INFORMATION OF ENTITIES

In total, we have eight entities, and information on each entity is mentioned below:-

1. Blood_Donor: (Attributes – bd_ID, bd_name, bd_sex, bd_age, bd_Bgroup, bd_reg_date, bd_phNo)

The donor is the person who donates blood, on donation a donor ID (bd_ID) is generated and used as the primary key to identify the donor information. Other than that name, age, sex, blood group, phone number, and registration dates will be stored in the database under the Blood_Donor entity.

2. Recipient: (Attributes – reci_ID, reci_name, reci_age, reci_Bgrp, reci_Bqnty , reci_sex, reci_reg_date, reci_phNo)

The Recipient is the person who receives blood from the blood bank, when blood is given to a recipient a recipient ID (reci_ID) is generated and used as the primary key for the recipient entity to identify the blood recipient's information. Along with it name, age, sex, blood group (needed), blood quantity(needed) , phone number, and registration dates are also stored in the database under the recipient entity.

3. BB_Manager: (Attributes – m_ID, m_Name, m_phNo)

The blood bank manager is the person who takes care of the available blood samples in the blood bank, he is also responsible for handling blood requests from recipients and hospitals. The blood manager has a unique identification number (m_ID) used as the primary key along with the name and phone number of the blood bank manager will be stored in the database under the BB_Manager entity.

4. Recording_Staff : (Attributes – reco_ID, reco_Name, reco_phNo)

The recording staff is a person who registers the blood donor and recipients and the Recording_Staff entity has reco_ID which is the primary key along with the recorder’s name and recorder’s phone number will also be stored in the database under the Recording_Staff entity.

5. BloodSpecimen : (Attributes – specimen_number, b_group, status)

In the database, under the BloodSpecimen entity, we will store the information on blood samples that are available in the blood bank. In this entity specimen_number and b_group together will be the primary key along with the status attribute which will show if the blood is contaminated or not.

6. DiseaseFinder : (Attributes - dfind_ID, dfind_name, dfind_PhNo)

In the database, under the DiseaseFinder entity, we will store the information of the doctor who checks the blood for any contamination. To store that information, we have a unique identification number (dfind_ID) as the primary key. Along with the name and phone number of the doctor will also be stored under the same entity.

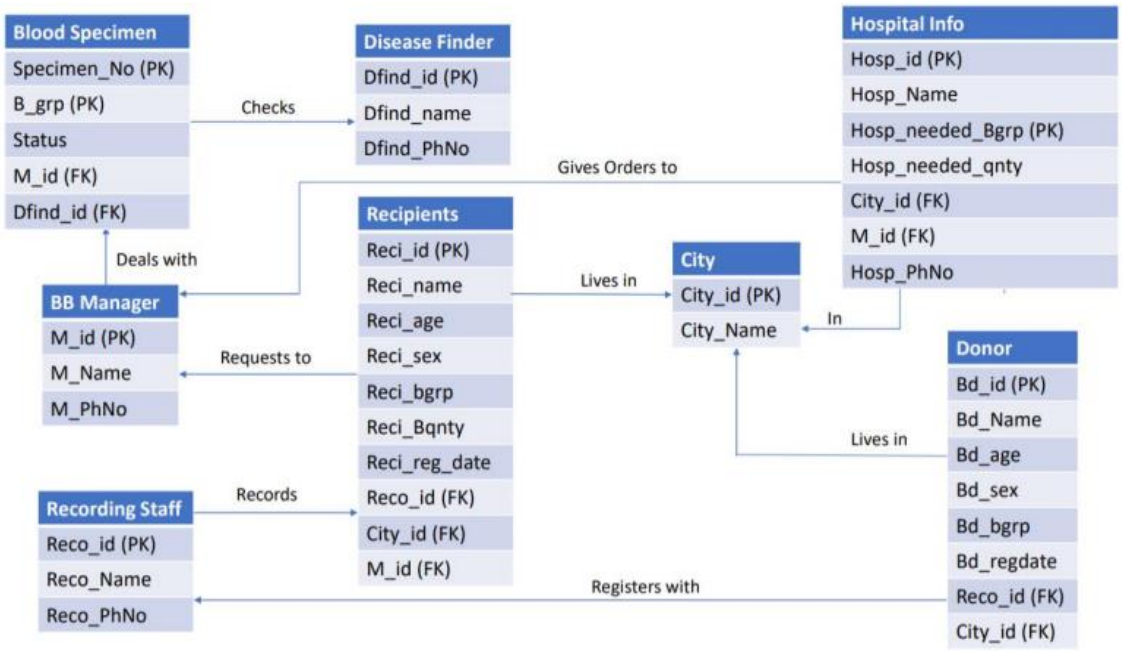
7. Hospital_Info : (Attributes – hosp_ID, hosp_name, hosp_needed_Bgrp, hosp_needed_Bqnty)

