Dhirubhai Ambani
Institute of Information and Communication Technology

Subject: Database Management System

Subject code: I615

Final Project Report

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Topic: BloodBank Management

Project Description :

Blood bank stores employee details, patient details, donor details, and blood stored in the Inventory. For patients and donors, their medical information is stored. Blood details help in managing blood requirements, which is our primary goal.

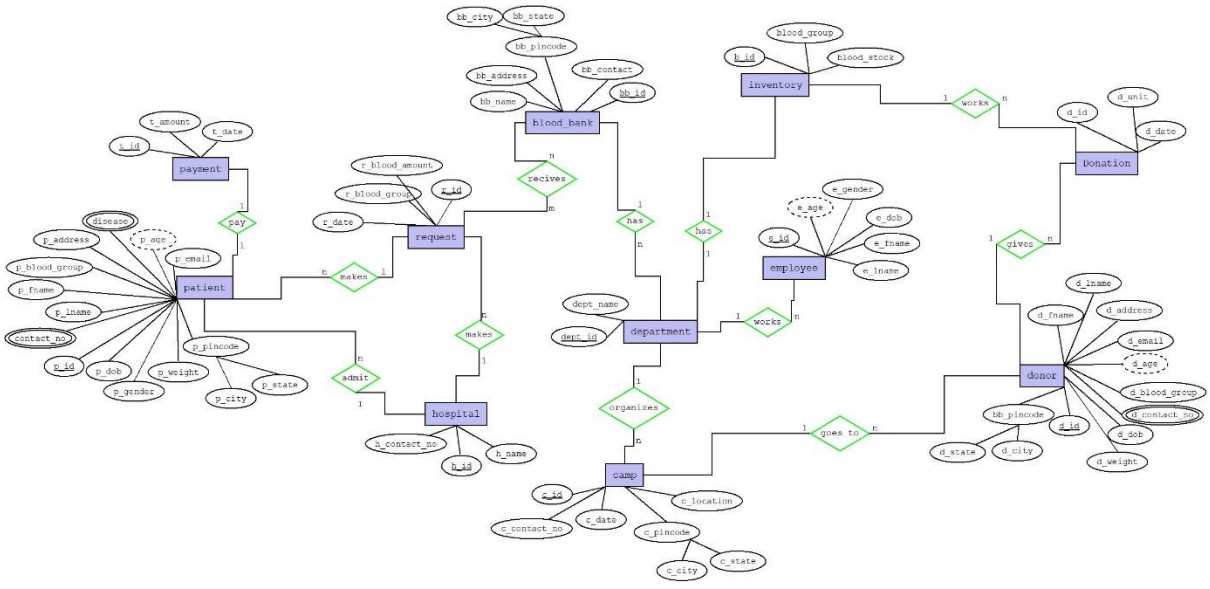
Blood bank requires very meticulous storage of data. This storage needs to be maintained properly. Blood bank stores a large amount of blood. Blood availability is essential for medical emergencies. Thus we need a good database that correctly describes the stored blood. Many people with blood conditions require a blood transfusion at a specific time interval. Such people can register at a blood bank so that the bank can provide blood for regular transfusion. Details of the patient need to be maintained. It includes blood group, platelets count, hemoglobin, electrolyte, CBC, etc. Details of donors are also the same as patients. This is because the donor must be healthy for his/her blood to be used by a patient.

There are departments like inventory, camps, etc. Inventory is where the blood is been stored, and we have all the details such as available bloodstock for any blood group. We have camps that handle the camping for the blood collection by the donors. Camps are held at certain time intervals, and we have many donors coming to the camps for donations. A donor can have multiple instances over a period of time, and the details of each donation and donor need to be adequately maintained.

Blood Bank manages the blood r by patients and hospitals. Patients and Hospitals can seek the branch where the blood red by them is available and also, the available amount of blood. The employee details include name, age, gender, and also the department of each of them where they are working.

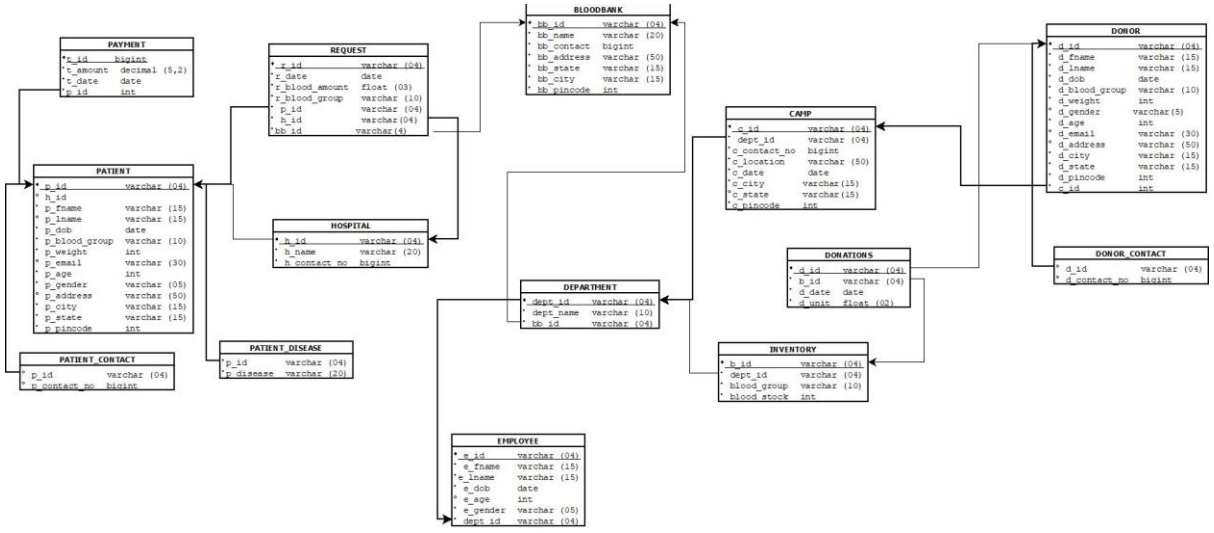
Data of all these need to be maintained for the proper functioning of the bank.

ERD :



Here we have the flow of our data represented by ERD. Here patients and hospitals can make multiple rs for the blood to the blood bank. To handle the r coming from patients and hospitals the r table is used. Here the blood bank has two departments namely camps and inventory. We have employee details working for each department. Inventory is where the blood details are been stored. We have donors' detail who come to the camps for the donations and the details of there are also maintained.

Relational Schema :



FDs:

1) BLOODBANK

(bb_id, bb_name, bb_contact, bb_address, bb_state, bb_city, bb_pincode)

{ bb_id } -> bb_name

{ bb_id } -> bb_contact

{ bb_id } -> bb_address

{ bb_pincode } -> bb_state

{ bb_pincode } -> bb_city

Candidate Key:- { bb_id, bb_pincode }

Prime Attribute:- bb_id, pincode

Non-Prime Attribute:- bb_name, bb_contact, bb_address,bb_state, bb_city

Normalization to 3NF and BCNF form.

Reason: It is in 2NF but bb_pincode is not unique. Thus it cannot be a prime attribute. So bb_id and bb_pincode together can be declared as super key, thus uniquely identifying bb_city and bb_state.

{ bb_id } -> bb_name

{ bb_id } -> bb_contact

{ bb_id } -> bb_address

{ bb_id, bb_pincode } -> bb_state

{ bb_id, bb_pincode } -> bb_city

2) Request

(r_id, p_id, h_id, bb_id, r_date, r_blood_amount, r_blood_group)

{ r_id } -> r_date

{ r_id } -> h_id

{ r_id } -> p_id

{ r_id } -> bb_id

{ r_id } -> r_blood_amount

{ r_id } -> r_blood_group

Candidate Key:- { r_id }

Prime Attribute:- r_id

Non-Prime Attribute:- p_id, h_id, bb_id, r_date, r_blood_amount, r_blood_group

Table is in 3NF and BCNF form.

Reason: It is in 2NF and there is no transitive dependency for non-prime attributes.

