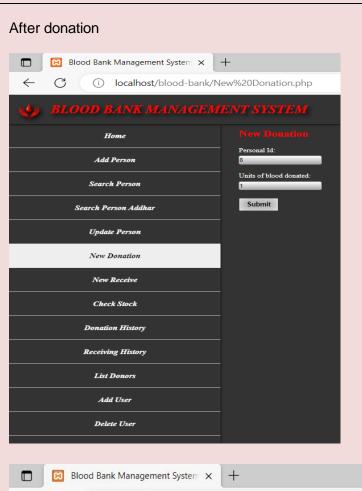
Objective:

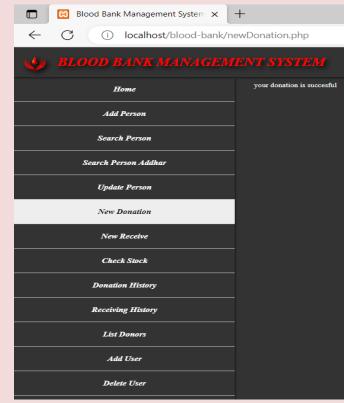
1. To update stock after a donation is successfully completed.

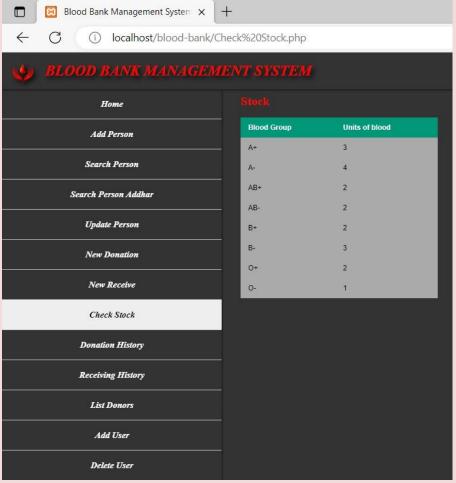
```
DELIMITER $$
 2 • CREATE TRIGGER aft_d
      AFTER INSERT
     ON Donation FOR EACH ROW
5 ⊖ BEGIN
      SELECT p_id, new.d_quantity ,max(d_date) d_date INTO @p_id ,@d_quantity ,@d_date
8
     FROM DONATION
9
      WHERE p_id = new.p_id
     GROUP BY p_id;
10
11
12
      UPDATE Stock SET s_quantity = s_quantity + @d_quantity where Stock.s_blood_group = (select p_blood_group FROM Person where p_id = @p_id);
13
14
     END $$
15
      DELIMITER ;
```

Initial stock







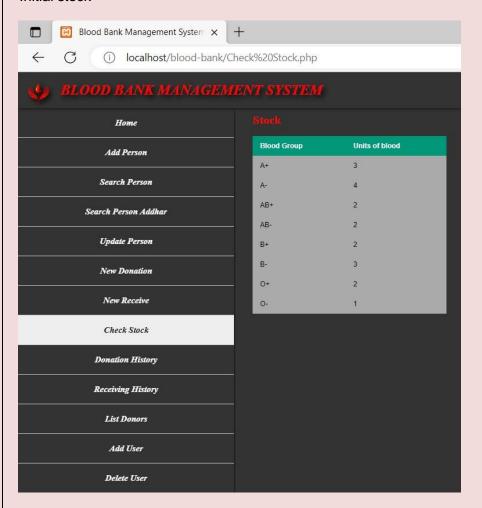


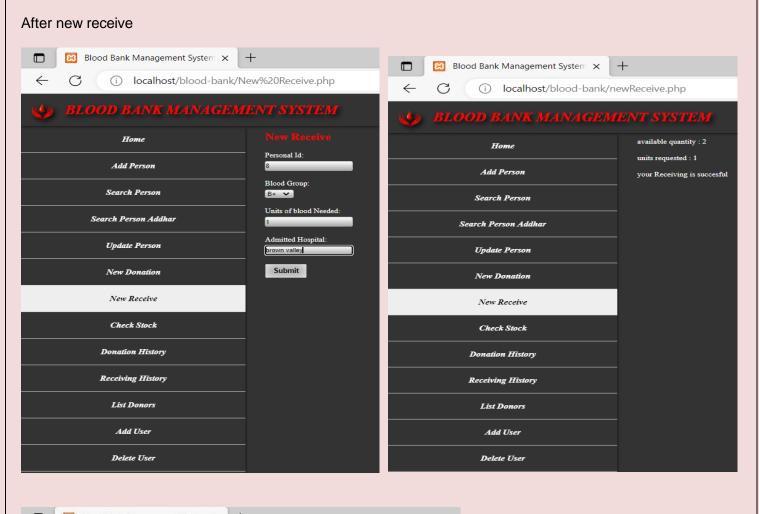
Objective:

