# BLOOD BANK MANAGEMENT SYSTEM

**FINAL PROJECT FOR SQL MODULE**

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## INTRODUCTION

**Software and language used for this project:**

- SQL – Structure query language
- MYSQL server is the software used to create the database.

# IMPORTANCE OF BLOOD BANK MANAGEMENT SYSTEM

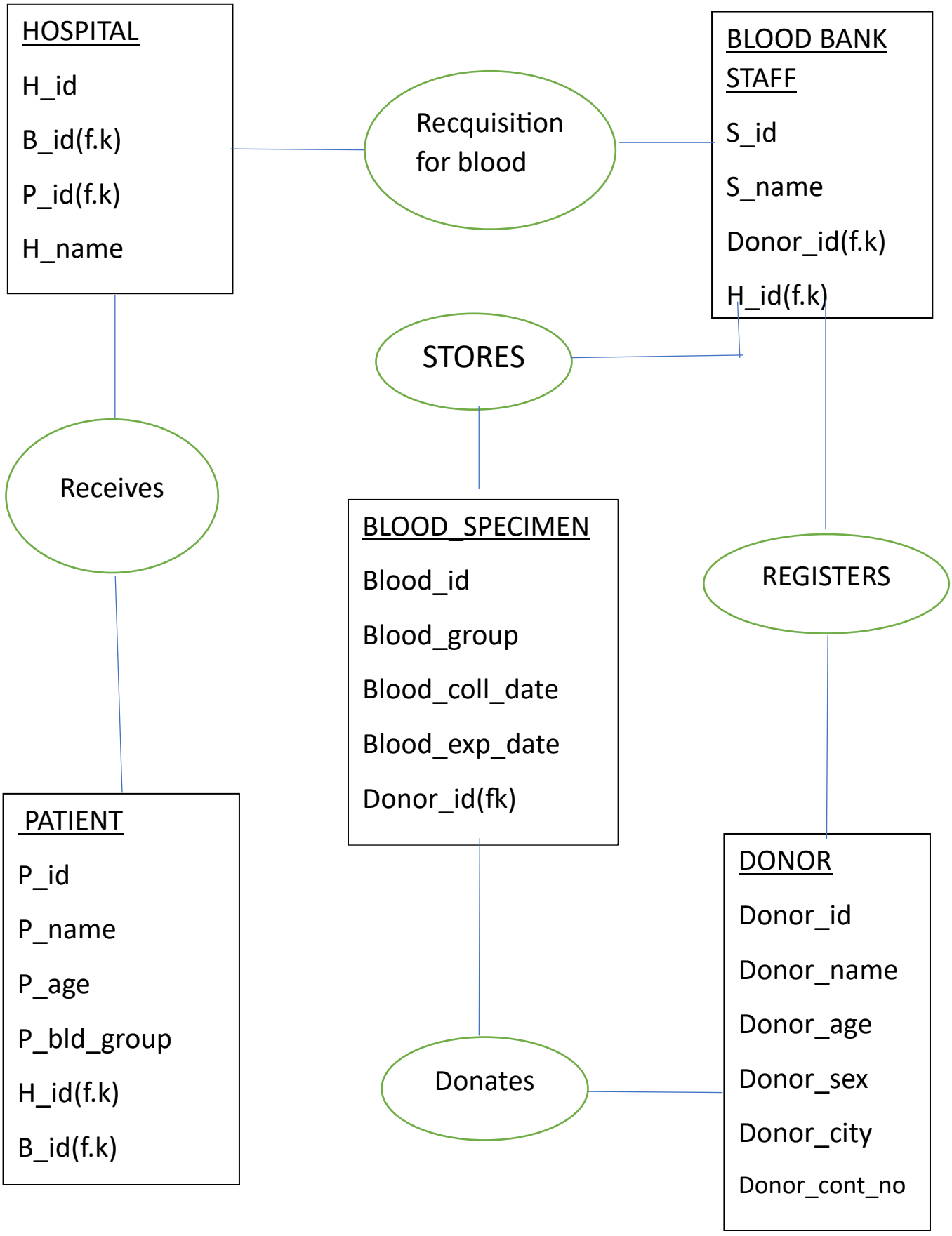
Blood banks collect, store and provide collected blood to the patients who are in need of blood.The people who donate blood are called ‘donors’. The banks then group the blood which theyreceive according to the blood groups. They also make sure that the blood is not contaminated.The main mission of the blood bank is to provide the blood to the hospitals and health care systems which saves the patient’s life. No hospital can maintain the health care system without pure and adequate blood.