3) PATIENT

(p_id, h_id, p_fname, p_lname, p_dob, p_blood_group, p_weight, p_address,

p_email, p_age, p_gender, p_city, p_state, p_pincode)

{ p_id } -> p_fname

{ p_id } -> p_lname

{ p_id } -> p_dob

{ p_id } -> p_blood_group

{ p_id } -> p_weight

{ p_id } -> p_addresss

{ p_id } -> p_email

{ p_id } -> p_age

{ p_id } -> p_gender

{ p_pincode } -> p_city

{ p_pincode } -> p_state

{ p_id } -> h_id

Candidate Key:- { p_id, p_pincode }

Prime Attribute:- p_id, p_pincode

Non-Prime Attribute:- r_id, h_id, p_fname, p_lname, p_dob, p_blood_group, p_weight, p_address, p_email, p_age, p_gender, p_city, p_state

Normalization to 3NF and BCNF form.

Reason: It is in 2NF but p_pincode is not unique. Thus it cannot be prime attribute. So p_id and

p_pincode together can be declared as super key, thus uniquely identifying p_city and p_state.

{ p_id } -> p_fname

{ p_id } -> p_lname

{ p_id } -> p_dob

{ p_id } -> p_blood_group

{ p_id } -> p_weight

{ p_id } -> p_addresss

{ p_id } -> p_email

{ p_id } -> p_age

{ p_id } -> p_gender

{ p_id } -> h_id

{ p_id, p_pincode } -> p_city

{ p_id, p_pincode } -> p_state

4) PATIENT_CONTACT

(p_id, p_contact_no)

{ p_id } -> p_contact_no

Candidate Key:- { p_id }

Prime Attribute:- { p_id }

Non-Prime Attribute:- { p_contact_no }

Table is in 3NF and BCNF form.

Reason: It is in 2NF and there is no transitive dependency for non-prime attributes.

5) PATIENT_DISEASE

(p_id, p_disease)

{ p_id } -> p_disease

Candidate Key:- { p_id }

Prime Attribute:- p_id

Non-Prime Attribute:- p_disease

Table is in 3NF and BCNF form.

Reason: It is in 2NF and there is no transitive dependency for non-prime attributes.

6) HOSPITAL

(h_id, h_contact_no, h_name)

{ h_id } -> h_contact_no

{ h_id } -> h_name

Candidate Key:- { h_id }

Prime Attribute:- h_id

Non-Prime Attribute:- h_contact_no, h_name

Table is in 3NF and BCNF form.

Reason: It is in 2NF and there is no transitive dependency for non-prime attributes.

7) PAYMENT

(t_id, t_amount, t_date, p_id)

{ t_id } -> t_amount

{ t_id } -> t_date

{ t_id } -> p_id

Candidate Key:- { t_id }

Prime Attribute:- t_id

Non-Prime Attribute:- t_amount, t_date, p_id

Table is in 3NF and BCNF form.

Reason: It is in 2NF and there is no transitive dependency for non-prime attributes.

8) DEPARTMENT

(dept_id, dept_name, bb_id)

{ dept_id } -> dept_name

Candidate Key:- { dept_id }

Prime Attribute:- dept_id

Non-Prime Attribute:- dept_name

Table is in 3NF and BCNF form.

Reason: It is in 2NF and there is no transitive dependency for non-prime attributes.

9) EMPLOYEE

(e_id, e_fname, e_lname, e_dob, e_age, e_gender, dept_id)

{ e_id } -> e_fname

{ e_id } -> e_lname

{ e_id } -> e_dob

{ e_id } -> e_age

{ e_id } -> e_gender

{ e_id } -> dept_id

Candidate Key:- { e_id }

Prime Attribute:- e_id

Non-Prime Attribute:- e_fname, e_lname, e_dob, e_age, e_gender, dept_id

Table is in 3NF and BCNF form.

Reason: It is in 2NF and there is no transitive dependency for non-prime attributes.

10) CAMP

(c_id, dept_id, c_contact_no, c_location, c_date, c_city, c_state, c_pincode)

{ c_id } -> dept_id

{ c_id } -> c_contact_no

{ c_id } -> c_location

{ c_id } -> c_date

{ c_pincode } -> c_city

{ c_pincode } -> c_state

Candidate Key:- { c_id, c_pincode }

Prime Attribute:- c_id, c_pincode

Non-Prime Attribute:- dept_id, c_contact_no, c_location, c_date, c_city, c_state

Normalization to 3NF and BCNF form.

Reason: It is in 2NF but c_pincode is not unique. Thus it cannot be prime attribute. So c_id and c_pincode together can be declared as super key, thus uniquely identifying c_city and c_state.

{ c_id } -> dept_id

{ c_id } -> c_contact_no

{ c_id } -> c_location

{ c_id } -> c_date

{ c_id, c_pincode } -> c_city

{ c_id, c_pincode } -> c_state

11) INVENTORY

(b_id, dept_id, blood_group, blood_stock)

{ b_id } -> dept_id

{ b_id } -> blood_group

{ b_id } -> blood_stock

Candidate Key:- { b_id }

Prime Attribute:- b_id

Non-Prime Attribute:- dept_id, blood_group, blood_stock

Table is in 3NF and BCNF form.

Reason: It is in 2NF and there is no transitive dependency for non-prime attributes.

12) DONOR

(d_id, d_fname, d_lname, d_dob, d_blood_group, d_weight, d_address,

d_email, d_age, d_city, d_state, d_pincode, c_id)

{ d_id } -> d_fname

{ d_id } -> d_lname

{ d_id } -> d_dob

{ d_id } -> d_blood_group

{ d_id } -> d_weight

{ d_id } -> d_address

{ d_id } -> d_email

{ d_id } -> d_age

{ d_pincode } -> d_city

{ d_pincode } -> d_state

{ d_id } -> c_id

Candidate Key:- { d_id, d_pincode }

Prime Attribute:- d_id, d_pincode

Non-Prime Attribute:- d_fname, d_lname, d_dob, d_blood_group, d_weight, d_address, d_email, d_age, d_city, d_state, c_id

Normalization to 3NF and BCNF form.

Reason: It is in 2NF but d_pincode is not unique. Thus it cannot be prime attribute. So d_id and d_pincode together can be declared as super key, thus uniquely identifying d_city and d_state.

{ d_id } -> d_fname

{ d_id } -> d_lname

{ d_id } -> d_dob

{ d_id } -> d_blood_group

{ d_id } -> d_weight

{ d_id } -> d_address

{ d_id } -> d_email

{ d_id } -> d_age

{ d_id } -> c_id

{ d_id, d_pincode } -> d_city

{ d_id, d_pincode } -> d_state

13) DONOR_CONTACT

(d_id, d_contact_no)

{ d_id } -> d_contact_no

Candidate Key:- { d_id }

Prime Attribute:- d_id

Non-Prime Attribute:- d_contact_no

Table is in 3NF and BCNF form.

Reason: It is in 2NF and there is no transitive dependency for non-prime attributes.

14) DONATIONS

(d_id, b_id, d_date, d_stock)

{ d_id, b_id } -> d_date

{ d_id, b_id } -> d_stock

Candidate Key:- { d_id, b_id }

Prime Attribute:- d_id, b_id

Non-Prime Attribute:- d_date, d_stock

Table is in 3NF and BCNF form.

Reason: It is in 2NF and there is no transitive dependency for non-prime attributes.