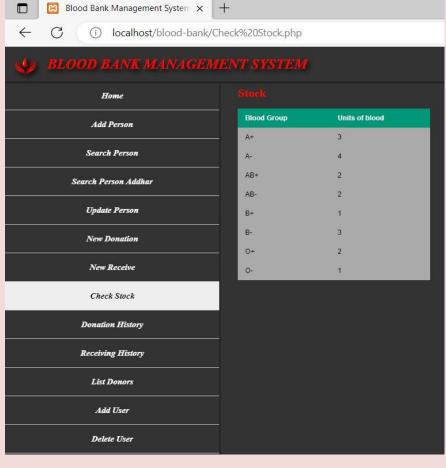
2. To update stock after a new receive/request for blood is successfully completed.

```
🚞 🖥 | 💯 💯 👰 🔘 | 🔯 | ◎ 🚳 | ◎ limit to 1000 rows 💌 埃 | 🥩 🔍 🕦 🖃
       DELIMITER $$
 2 • CREATE TRIGGER aft_r
      AFTER INSERT
     ON RECEIVE FOR EACH ROW
 6
 8
      SELECT r_blood_group, r_quantity ,max(r_date) r_date INTO @r_blood_group ,@r_quantity ,@r_date
 9
      FROM RECEIVE
      WHERE r_blood_group = new.r_blood_group
10
11
      GROUP BY r_blood_group;
12
13
     update Stock SET s_quantity = s_quantity - @r_quantity where s_blood_group = new.r_blood_group;
END $$
14
15
16
      DELIMITER;
```

Initial stock





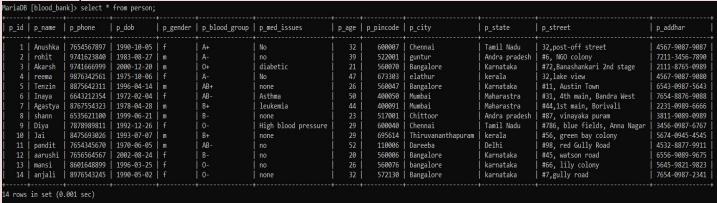


Developing a Frontend

The frontend should support

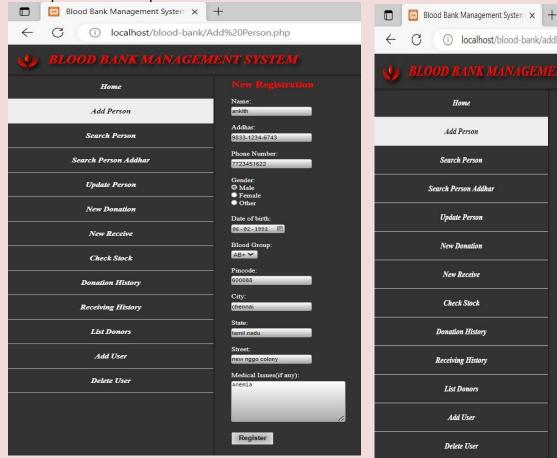
- 1. Addition, Modification and Deletion of records from any chosen table
- 2. There should be a window to accept and run any SQL statement and display the result
- ✓ Adding new Person