In the database, under the Hospital_Info entity, we will store the information of hospitals. In this hosp_ID and hosp_needed_Bgrp together makes the primary key. We will store the hospital name and the blood quantity required at the hospital.

8. city: (Attributes- city_ID, city_name)

This entity will store the information of cities where donors, recipients, and hospitals are present. A unique identification number (City_ID) will be used as the primary key to defying the information about the city. Along with ID city names will also be stored under this entity.

ER DIAGRAM WITH TABLES



TABLES AFTER NORMALIZATION

BB_Manager:

Results | Messages

	M_id	mName	m_phNo
1	101	Jack	4693951392
2	102	Mark	4693804553
3	103	Dan	4693804552
4	104	Stacy	4693804551
5	105	Henry	4693804550
6	106	Steve	4694959671
7	107	Jason	4695959671
8	108	Stella	4663959671
9	109	Monika	4673959671
10	110	John	4693859671

Blood_Donor:

Results | Messages

	bd_ID	bd_name	bd_age	bd_sex	bd_Bgroup	bd_reg_date	reco_ID	City_ID	bd_phNo
1	150011	Pat	29	M	O+	2015-07-19	101412	1300	4693951232
2	150021	Shyam	42	F	A-	2015-12-24	101412	1300	4600001232
3	150121	Dan	44	M	AB+	2015-08-28	101212	1200	4611111232
4	150221	Mark	25	M	B+	2015-12-17	101212	1100	4622221232
5	160011	Abdul	35	F	A+	2016-11-22	101212	1100	4633331232
6	160031	Mike	33	F	AB-	2016-02-06	101212	1400	4644441232
7	160091	Carrol	24	M	B-	2016-10-15	101312	1500	4655551232
8	160101	Smith	22	M	O+	2016-01-04	101312	1200	4666661232
9	160301	Elisa	31	F	AB+	2016-09-10	101312	1200	4677771232
10	160401	Mark	29	M	O-	2016-12-17	101212	1200	4688881232

BloodSpecimen:

Results Messages

	specimen_number	b_group	status	dfind_ID	M_id
1	1001	B+	1	11	101
2	1002	O+	1	12	102
3	1003	AB+	1	11	102
4	1004	O-	1	13	103
5	1005	A+	0	14	101
6	1006	A-	1	13	104
7	1007	AB-	1	15	104
8	1008	AB-	0	11	105
9	1009	B+	1	13	105
10	1010	O+	0	12	105
11	1011	O+	1	13	103
12	1012	O-	1	14	102
13	1013	B-	1	14	102
14	1014	AB+	0	15	101

City:

Results Messages

	City_ID	City_name
1	1100	Dallas
2	1200	Austin
3	1300	Irving
4	1400	Houston
5	1500	Richardson
6	1600	Plano
7	1700	Frisco
8	1800	Arlington
9	1900	San Antonio
10	2000	Allen

DiseaseFinder:

Results Messages

	dfind_ID	dfind_name	dfind_PhNo
1	11	Peter	4693804223
2	12	Park	4693804223
3	13	Jerry	4693804223
4	14	Mark	4693804223
5	15	Monika	4693804223
6	16	Ram	4693804123
7	17	Swathi	4693804223
8	18	Gautham	4693804323
9	19	Ashwin	4693804423
10	20	Yash	4693804523

Hospital_Info_1:

Results Messages

	hosp_ID	hosp_name	City_ID	M_id	hosp_phNo
1	1	MayoClinic	1100	101	4611001232
2	2	CleavelandClinic	1200	103	4622001232
3	3	NYU	1300	103	4633001232
4	4	Baylor	1400	104	4644001232
5	5	Charlton	1800	103	4655001232
6	6	Greenoaks	1300	106	4666001232
7	7	Forestpark	1300	102	4677001232
8	8	Parkland	1200	106	4688001232
9	9	Pinecreek	1500	109	4699001232
10	10	WalnutHill	1700	105	4691001232

Hospital_Info_2:

Results Messages

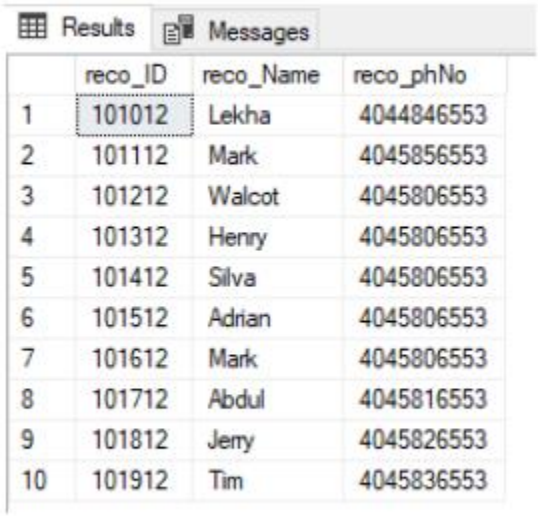
	hosp_ID	hosp_name	hosp_needed_Bgrp	hosp_needed_qnty
1	1	MayoClinic	A+	20
2	1	MayoClinic	A-	40
3	1	MayoClinic	AB+	0
4	1	MayoClinic	AB-	20
5	1	MayoClinic	B-	10
6	2	CleavelandClinic	A+	40
7	2	CleavelandClinic	A-	10
8	2	CleavelandClinic	AB+	20
9	2	CleavelandClinic	AB-	10
10	2	CleavelandClinic	B+	0
11	2	CleavelandClinic	B-	30
12	3	NYU	A+	0
13	3	NYU	A-	0
14	3	NYU	AB+	0
15	3	NYU	AB-	0
16	3	NYU	B+	10
17	3	NYU	B-	20
18	4	Baylor	A+	10
19	4	Baylor	A-	40
20	7	Forestpark	B-	40
21	8	Parkland	B+	10
22	9	Pinecreek	AB-	20

Recipient:

Results Messages

	reci_ID	reci_name	reci_age	reci_Brgp	reci_Bqnty	reco_ID	City_ID	M_id	reci_sex	reci_reg_date
1	10001	Peter	25	B+	1.5	101212	1100	101	M	2015-12-17
2	10002	Dan	60	A+	1	101312	1100	102	M	2015-12-16
3	10003	Steve	35	AB+	0.5	101312	1200	102	M	2015-10-17
4	10004	Parker	66	B+	1	101212	1300	104	M	2016-11-17
5	10005	Jason	53	B-	1	101412	1400	105	M	2015-04-17
6	10006	Preetham	45	O+	1.5	101512	1500	105	M	2015-12-17
7	10007	Swetha	22	AB-	1	101212	1500	101	F	2015-05-17
8	10008	Swathi	25	B+	2	101412	1300	103	F	2015-12-14
9	10009	Lance	30	A+	1.5	101312	1100	104	M	2015-02-16
10	10010	Marsh	25	AB+	3.5	101212	1200	107	M	2016-10-17

Recording_Staff:



Results | Messages

	reco_ID	reco_Name	reco_phNo
1	101012	Lekha	4044846553
2	101112	Mark	4045856553
3	101212	Walcot	4045806553
4	101312	Henry	4045806553
5	101412	Silva	4045806553
6	101512	Adrian	4045806553
7	101612	Mark	4045806553
8	101712	Abdul	4045816553
9	101812	Jerry	4045826553
10	101912	Tim	4045836553