DDL:

```
create schema blood_bank;
set search_path to blood_bank;

create table blood_bank(
        bb_id varchar(4) PRIMARY KEY,
        bb_name varchar(100) NOT NULL,
        bb_contact BIGINT NOT NULL,
        bb_address varchar(50) NOT NULL,
        bb_city varchar(20) NOT NULL,
        bb_state varchar(20) NOT NULL,
        bb_pincode INT NOT NULL
)

CREATE TABLE department(
        dept_id varchar(4) PRIMARY KEY,
        dept_name varchar(20) NOT NULL,
        bb_id varchar(4),
```

```
	FOREIGN KEY(bb_id) REFERENCES blood_bank(bb_id) ON DELETE CASCADE ON UPDATE CASCADE
)

create table employee(
	e_id varchar(4) PRIMARY KEY,
	e_fname varchar(15) NOT NULL,
	e_lname varchar(15) NOT NULL,
	e_dob Date NOT NULL,
	e_age INT NOT NULL,
	e_gender varchar(5) NOT NULL,
	dept_id varchar(4),
	FOREIGN KEY(dept_id) REFERENCES department(dept_id) ON DELETE CASCADE ON UPDATE CASCADE
)

create table inventory(
	b_id varchar(4) PRIMARY KEY,
	dept_id varchar(4),
	blood_group varchar(15) NOT NULL,
	blood_stock INT NOT NULL,
	FOREIGN KEY(dept_id) REFERENCES department(dept_id)	ON DELETE CASCADE ON UPDATE CASCADE
)

create table camp(
   c_id varchar(4) PRIMARY KEY,
   dept_id varchar(4),
   c_contact_no BIGINT NOT NULL,
   c_date date NOT NULL,
   c_location varchar(30) NOT NULL,
   c_city varchar(15) NOT NULL,
```

```
        c_state varchar(15) NOT NULL,
        c_pincode INT NOT NULL,
        FOREIGN KEY(dept_id) REFERENCES department(dept_id) ON DELETE CASCADE ON UPDATE
CASCADE
)

create table donor(
        d_id varchar(4) PRIMARY KEY,
        d_fname varchar(15) NOT NULL,
        d_lname varchar(15) NOT NULL,
        d_dob date NOT NULL,
        d_blood_group varchar(15) NOT NULL,
        d_weight INT NOT NULL,
        d_gender varchar(5) NOT NULL,
        d_age INT NOT NULL,
        d_email varchar(30) NOT NULL,
        d_address varchar(50) NOT NULL,
   d_city varchar(15) NOT NULL,
        d_state varchar(15) NOT NULL,
        d_pincode INT NOT NULL,
   c_id varchar(4),
   FOREIGN KEY(c_id) REFERENCES camp(c_id) ON DELETE CASCADE ON UPDATE CASCADE
)

create table donor_contact(
        d_id varchar(4),
        d_contact_no BIGINT NOT NULL,
        FOREIGN KEY(d_id) REFERENCES donor(d_id) ON DELETE CASCADE ON UPDATE CASCADE
)

create table donation(
```

```
        b_id varchar(4) PRIMARY KEY,
        d_id varchar(4),
        d_date date NOT NULL,
        d_unit float(2) NOT NULL,
        FOREIGN KEY(d_id) REFERENCES donor(d_id) ON DELETE CASCADE ON UPDATE CASCADE
)

create table hospital(
   h_id varchar(4) PRIMARY KEY,
   h_name varchar(50) NOT NULL,
        h_contact_no BIGINT NOT NULL
)

create table patient(
        p_id varchar(4) PRIMARY KEY,
        p_fname varchar(15) NOT NULL,
        p_lname varchar(25) NOT NULL,
        p_dob date NOT NULL,
        p_blood_group varchar(15) NOT NULL,
        p_weight INT NOT NULL,
        p_email varchar(50) NOT NULL,
        p_age INT NOT NULL,
        p_gender varchar(5) NOT NULL,
        p_address varchar(50) NOT NULL,
   p_city varchar(15) NOT NULL,
        p_state varchar(15) NOT NULL,
        p_pincode INT NOT NULL
        hid varchar(4),
        FOREIGN KEY(hid) REFERENCES hospital(h_id) ON DELETE CASCADE ON UPDATE CASCADE
)
```

```
create table patient_contact(
        p_id varchar(4),
        contact_no BIGINT NOT NULL,
        FOREIGN KEY(p_id) REFERENCES patient(p_id)
        ON DELETE CASCADE ON UPDATE CASCADE
)

create table patient_disease(
        p_id varchar(4),
        p_disease varchar(25) NOT NULL,
        FOREIGN KEY(p_id) REFERENCES patient(p_id)
        ON DELETE CASCADE ON UPDATE CASCADE
)

create table payment(
        t_id varchar(4) PRIMARY KEY,
        t_amount INT NOT NULL,
        t_date date NOT NULL,
        p_id varchar(4),
        FOREIGN KEY(p_id) REFERENCES patient(p_id)
        ON DELETE CASCADE ON UPDATE CASCADE
)

create table request(
        r_id varchar(4) PRIMARY KEY,
        r_date date NOT NULL,
        r_blood_amount float(2) NOT NULL,
        r_blood_group varchar(15) NOT NULL,
        p_id varchar(4),
        h_id varchar(4),
        bb_id varchar(4),
```

```
        FOREIGN KEY(p_id) REFERENCES patient(p_id) ON DELETE CASCADE ON UPDATE CASCADE,
        FOREIGN KEY(h_id) REFERENCES hospital(h_id) ON DELETE CASCADE ON UPDATE CASCADE,
        FOREIGN KEY(bb_id) REFERENCES blood_bank(bb_id) ON DELETE CASCADE ON UPDATE
CASCADE
)
```

==========

BLOOD BANK:

```
INSERT INTO blood_bank (bb_id,bb_name,bb_contact,bb_address,bb_city,bb_state,bb_pincode)
VALUES('bb01','Lok Samarpan Blood Bank',9856367543,'Mota Varachha','Surat','Gujarat','394101');
INSERT INTO blood_bank (bb_id,bb_name,bb_contact,bb_address,bb_city,bb_state,bb_pincode)
VALUES('bb02','Voluntar Blood Bank',9867459867,'Sughad','Gandhinagar','Gujarat','382424');
INSERT INTO blood_bank (bb_id,bb_name,bb_contact,bb_address,bb_city,bb_state,bb_pincode)
VALUES('bb03','Red Cross Blood Bank',9932127543,'Gill Census Town','Ludhiana','Punjab','141116');
INSERT INTO blood_bank (bb_id,bb_name,bb_contact,bb_address,bb_city,bb_state,bb_pincode)
VALUES('bb04','Samarpan Blood Bank',9234534543,'Ajronda
Chowk','Faridaabad','Hariyana','121001');
INSERT INTO blood_bank (bb_id,bb_name,bb_contact,bb_address,bb_city,bb_state,bb_pincode)
VALUES('bb05','Sardar Vallabhbhai Patel Blood
Bank',7896567865,'Indiranagar','Banglore','Karnataka','560038');
```

==========

Department:

```
INSERT INTO department(dept_id,dept_name,bb_id)
VALUES('d01','INVENTORY','bb01');
INSERT INTO department(dept_id,dept_name,bb_id)
VALUES('d02','CAMP','bb01');
INSERT INTO department(dept_id,dept_name,bb_id)
VALUES('d03','INVENTORY','bb02');
```

```
INSERT INTO department(dept_id,dept_name,bb_id)
VALUES('d04','CAMP','bb02');
INSERT INTO department(dept_id,dept_name,bb_id)
VALUES('d05','INVENTORY','bb03');
INSERT INTO department(dept_id,dept_name,bb_id)
VALUES('d06','CAMP','bb03');
INSERT INTO department(dept_id,dept_name,bb_id)
VALUES('d07','INVENTORY','bb04');
INSERT INTO department(dept_id,dept_name,bb_id)
VALUES('d08','CAMP','bb04');
INSERT INTO department(dept_id,dept_name,bb_id)
VALUES('d09','INVENTORY','bb05');
INSERT INTO department(dept_id,dept_name,bb_id)
VALUES('d10','CAMP','bb05');
```