The major concern each blood bank has is to monitor the quality of theblood and monitor the people who donates the blood, that is ‘donors’. But this a tough job. The existing system will not satisfy the need of maintaining quality blood and keep track of donors.

The ‘Blood Bank Management System’ allows us to keep track of quality of blood and also keeps track of available blood when requested by the acceptor. The existing systems are Manual systems which are time consuming and not so effective. ‘Blood Bank Management system’ automates the distribution of blood.

By using this system searching the available blood becomes easy and saveslot of time than the manual system. It will hoard, operate, recover and analyze information concerned with the administrative and inventory management within a blood bank. This system is developed in a manner that it is manageable, time effective, cost effective, flexible and much
man power is not required.

# ER DIAGRAM SHOWING RELATION BETWEEN THE ENTITIES



## INFORMATION OF ENTITIES

### 1.DONOR

| Field | Type | Null | Key | Default |
|---|---|---|---|---|
| Donor_id | int | NO | PRI | NULL |
| Donor_name | Varchar(20) | NO | | NULL |
| Donor_age | int | NO | | NULL |
| Donor_sex | Varchar(20) | NO | | NULL |
| Donor_city | Varchar(20) | NO | | NULL |
| Donor_cont_no | bigint | NO | | NULL |

### 2. Patients

| Field | Type | Null | Key | Default |
|---|---|---|---|---|
| P_id | int | NO | PRI | NULL |
| P_name | Varchar(30) | NO | | NULL |
| P_age | int | YES | | NULL |
| P_blood_group | Varchar(30) | NO | | NULL |
| h_id | int | MUL | | NULL |
| Blood_id | int | MUL | | NULL |

### 3.Blood_bank_staff

| Field | Type | Null | Key | Default |
|---|---|---|---|---|
| S_id | int | NO | PRI | NULL |
| S_name | Varchar(20) | NO | | NULL |
| Donor_id | int | YES | MULL | NULL |
| H_id | int | YES | MULL | NULL |

**4.Blood_specimen:**

| Field | Type | Null | Key | Default |
|---|---|---|---|---|
| Blood_id | int | no | PRI | NULL |
| Blood_group | Varchar(20) | no | | NULL |
| Blood_coll_date | date | no | | NULL |
| Blood_exp_date | date | no | | NULL |
| Donor_id | int | YES | MUL | NULL |

**5.Hospitals:**

| Field | Type | Null | Key | Default |
|---|---|---|---|---|
| S_id | int | NO | PRI | NULL |
| S_name | Varchar(20) | NO | | NULL |
| Donor_id | int | YES | MULL | NULL |
| H_id | int | YES | MULL | NULL |

**COMMANDS:-**

- Create Database

Create database
Blood_bank_management_system

- Select database:-

Use blood_bank_management_system

- Create tables:-

1.Donor
Create table donor (donor_id int primary key,donor_name varchar(20) not null,donor_bld_grp varchar(20) not null,donor_age int not null,donor_sex varchar(20) not null,donor_city varchar(20) not null,donor_cont_no bigint not null);

2.Patients
Create table patients(p_id int primary key,p_name varchar(20) not null,p_age int not null,p_sex varchar(20),p_blood_group varchar(20),h_id int,foreign key(h_id) references hospital(h_id));

3.Blood_specimen
Create table blood_specimen(blood_id int primary Key,blood_group varchar(20)not null,blood_coll_date date not null,blood_exp_date date null,donor_id int,foreign key(donor_id) references donor(donor_id));

4. Blood_bank_staff:
(s_id int primary key,s_name varchar(20) not null,donor_id int,h_id int,foreign key(donor_id) references donor(donor_id),foreign key(h_id) references hospitals(h_id));

5.Hospitals:
(h_id int primary key,h_name varchar(30) not null,h_city varchar(20) not null,blood_id int,p_id int,foreign key(blood_id) references blood_specimen(blood_id),foreign key(p_id) references patients(blood_id));