Query

```
create DATABASE Bloodbank_world;
CREATE TABLE BB_Manager
( M_id int NOT NULL primary key,
 mName varchar(100) NOT NULL,
 m_phNo bigint
);
INSERT into BB_Manager
VALUES(102,'Jack', 4693959671),
(103,'Peter', 4693959601),
(104,'Mark', 4693959677),
(105,'Jason', 4693957671);
INSERT into BB_Manager
```

```
VALUES(106,'Steve', 4694959671),
(107,'Jason', 4695959671),
(108,'Stella', 4663959671),
(109,'Monika', 4673959671),
(110,'John', 4693859671);
select * from BB_Manager

CREATE TABLE Blood_Donor
( bd_ID int NOT NULL,
 bd_name varchar(50) NOT NULL,
 bd_age varchar(20),
 bd_sex varchar(8),
 bd_Bgroup varchar(10),
 bd_reg_date date,
 reco_ID int NOT NULL,
 City_ID int NOT NULL
);
INSERT into Blood_Donor
VALUES(150221,'Mark',25,'M','B+','2015-12-17',101212,1100),
(160011,'Abdul',35,'F','A+','2016-11-22',101212,1100),
(160101,'Smith',22,'M','O+','2016-01-04',101312,1200),
(150011,'Pat',29,'M','O+','2015-07-19',101412,1300),
(150021,'Shyam',42,'F','A-','2015-12-24',101412,1300),
(150121,'Dan',44,'M','AB+','2015-08-28',101212,1200),
```

```
(160031,'Mike',33,'F','AB-','2016-02-06',101212,1400),
(160301,'Elisa',31,'F','AB+','2016-09-10',101312,1200),
(160091,'Carrol',24,'M','B-','2016-10-15',101312,1500),
(160401,'Mark',29,'M','O-','2016-12-17',101212,1200);
select * from Blood_Donor

CREATE TABLE BloodSpecimen
( specimen_number int NOT NULL PRIMARY KEY,
 b_group varchar(10) NOT NULL,
 dfind_ID int NOT NULL,
 M_id int NOT NULl , specimenumber_pk int
);
INSERT into BloodSpecimen
VALUES(1001, 'B+', 1,11,101),
(1002, 'O+', 1,12,102),
(1003, 'AB+', 1,11,102),
(1004, 'O-', 1,13,103),
(1005, 'A+', 0,14,101),
(1006, 'A-', 1,13,104),
(1007, 'AB-', 1,15,104),
(1008, 'AB-', 0,11,105),
(1009, 'B+', 1,13,105),
(1010, 'O+', 0,12,105),
(1011, 'O+', 1,13,103),
```

```
(1012, 'O-', 1,14,102),
(1013, 'B-', 1,14,102),
(1014, 'AB+', 0,15,101);
Select * from BloodSpecimen

CREATE TABLE City
( City_ID int NOT NULL  ,
 City_name varchar(30) not null
);
INSERT into City
VALUES(1200,'Austin'),
(1300,'Irving'),
(1400,'Houston'),
(1500,'Richardson');
INSERT into City
VALUES(1600,'Plano'),
(1700,'Frisco'),
(1800,'Arlington'),
(1900,'San Antonio'),
(2000,'Tyler');
select * from City
CREATE TABLE DiseaseFinder
( dfind_ID int NOT NULL,
 dfind_name varchar(40) NOT NULL,
```

```
 dfind_PhNo bigint
);
INSERT into DiseaseFinder
VALUES(11,'Peter',4693804223),
(12,'Park',4693804223),
(13,'Jerry',4693804223),
(14,'Mark',4693804223),
(15,'Monika',4693804223);
INSERT into DiseaseFinder
VALUES(16,'Ram',4693804123),
(17,'Swathi',4693804223),
(18,'Gautham',4693804323),
(19,'Ashwin',4693804423),
(20,'Yash',4693804523);
select * from DiseaseFinder

CREATE TABLE Hospital_Info_1
( hosp_ID int NOT NULL,
 hosp_name varchar(50) NOT NULL,
 City_ID int NOT NULL,
 M_id int NOT NULL

);