==========

Employee:

```
INSERT INTO employee(e_id,e_fname,e_lname,e_dob,e_age,e_gender,dept_id)
VALUES('e01','Raj','Mayani','2000-12-17',21,'M','d01');
INSERT INTO employee(e_id,e_fname,e_lname,e_dob,e_age,e_gender,dept_id)
VALUES('e02','Keval','Tilavat','1998-08-14',23,'M','d02');
INSERT INTO employee(e_id,e_fname,e_lname,e_dob,e_age,e_gender,dept_id)
VALUES('e03','Party','Suryadhvaj','2000-07-11',21,'M','d03');
INSERT INTO employee(e_id,e_fname,e_lname,e_dob,e_age,e_gender,dept_id)
VALUES('e04','Bhumi','Bosamiya','1999-02-10',20,'F','d04');
INSERT INTO employee(e_id,e_fname,e_lname,e_dob,e_age,e_gender,dept_id)
VALUES('e05','Kartik','Sonani','1995-01-03',26,'M','d05');
INSERT INTO employee(e_id,e_fname,e_lname,e_dob,e_age,e_gender,dept_id)
VALUES('e06','Prachi','Bist','1998-04-23',23,'F','d06');
```

```
INSERT INTO employee(e_id,e_fname,e_lname,e_dob,e_age,e_gender,dept_id)
VALUES('e07','Rutik','Vaholiya','2001-06-11',20,'M','d07');
INSERT INTO employee(e_id,e_fname,e_lname,e_dob,e_age,e_gender,dept_id)
VALUES('e08','Manav','Desai','1997-01-03',25,'M','d08');
INSERT INTO employee(e_id,e_fname,e_lname,e_dob,e_age,e_gender,dept_id)
VALUES('e09','Malavika','Nair','1995-04-23',26,'F','d09');
INSERT INTO employee(e_id,e_fname,e_lname,e_dob,e_age,e_gender,dept_id)
VALUES('e10','Jemin','Sukhadiya','1999-06-11',23,'M','d10');
```

==========

Camp:

```
INSERT INTO camp(c_id,dept_id,c_contact_no,c_date,c_location,c_city,c_state,c_pincode)
VALUES('c01','d02',9756873456,'2021-11-18','Varachha','Surat','Gujarat','395006');

INSERT INTO camp(c_id,dept_id,c_contact_no,c_date,c_location,c_city,c_state,c_pincode)
VALUES('c02','d04',9865456789,'2021-12-19','Sughad','Gandhinagar','Gujarat','382424');

INSERT INTO camp(c_id,dept_id,c_contact_no,c_date,c_location,c_city,c_state,c_pincode)
VALUES('c03','d06',9534873456,'2021-01-10','Gill Census Town','Ludhiana','Punjab','141116');

INSERT INTO camp(c_id,dept_id,c_contact_no,c_date,c_location,c_city,c_state,c_pincode)
VALUES('c04','d08',9129843456,'2021-11-10','Ajronda Chowk','Faridaabad','Hariyana','121001');

INSERT INTO camp(c_id,dept_id,c_contact_no,c_date,c_location,c_city,c_state,c_pincode)
VALUES('c05','d10',9782561456,'2021-12-15' , 'Indiranagar' , 'Banglore','Karnataka','560038');
```

```
INSERT INTO camp(c_id,dept_id,c_contact_no,c_date,c_location,c_city,c_state,c_pincode)

VALUES('c06','d04',9982356326,'2021-02-15','Sughad','Gandhinagar','Gujarat','382424');
```

==========

Donor:

```
INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d001','Vishal','Vasoya','2000-12-17','A
Negative',70,'M',22,'vasoyavishal33@gmail.com','Varachha' ,'Surat','Gujarat','395006','c01');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d002','Krishna','Vaghasiya','1995-01-13','B
Negative',65,'M',26,'Lukhikhusal@gmail.com','Amroli','Surat','Gujarat','395006','c01');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d003','rachit','singh','1999-12-07','A
Positive',75,'M',22,'rachitrsingh@gmail.com','Varachha' ,'Surat','Gujarat','395006','c01');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d004','Prachi','Bist','2000-11-13','B
Positive',55,'F',21,'prachi123@gmail.com','Amroli','Surat','Gujarat','395006','c01');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)
```

VALUES('d005','Chirag','Chatwani','1998-02-12','AB
Negative',80,'M',24,'chiragchatwani@gmail.com','Varachha' ,'Surat','Gujarat','395006','c01');

INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d006','nidhi','sadhwani','1995-01-13','AB
Positive',56,'M',26,'nidhisadhwani@gmail.com','Amroli','Surat','Gujarat','395006','c01');

INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d007','bhavya','chanrachala','2001-02-17','O
Negative',75,'M',20,'bhavya1211@gmail.com','Varachha' ,'Surat','Gujarat','395006','c01');

INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d008','astha','deogharia','1999-01-13','O
Positive',65,'M',22,'asthadeogharia@gmail.com','Amroli','Surat','Gujarat','395006','c01');

INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d009','Bhumi','Bosamiya','2001-11-10','A
Negative',59,'F',21,'bhumii67@gmail.com','Sughad','Gandhinagar','Gujarat','382424','c02');

INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d010','Apurba','Adhikari','1996-11-12','B
Negative',65,'M',26,'apurbaadhi@gmail.com','Sughad','Gandhinagar','Gujarat','382424','c02');

INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d011','akansha','porwal','1999-12-07','A
Positive',75,'F',22,'aakansha334@gmail.com','Sughad','Gandhinagar','Gujarat','382424','c02');

```
INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d012','abhishek','Suman','2000-11-13','B
Positive',55,'M',21,'abhishek12@gmail.com','Sughad','Gandhinagar','Gujarat','382424','c02');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d013','Jainam','Shah','1998-02-12','AB
Negative',80,'M',24,'Jainam12@gmail.com','Sughad','Gandhinagar','Gujarat','382424','c02');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d014','Ojesh','Vyas','1995-01-13','AB
Positive',56,'M',26,'Ojeshvyas@gmail.com','Sughad','Gandhinagar','Gujarat','382424','c02');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d015','Harsh','Doshi','2001-02-17','O
Negative',75,'M',20,'harsh1299@gmail.com','Sughad','Gandhinagar','Gujarat','382424','c02');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d016','pavan','gandhi','1999-01-13','O
Positive',65,'M',22,'pavangandhi@gmail.com','Sughad','Gandhinagar','Gujarat','382424','c02');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d017','Pratik','Patil','1999-10-11','A Positive',65,'M',31,'ppatil@gmail.com','Gill Census
Town','Ludhiana','Punjab','141116','c03');
```

```
INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d018','Krunal','Venom','2000-09-12','AB Negative',65,'M',31,'ppatil@gmail.com','Gill Census
Town','Ludhiana','Punjab','141116','c03');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d019','Aynam','Vasoya','1998-12-17','A Negative',75,'M',24,'ayman1211@gmail.com','Gill
Census Town','Ludhiana','Punjab','141116','c03');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d020','Khusal','Lukhi','1995-01-13','B Negative',65,'M',26,'Lukhikhusal@gmail.com','Gill
Census Town','Ludhiana','Punjab','141116','c03');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d021','Nishant','Koradia','1999-10-11','O Positive',65,'M',22,'nkoradia@gmail.com','Ajronda
Chowk','Faridaabad','Hariyana','121001','c04');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d022','Tanya','Jagyasi','2000-02-11','AB Positive',65,'F',21,'tanyajig@gmail.com','Ajronda
Chowk','Faridaabad','Hariyana','121001','c04');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d023','pranay','kodhari','1998-10-11','O
Negative',65,'M',23,'pranay22@gmail.com','Ajronda Chowk','Faridaabad','Hariyana','121001','c04');
```

```
INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d024','Malavika','Nair','2000-02-11','B
Positive',65,'F',21,'Malavika3211@gmail.com','Ajronda
Chowk','Faridaabad','Hariyana','121001','c04');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d025','Bhavin','Soneji','1999-02-07','A
Negative',56,'M',23,'bhavin12@gmail.com','Indiranagar','Banglore','Karnataka','560038','c05');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d026','Vidhi','Shah','1999-01-11','B Positive',60,'F',22,
'vshah21@gmail.com','Indiranagar','Banglore','Karnataka','560038','c05');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d027','Parth','Suryadhvaj','1990-01-11','B
Positive',65,'M',31,'ParthSurya1211@gmail.com','Asarwa','Ahmedabad','Gujarat','382424','c06');


INSERT INTO
donor(d_id,d_fname,d_lname,d_dob,d_blood_group,d_weight,d_gender,d_age,d_email,d_address,
d_city,d_state,d_pincode,c_id)

VALUES('d028','Rahul','Mulani','1995-01-13','O
Positive',65,'M',26,'Lukhikhusal@gmail.com','Amroli','Surat','Gujarat','395006','c01');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Donor Contact
```

```
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d001',9845342683);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d001',9967995645);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d002',8798786789);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d003',9631874367);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d004',8756875637);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d005',6589764532);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d006',6754321234);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d006',8756321234);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d007',7654321234);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d008',9432123453);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d009',8766735683);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d010',8790995645);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d011',7654786789);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d011',9123874367);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d012',9867875687);
INSERT INTO donor_contact(d_id,d_contact_no)
```

```
VALUES('d012',8965764532);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d013',7894321234);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d014',8222321234);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d015',6752321234);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d016',6754327656);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d016',9845638656);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d017',9967995674);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d018',8798783423);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d019',9631879867);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d020',8756875687);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d020',6589764532);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d021',6754323264);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d022',675432644);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d022',8765454234);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d023',7656789876);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d023',9845635683);
```

```
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d024',9967995645);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d024',8798786789);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d025',9631874367);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d025',8756875687);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d026',6589764532);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d026',7689521234);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d027',9878921234);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d027',9090921234);
INSERT INTO donor_contact(d_id,d_contact_no)
VALUES('d027',9909921234);
```