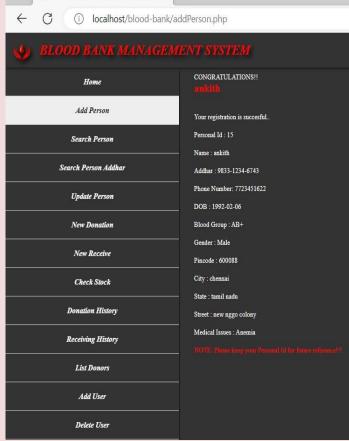
Initial list of persons



After operation is completed

MariaDB [blood bankl>

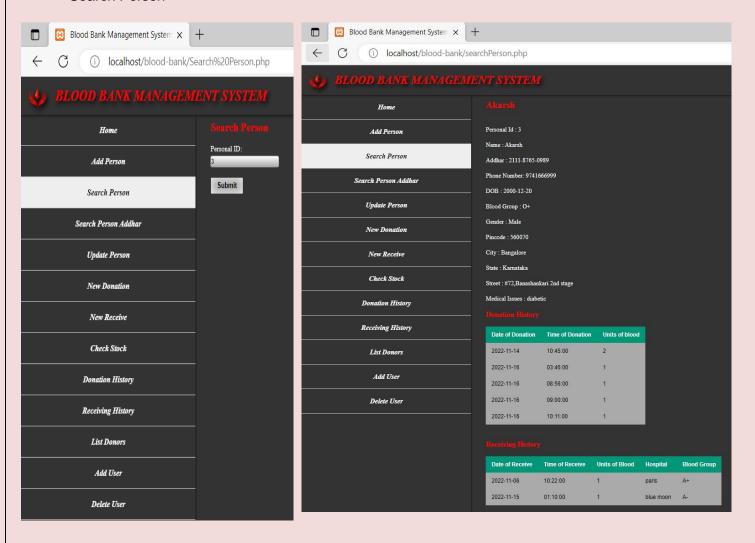


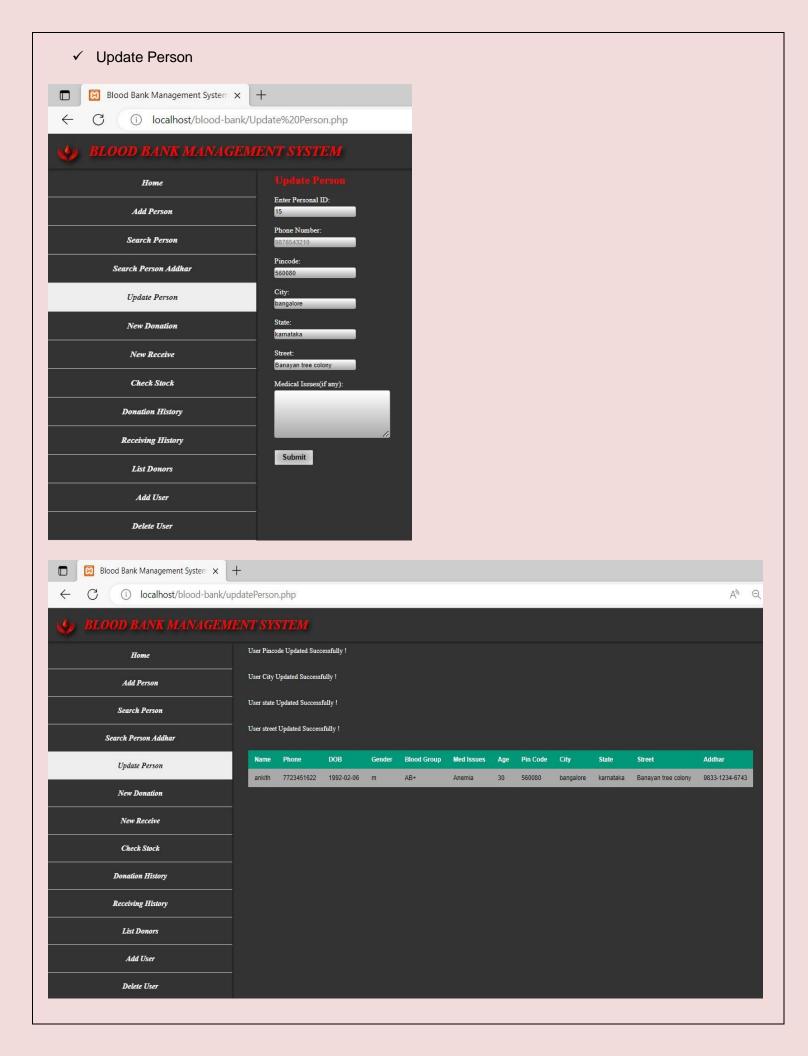


id	p_name	p_phone	p_dob	p_gender	p_blood_group	p_med_issues	p_age	p_pincode	p_city	p_state	p_street	p_addhar
1	Anushka	7654567897	1990-10-05	f	A+	No	32	600007	Chennai	Tamil Nadu	32,post-off street	4567-9087-908
2	rohit	9741623840	1983-08-27	m	A-	no	39	522001	guntur	Andra pradesh	#6, NGO colony	7211-3456-78
3	Akarsh	9741666999	2000-12-20	m	0+	diabetic	21	560070	Bangalore	Karnataka	#72,Banashankari 2nd stage	2111-8765-09
4	reema	9876342561	1975-10-06	f	A-	No	47	673303	elathur	kerala	32,lake view	4567-9087-90
5	Tenzin	8875642311	1996-04-14	m	AB+	none	26	560047	Bangalore	Karnataka	#11, Austin Town	6543-0987-56
6	Inaya	6643212354	1972-02-04	f	AB-	Asthma	50	400050	Mumbai	Maharastra	#31, 4th main, Bandra West	7654-8876-96