INSERT into Hospital_Info_1
```

```
VALUES(1,'MayoClinic',1100,101),
(2,'CleavelandClinic',1200,103),
(3,'NYU',1300,103);
INSERT into Hospital_Info_1
VALUES(4,'Baylor',1400,104),
(5,'Charlton',1800,103),
(6,'Greenoaks',1300,106),
(7,'Forestpark',1300,102),
(8,'Parkland',1200,106),
(9,'Pinecreek',1500,109),
(10,'WalnutHill',1700,105);
select * from Hospital_Info_1

create TABLE Hospital_Info_2
( hosp_ID int NOT NULL ,
 hosp_name varchar(50) NOT NULL,
 hosp_needed_Bgrp varchar(10) ,
 hosp_needed_qnty int,
 primary key(hosp_id,hosp_needed_bgrp)
);
INSERT into Hospital_Info_2
VALUES(1,'MayoClinic','A+',20),
(1,'MayoClinic','AB+',0),
(1,'MayoClinic','A-',40),
```

```
(1,'MayoClinic','B-',10),
(1,'MayoClinic','AB-',20);
INSERT into Hospital_Info_2
VALUES(2,'CleavelandClinic','A+',40),
(2,'CleavelandClinic','AB+',20),
(2,'CleavelandClinic','A-',10),
(2,'CleavelandClinic','B-',30),
(2,'CleavelandClinic','B+',0),
(2,'CleavelandClinic','AB-',10);
INSERT into Hospital_Info_2
VALUES(3,'NYU','A+',0),
(3,'NYU','AB+',0),
(3,'NYU','A-',0),
(3,'NYU','B-',20),
(3,'NYU','B+',10),
(3,'NYU','AB-',0);
INSERT into Hospital_Info_2
VALUES(4,'Baylor','A+',10),
(5,'Charlton','B+',30),
(4,'Baylor','A-',40),
(7,'Forestpark','B-',40),
(8,'Parkland','B+',10),
(9,'Pinecreek','AB-',20);
select * from Hospital_Info_2
```

```
CREATE TABLE Recipient
( reci_ID int NOT NULL,
 reci_name varchar(50) NOT NULL,
 reci_age varchar(20),
 reci_Brgp varchar(20),
 reci_Bqnty float,
 reco_ID int NOT NULL,
 City_ID int NOT NULL,
 M_id int NOT NULL,
 reci_sex varchar(20),
 reci_reg_date date,
 PRIMARY KEY(reci_id)
);

INSERT into Recipient
VALUES(10001,'Mark',25,'B+',1.5,101212,1100,101,'M','2015-12-17'),
(10002,'Dan',60,'A+',1,101312,1100,102,'M','2015-12-16'),
(10003,'Steve',35,'AB+',0.5,101312,1200,102,'M','2015-10-17'),
(10004,'Parker',66,'B+',1,101212,1300,104,'M','2016-11-17'),
(10005,'Jason',53,'B-',1,101412,1400,105,'M','2015-04-17'),
(10006,'Preetham',45,'O+',1.5,101512,1500,105,'M','2015-12-17'),
(10007,'Swetha',22,'AB-',1,101212,1500,101,'F','2015-05-17');
INSERT into Recipient
```

```
VALUES(10008,'Swathi',25,'B+',2,101412,1300,103,'F','2015-12-14'),
(10009,'Lance',30,'A+',1.5,101312,1100,104,'M','2015-02-16'),
(10010,'Marsh',25,'AB+',3.5,101212,1200,107,'M','2016-10-17');
select * from Recipient

CREATE TABLE Recording_Staff
( reco_ID int NOT NULL,
 reco_Name varchar(30) NOT NULL,
 reco_phNo bigint
);
INSERT into Recording_Staff
VALUES(101212,'Walcot',4045806553),
(101312,'Henry',4045806553),
(101412,'Silva',4045806553),
(101512,'Adrian',4045806553),
(101612,'Mark',4045806553);
INSERT into Recording_Staff
VALUES(101712,'Abdul',4045816553),
(101812,'Jerry',4045826553),
(101912,'Tim',4045836553),
(101012,'Lekha',4044846553),
(101112,'Mark',4045856553);
select * from Recording_Staff
```