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Donation:

```
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b01','d001','2021-11-18',3);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b02','d002','2021-11-18',1);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b03','d003','2021-11-18',2);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
```

```
VALUES('b04','d004','2021-11-18',3);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b05','d005','2021-11-18',2);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b06','d006','2021-11-18',1);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b07','d007','2021-11-18',2);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b08','d008','2021-11-18',3);

INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b09','d009','2021-12-19',3);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b10','d010','2021-12-19',1);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b11','d011','2021-12-19',2);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b12','d012','2021-12-19',3);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b13','d013','2021-12-19',1);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b14','d014','2021-12-19',2);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b15','d015','2021-12-19',1);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b16','d016','2021-12-19',2);


INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b17','d017','2021-01-10',2);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
```

```
VALUES('b18','d018','2021-01-10',3);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b19','d019','2021-01-10',1);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b20','d020','2021-01-10',2);

INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b21','d021','2021-11-10',2);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b22','d022','2021-11-10',3);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b23','d023','2021-11-10',1);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b24','d024','2021-11-10',2);

INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b25','d025','2021-12-15',2);
INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b26','d026','2021-12-15',3);

INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b27','d027','2021-02-15',2);

INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b28','d028','2021-02-15',8);

INSERT INTO donation(b_id,d_id,d_date,d_unit)
VALUES('b29','d028','2021-02-15',2);

==========
```

Inventory:

```
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b01','d01','A Negative',3);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b02','d01','B Negative',1);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b03','d01','A Positive',2);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b04','d01','B Positive',3);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b05','d01','AB Negative',2);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b06','d01','AB Positive',1);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b07','d01','O Negative',2);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b08','d01','O Positive',3);

INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b09','d03','A Negative',3);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b10','d03','B Negative',1);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b11','d03','A Positive',2);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b12','d03','B Positive',3);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b13','d03','AB Negative',1);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
```

```
VALUES('b14','d03','AB Positive',2);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b15','d03','O Negative',1);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b16','d03','O Positive',2);

INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b17','d05','A Positive',2);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b18','d05','AB Negative',3);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b19','d05','A Negative',1);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b20','d05','B Negative',2);

INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b21','d07','O Positive',2);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b22','d07','AB Positive',3);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b23','d07','O Negative',1);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b24','d07','B Positive',2);

INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b25','d09','A Negative',2);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b26','d09','B Positive',3);

INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b27','d03','B Positive',2);
```

```
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b28','d01','O Positive',8);
INSERT INTO inventory(b_id,dept_id,blood_group,blood_stock)
VALUES('b29','d01','O Positive',2);
```

==========

HOSPITAL:

```
INSERT INTO hospital(h_id,h_name,h_contact_no)
VALUES('h01','Samrpan Hospital',9654834534);
INSERT INTO hospital(h_id,h_name,h_contact_no)
VALUES('h02','New Day Hospital',7856341234);
INSERT INTO hospital(h_id,h_name,h_contact_no)
VALUES('h03','LifeLine Hospital',9834567821);
INSERT INTO hospital(h_id,h_name,h_contact_no)
VALUES('h04','Chirayu Hospital',6543345567);
INSERT INTO hospital(h_id,h_name,h_contact_no)
VALUES('h05','Shivam Hospital',9898989898);
```

==========

Patient:

```
INSERT INTO
patient(p_id,p_fname,p_lname,p_dob,p_blood_group,p_weight,p_email,p_age,p_gender,p_address
,p_city,p_state,p_pincode,hid)
VALUES('P001','Mitesh','Lathiya','1997-03-12','B
Negative',70,'miteshl12@gmail.com',25,'M','Varachha','Surat','Gujarat','394101','h01');
INSERT INTO
patient(p_id,p_fname,p_lname,p_dob,p_blood_group,p_weight,p_email,p_age,p_gender,p_address
,p_city,p_state,p_pincode,hid)
```

VALUES('P002','Vishal','Devani','2001-12-17','A Negative',75,'vishaldevani@gmail.com',21,'M','Mota Varachha','Surat','Gujarat','394101','h02');

INSERT INTO patient(p_id,p_fname,p_lname,p_dob,p_blood_group,p_weight,p_email,p_age,p_gender,p_address,p_city,p_state,p_pincode,hid)

VALUES('P003','Himanshu','Zadafiya','1999-04-11','A Positive',76,'himanshuZ@gmail.com',25,'M','Varachha','Surat','Gujarat','394101','h01');

INSERT INTO patient(p_id,p_fname,p_lname,p_dob,p_blood_group,p_weight,p_email,p_age,p_gender,p_address,p_city,p_state,p_pincode,hid)

VALUES('P004','Keval','Tilavat','2002-05-18','O Negative',67,'kevalTilavat@gmail.com',20,'M','Asarwa','Ahmedabad','Gujarat','382424','h04');

INSERT INTO patient(p_id,p_fname,p_lname,p_dob,p_blood_group,p_weight,p_email,p_age,p_gender,p_address,p_city,p_state,p_pincode,hid)

VALUES('P005','Khushboo','Vadhani','1995-12-10','B Negative',65,'Khushboovadhani@gmail.com',26,'F','Sughad','Gandhinagar','Gujarat','382424','h03');

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Patient Conatact

INSERT INTO patient_contact(p_id,contact_no)

VALUES('P001',8734679234);

INSERT INTO patient_contact(p_id,contact_no)

VALUES('P001',7654765876);

INSERT INTO patient_contact(p_id,contact_no)

VALUES('P002',8734679234);

INSERT INTO patient_contact(p_id,contact_no)

VALUES('P003',8734679234);

INSERT INTO patient_contact(p_id,contact_no)

VALUES('P004',8734679234);

INSERT INTO patient_contact(p_id,contact_no)

VALUES('P005',9845239821);

==========

Patient disease

```
INSERT INTO patient_disease(p_id,p_disease)
VALUES('P001','Cancer');
INSERT INTO patient_disease(p_id,p_disease)
VALUES('P001','Chagas disease');
INSERT INTO patient_disease(p_id,p_disease)
VALUES('P002','Asthama');
INSERT INTO patient_disease(p_id,p_disease)
VALUES('P003','Diabetes');
INSERT INTO patient_disease(p_id,p_disease)
VALUES('P004','Depression');
INSERT INTO patient_disease(p_id,p_disease)
VALUES('P005','Cyclospora');
```