7	Agastya	8767554323	1978-04-28	m	B+	leukemia	44	400091	Mumbai	Maharastra	#44,1st main, Borivali	2231-0989-66
8	shann	6535621100	1999-06-21	m	B-	none	23	517001	Chittoor	Andra pradesh	#87, vinayaka puram	3811-9089-09
9	Diya	7878989811	1992-12-26	f	0-	High blood pressure	29	600040	Chennai	Tamil Nadu	#786, blue fields, Anna Nagar	3456-0987-67
0	Jai	8475693026	1993-07-07	m	B+	none	29	695614	Thiruvananthapuram	kerala	#56, green bay colony	5674-0945-4
1	pandit	7654345670	1970-06-05	m	AB-	no	52	110006	Dareeba	Delhi	#98, red Gully Road	4532-8877-99
2	aarushi	7656564567	2002-08-24	f	В-	no	20	560006	Bangalore	Karnataka	#45, watson road	6556-9089-96
L3	mansi	8601648899	1996-03-25	f	0-	no	26	560076	bangalore	karnataka	#66, lily colony	5645-9821-98
14	anjali	8976543245	1990-05-02	f	0-	none	32	572130	Bangalore	karnataka	#7,gully road	7654-0987-23
15 İ	ankith	7723451622	1992-02-06	m	AB+	Anemia	30	600088	chennai	tamil nadu	new nggo colony	9833-1234-67

