**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**

HOSPITAL

H\_id

B\_id(f.k)

P\_id(f.k)

H\_name

H\_city

H\_cont\_no

BLOOD BANK STAFF

S\_id

S\_name

Donor\_id(f.k)

H\_id(f.k)

BLOOD\_SPECIMEN

Blood\_id

Blood\_group

Blood\_coll\_date

Blood\_exp\_date

Donor\_id(fk)

B\_exp\_date

PATIENT

P\_id

P\_name

P\_age

P\_bld\_group

H\_id(f.k)

B\_id(f.k)

DONOR

Donor\_id

Donor\_name

Donor\_age

Donor\_sex

Donor\_city

Donor\_cont\_no

**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 |
| h\_id | int | NO | PRI | NULL |
| h\_name | Varchar(30) | NO |  | NULL |
| h\_city | Varchar(20) | NO |  | NULL |
| blood\_id | int | YES | MULL | NULL |
| P\_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 | 3032 |
| 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 |