==========

Payment

```
INSERT INTO payment(t_id,t_amount,t_date,p_id)
VALUES('tr01',12000,'2021-11-18','P001');
INSERT INTO payment(t_id,t_amount,t_date,p_id)
VALUES('tr02',25000,'2021-10-10','P002');
INSERT INTO payment(t_id,t_amount,t_date,p_id)
VALUES('tr03',17000,'2022-01-10','P003');
INSERT INTO payment(t_id,t_amount,t_date,p_id)
VALUES('tr04',11000,'2021-09-15','P004');
INSERT INTO payment(t_id,t_amount,t_date,p_id)
```

VALUES('tr05',9000,'2022-02-10','P005');

==========

Request:

INSERT INTO r(r_id,r_date,r_blood_amount,r_blood_group,p_id,h_id,bb_id)

VALUES('r001','2021-11-18',3,'B Negative','P001','h01','bb01');

INSERT INTO r(r_id,r_date,r_blood_amount,r_blood_group,p_id,h_id,bb_id)

VALUES('r002','2021-10-13',6,'A Negative','P002','h02','bb02');

INSERT INTO r(r_id,r_date,r_blood_amount,r_blood_group,p_id,h_id,bb_id)

VALUES('r003','2021-12-17',3,'B Negative','P005','h03','bb03');

INSERT INTO r(r_id,r_date,r_blood_amount,r_blood_group,p_id,h_id,bb_id)

VALUES('r004','2021-10-06',3,'A Positive','P003','h01','bb01');

INSERT INTO r(r_id,r_date,r_blood_amount,r_blood_group,p_id,h_id,bb_id)

VALUES('r005','2022-01-10',3,'O Negative','P004','h04','bb02');

Queries :

1. Display name of the patient who has red A+ve Blood group.

select p_fname,p_lname from patient p join r r on p.p_id=r.p_id where r_blood_group='A Positive';

Output :

Data Output | Explain | Messages | Notifications

	p_fname character varying (15)	p_lname character varying (25)
1	Himanshu	Zadafiya

2.Display blood stock of every available blood group.

select blood_group,sum(blood_stock) from inventory group by blood_group;

Output :

Data Output | Explain | Messages | Notifications

	blood_type character varying (15)	sum bigint
1	A Negative	9
2	AB Negative	6
3	A Positive	6
4	O Negative	4
5	B Negative	4
6	AB Positive	6
7	O Positive	7
8	B Positive	13

3.Display the total no.of units red for B-ve bldgroup on date='2021-11-18'.

select r_blood_amount from r where r_blood_group='B Negative' and r_date='2021-11-18'

Output :

Data Output | Explain | Messages | Notifications

	r_blood_amount real
1	3

4.Display the details of patient those who has red for B-ve blood group.

select p.p_id,p_fname,p_lname,p_age,p_gender,p_blood_group from patient p join r r on p.p_id=r.p_id where r_blood_group='B Negative'

Output :

Data Output | Explain | Messages | Notifications

	p_id [PK] character varying (4)	p_fname character varying (15)	p_lname character varying (25)	p_age integer	p_gender character varying (5)	p_blood_group character varying (15)
1	P001	Mitesh	Lathiya	25	M	B Negative
2	P005	Khushboo	Vadhani	26	F	B Negative

5.Display the Name of the hospital who has red highest unit of the blood.

select h.h_name,sum(r_blood_amount) from hospital h join r r on h.h_id=r.h_id group by h.h_id order by h.h_name desc limit 1;

Output :

Data Output | Explain | Messages | Notifications

	h_name character varying (50)	sum real
1	Samrpan Hospital	6

6.Display Patient name who trasnactio id='tr02'.

select p_fname,p_lname from patient p natural join payment p1 where p1.t_id='tr02'

Output :

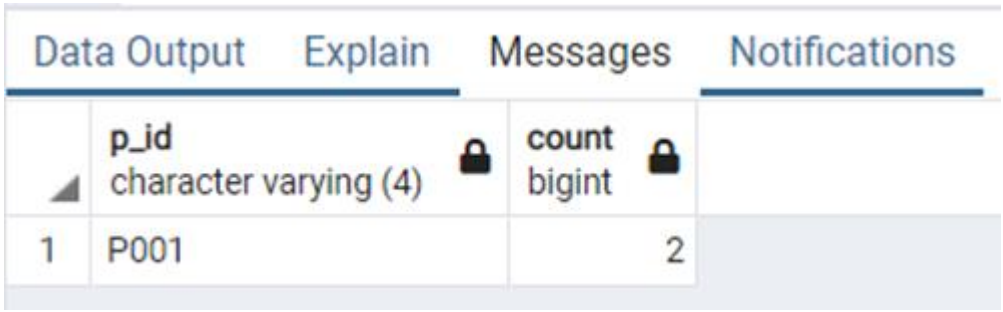
Data Output | Explain | Messages | Notifications

	p_fname character varying (15)	p_lname character varying (25)
1	Vishal	Devani

7.Display the patient transaction details whose pay more then one time.

select p_id,count(p_id) from payment group by p_id having count(p_id)>1;

Output :



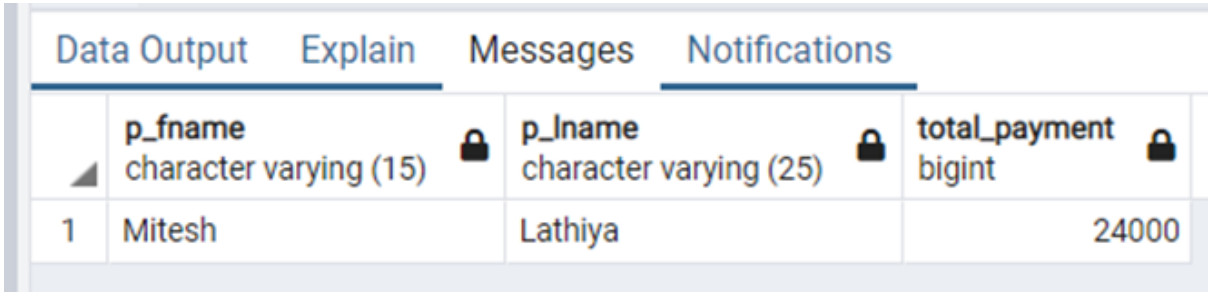
Data Output | Explain | Messages | Notifications

	p_id character varying (4)	count bigint
1	P001	2

8.Display the patient details and amount who pay more than one time.

select p_fname,p_lname,sum(p1.t_amount) from patient p join payment p1 on p.p_id=p1.p_id group by p.p_id having p.p_id in (select p_id from payment group by p_id having count(p_id)>1);

Output :



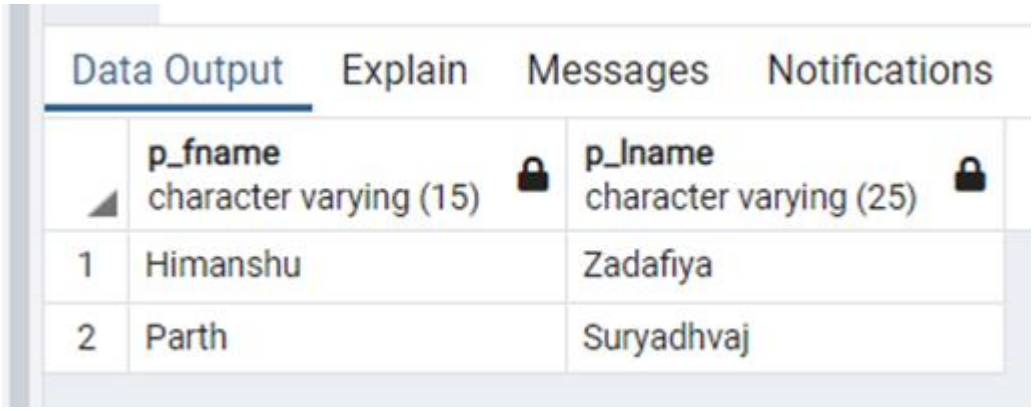
Data Output | Explain | Messages | Notifications

	p_fname character varying (15)	p_lname character varying (25)	total_payment bigint
1	Mitesh	Lathiya	24000