MariaDB [blood_bank]>

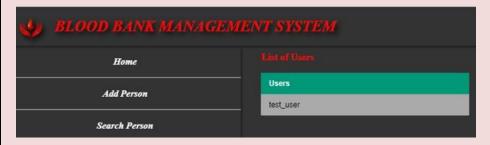
✓ Search Person



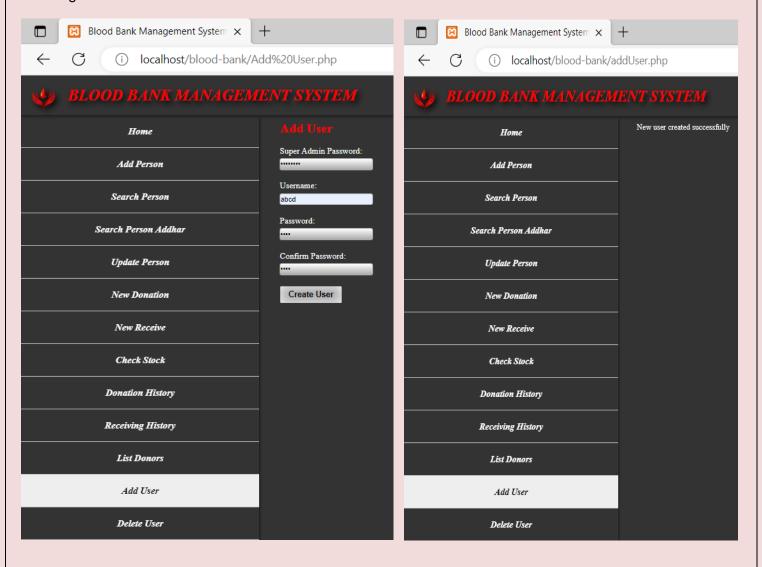


✓ Add user

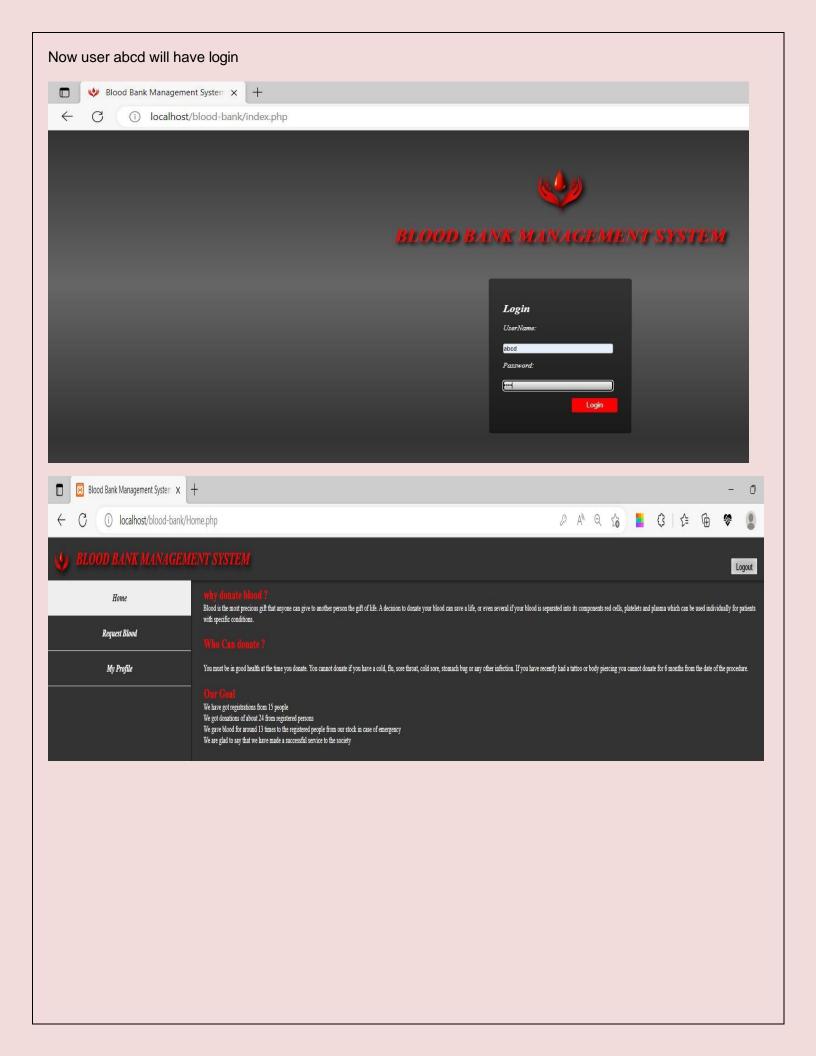
Initial list of Users

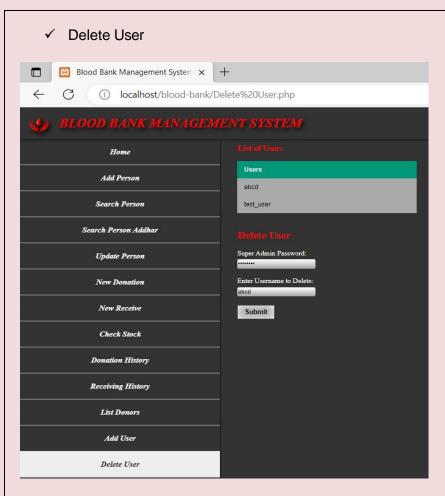


After Operation is completed Creating user abcd









After Deletion of user abcd