- **Insert values in tables:**

**1. insert into donor values**

(1,`sahil`,`a+’,25,`male’,`mumbai’,5789102),

(2,`ram’,`b+ ’22, ‘male’, ‘navi_mumabi’, 12334 ),

(4 ,`sham’,`ab+ ‘,35,‘male’,`mumbai’, 233555**)**

( 5,` radha’,`o+’,45,`female’,`thane’,123455),

( 6,Rahul,`a+’,30,`male’,`Mumbai’ 34780),

( 7,` siya’,`o+’,21,`female’,`navi_mumbai’,567788),

(8,`raghu’,` B-‘,37,`male’,`nashik’,34567),

(9,`sejal’,`o-‘,21,`female’,’kalyan’,126779),

(10,`Ratnakar,’b+’,48,`male’,`badlapur’,899000),

(11,`shahrukh’,`o+’,37,`male’,`murbad’,46788),

(12,`salma’,`a-‘,42,`female’, `mumbai’,985566),

(13,`sam’,`B+’,35,`male’,`thane’,467788),

(14,`Rahul’,`b+’,34,‘male’,‘navi_mumbai’,45667);

(15,`anil’,`ab+’, 47,`male’,`Mumbai’,79999),

(16,`radha’,`b+’,25`female’,`dombivali’,35677)

(17,`Rahul,`o+’,35,‘male’, `Mumbai,’758858),

(18,`john’,`b+’,30,`male’, thane,588999),

(19,`Prabhakar’,`a-‘,48,`male’, ‘thane’,49999),

(20,`sonali’,`b+’,22, `female’,`Mumbai’,57780),

(21,`jai’,`ab-‘,37,`male’, `navi_mumbai’,28899),

(22,`sham’,‘o+’, 42,`male’, `thane’,17889);

**2.insert into patients values**

(301,`rahil’,15,`o+’,201,101),

(302,‘latabai’,65,`b+’,202,102),

(303,`jasmine’,42,`a+’,203,103),

(304,`anil’,45,`b+’,204,109),

(305,`francis’,`ab+’,205,117),

(306,`zaheer’,32,`o-‘,206,111),

(307,`manisha’,40,`b-‘,207,110),

(308,`megha’,28,`b-‘,208,122)

(309,`hemant’,39,`b+’,205,120),

(310,`hanumant’,34,`o+’,201,118),

(311,`rashmi’,22,`ab+’,206,105),

(312,rehan’,32,`b+’,202,113);

**3.** insert into blood_specimen values(101,'b+','2024-03-03','2024-03-10',10),(102,'a+',,'2024-03-06','2024-03-13',1),(105,'ab+','2023-12-12','2024-12-12',4),(109,'b+','2024-03-02','2024-03-09',2),(110,'b-','2023-11-15','2024-11-15',8),(111,'o-','2024-03-02','2024-03-09',9);

**4.** insert into blood_bank_staff values(502,'rohit',2,202),

(503,'varsha',3,203), (503,'varsha',4,204),
(504,'venkatesh',5,203), (505,'prashant',4,206),
(506,'sayli',5,207), (507,'fatima',6,208);

5.insert into hospitals values
(201,`city’,`thane’,101,301)
(202,`sanjeevani’,`Mumbai’,102,302),
(203`lifecare’,`mumbai’,103,303),
(204,`civil’,`thane’,105,305),
(205,`samadhan’,`mumbai’,105,305),
(206,`max’,`badlapur’,106,307),

(207,`aims’,`dombivli’,107,308),
(208,`alpha’,`navi_mumbai’,121,310);

- Inner join

*To find which hospital requested for which blood id:-

select hospitals.h_name, blood_specimen.blood_id from hospitals inner join blood_specimen on hospitals.blood_id = blood_specim
en.blood_id;

| h_name | blood_id |
|---|---|
| city | 101 |
| sanjeevani | 102 |
| lifecare | 103 |
| civil | 105 |
| samadhan | 105 |
| max | 106 |
| aims | 107 |
| alpha | 121 |

- Left join

*To find which patient id is received which blood_id:-

select * from hospitals left join patients on hospitals.h_id = patients.p_id;

| h_id | h_name | h_city | blood_id | p_id |
|---|---|---|---|---|
| 201 | city | thane | 101 | 301 |
| 202 | sanjeevani | mumbai | 102 | 302 |
| 203 | lifecare | mumbai | 103 | 303 |
| 204 | civil | thane | 105 | 305 |
| 205 | samadhan | mumbai | 105 | 305 |
| 206 | max | badlapur | 106 | 307 |
| 207 | aims | dombivli | 107 | 308 |
| 208 | alpha | navi_mumbai | 121 | 310 |