9.Display the number of patient having disease='Diabetes'.

select p_fname,p_lname from patient natural join patient_disease where p_disease='Diabetes'

Output :



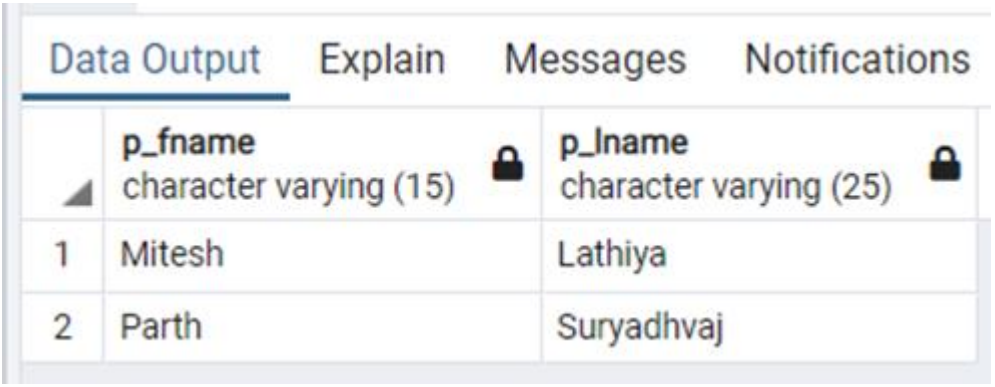
Data Output | Explain | Messages | Notifications

	p_fname character varying (15)	p_lname character varying (25)
1	Himanshu	Zadafiya
2	Parth	Suryadhvaj

10.Display the patient name who have more than one disease.

select p_fname,p_lname from patient where p_id in (select p_id from patient_disease group by p_id having count(p_id)>1)

Output :



Data Output | Explain | Messages | Notifications

	p_fname character varying (15)	p_lname character varying (25)
1	Mitesh	Lathiya
2	Parth	Suryadhvaj

11.Display the number of blood r in a given month(Octomber'2021).

select sum(r_blood_amount) as blood_amount from r where EXTRACT(MONTH FROM r_date)=10;

Output :

Data Output | Explain | Messages | Notifications

	blood_amount real
1	5

12.Display all the camp organize in year=2021.

select c_id,c_contact_no,c_location from camp where EXTRACT(YEAR FROM c_date)=2021;

Output :

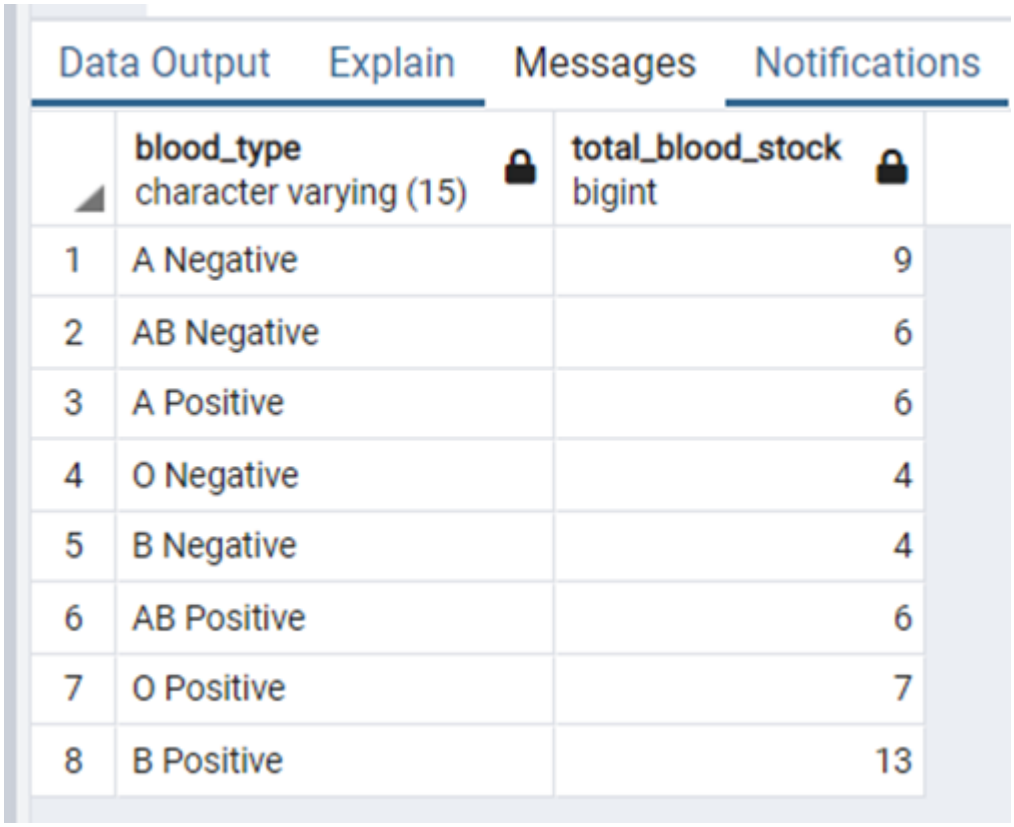
Data Output | Explain | Messages | Notifications

	c_id [PK] character varying (4)	c_contact_no bigint	c_location character varying (30)
1	c01	9756873456	Varachha
2	c02	9865456789	Sughad
3	c03	9534873456	Gill Census Town
4	c04	9129843456	Ajronda Chowk
5	c05	9782561456	Indiranagar
6	c06	9982356326	Sughad

13.Display the name of Donor and unit of blood that donate by donar.

select d_fname,d_lname,sum(d1.d_unit),d_blood_group from donor d join donation d1 on d.d_id=d1.d_id group by d.d_id;

Output :



Data Output | Explain | Messages | Notifications

	blood_type character varying (15)	total_blood_stock bigint
1	A Negative	9
2	AB Negative	6
3	A Positive	6
4	O Negative	4
5	B Negative	4
6	AB Positive	6
7	O Positive	7
8	B Positive	13

14.Calculate Blood stock for each blood group.

select blood_group,sum(blood_stock)as Total_blood_Stock from inventory group by blood_group;

Output :

Data Output | Explain | Messages | Notifications

	blood_type character varying (15)	total_blood_stock bigint
1	A Negative	9
2	AB Negative	6
3	A Positive	6
4	O Negative	4
5	B Negative	4
6	AB Positive	6
7	O Positive	7
8	B Positive	13

15.Display the Details of Employee who work in camp on date=2021-11-18.

select e_id,e_fname,e_lname from employee e join department d on e.dept_id=d.dept_id join camp c on d.dept_id=c.dept_id where c_date='2021-11-18';

Output :

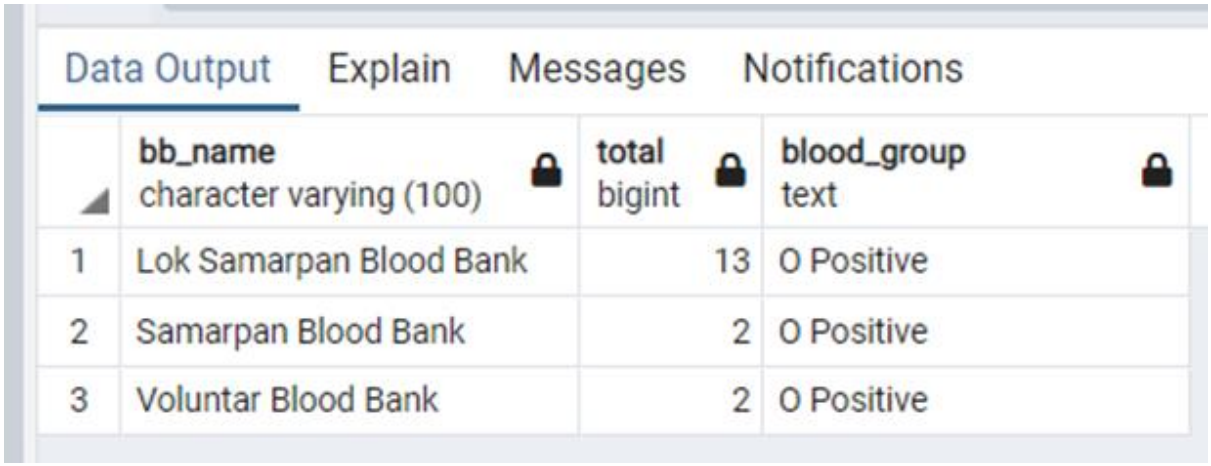
Data Output | Explain | Messages | Notifications

	e_id [PK] character varying (4)	e_fname character varying (15)	e_lname character varying (15)
1	e02	Keval	Tilavat

16.Display number of units of O+ve blood group for every branch.

select bb.bb_name,sum(i.blood_stock) as Total,'O Positive' as Blood_Group from inventory i join department d on i.dept_id=d.dept_id join blood_bank bb on d.bb_id=bb.bb_id where i.blood_group='O Positive' group by bb.bb_name

Output :



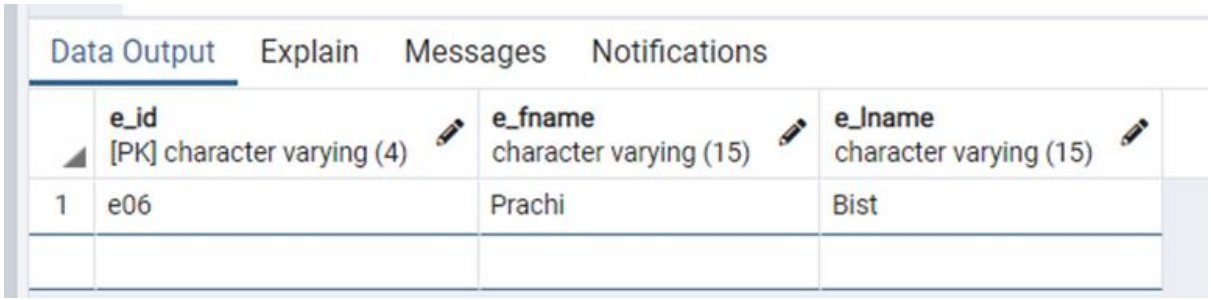
Data Output | Explain | Messages | Notifications

	bb_name character varying (100)	total bigint	blood_group text
1	Lok Samarpan Blood Bank	13	O Positive
2	Samarpan Blood Bank	2	O Positive
3	Voluntar Blood Bank	2	O Positive

17.Display the Employee Id working in Camp='c03'.

select distinct e_id,e_fname,e_lname from employee e join department d on e.dept_id=d.dept_id join camp c on d.dept_id=c.dept_id where c.c_id='c03';

Output :



Data Output | Explain | Messages | Notifications

	e_id [PK] character varying (4)	e_fname character varying (15)	e_lname character varying (15)
1	e06	Prachi	Bist

18.Check the blood which is red by patient is available or not in the inventory of the blood bank ='Voluntar Blood Bank'.

select i.blood_group as InventoryBlood,i.blood_stock as InventoryStock,r.r_blood_group as PatientRed,r.r_blood_amount as RBloodAmount,bb.bb_name as BloodBankName from inventory i join department d on i.dept_id=d.dept_id join blood_bank bb on d.bb_id=bb.bb_id join r r on bb.bb_id=r.bb_id join patient p on r.p_id=p.p_id where i.blood_group=r.r_blood_group and bb.bb_name='Voluntar Blood Bank';

Output :

Data Output | Explain | Messages | Notifications

	inventoryblood character varying (15)	inventorystock integer	patientrequested character varying (15)	requestbloodamount real	bloodbankname character varying (100)
1	A Negative	3	A Negative	2	Voluntar Blood Bank
2	O Negative	1	O Negative	3	Voluntar Blood Bank

19.Display the contact of the dononr whose blood group is A+ve.

select d.d_id,d_contact_no from donor_contact d natural join donor d1 where d_blood_group='A Positive';

Output :

Data Output | Explain | Messages | Notifications

	d_id character varying (4)	d_contact_no bigint
1	d003	9631874367
2	d011	7654786789
3	d011	9123874367
4	d017	9967995674

20.Display the name and contact of the donor whose blood group match with patient red blood group.

select d.d_id , d_fname , d_lname , d1.d_contact_no , d.d_blood_group , p.p_id , p.p_fname , p.p_lname , p.p_blood_group from donor_contact d1 join donor d on d1.d_id=d.d_id join camp c on d.c_id=c.c_id join department dep on c.dept_id = dep.dept_id join blood_bank bb on dep.bb_id=bb.bb_id join r r on bb.bb_id=r.bb_id join patient p on r.p_id=p.p_id where d.d_blood_group=p.p_blood_group;

Output :

Data Output | Explain | Messages | Notifications

	d_id character varying (4)	d_fname character varying (15)	d_lname character varying (15)	d_contact_no bigint	d_blood_group character varying (15)	p_id character varying (4)	p_fname character varying (15)	p_lname character varying (25)	p_blood_group character varying (15)
1	d002	Krishna	Vaghasiya	8798786789	B Negative	P001	Mitesh	Lathiya	B Negative
2	d003	rachit	singh	9631874367	A Positive	P003	Himanshu	Zadafiya	A Positive
3	d009	Bhumi	Bosamiya	8766735683	A Negative	P002	Vishal	Devani	A Negative
4	d015	Harsh	Doshi	6752321234	O Negative	P004	Keval	Tilavat	O Negative
5	d020	Khusal	Lukhi	8756875687	B Negative	P005	Khushboo	Vadhani	B Negative
6	d020	Khusal	Lukhi	6589764532	B Negative	P005	Khushboo	Vadhani	B Negative

21.List all the patients and donors associated with the any particular blood bank.

(select p.p_id,p_fname,p_lname,bb_name from patient p join r r on p.p_id=r.p_id join blood_bank bb on r.bb_id=bb.bb_id where bb_name='Lok Samarpan Blood Bank')

union

(select d.d_id,d_fname,d_lname,bb_name from donor d join camp c on d.c_id=c.c_id join department d1 on c.dept_id=d1.dept_id join blood_bank bb on d1.bb_id=bb.bb_id where bb_name='Lok Samarpan Blood Bank')

Output :

Data Output | Explain | Messages | Notifications

	p_id character varying (4)	p_fname character varying (15)	p_lname character varying	bb_name character varying (100)
1	d002	Khusal	Lukhi	Lok Samarpan Blood Bank
2	P003	Himanshu	Zadafiya	Lok Samarpan Blood Bank
3	d003	rachit	singh	Lok Samarpan Blood Bank
4	d001	Vishal	Vasoya	Lok Samarpan Blood Bank
5	d007	bhavya	chanrachala	Lok Samarpan Blood Bank
6	d004	Prachi	Bist	Lok Samarpan Blood Bank
7	d006	nidhi	sadhwani	Lok Samarpan Blood Bank
8	d005	Chirag	Chatwani	Lok Samarpan Blood Bank
9	P001	Mitesh	Lathiya	Lok Samarpan Blood Bank
10	d008	astha	deogharia	Lok Samarpan Blood Bank

Conclusion :

The above-described system is an attempt to solve the user queries on blood banks and data related to it. It is a logically designed and relationally connected system that makes it user-friendly enough to eliminated the issues like redundancy & inconsistency and provides access, security and concurrency to the users.

Through this project we came across many new concepts on database management, its storage and abstraction. Also, we developed an insight of the domain on how an organisation (e.g.- Blood Banks, Hospitals, Banks, Employee Management etc.) works. Primarily, to our topic, we get to know how to relate the entities and how to ease the working in the system. How to provide the patient the required information to get an easy

reach to the hospital or the blood bank, vis-à-vis to keep a record of the blood available/deposited in an inventory which may be collected by the donors at blood camps.

It has been a great opportunity working on the project and inculcate the use of IT in health sector, hence maintaining an efficient and structured record of Blood Banks, its locations, availability, donors, patients, past records, hospitals etc.