

Blood Donation Database

this data base is created by the students:

Abdulrahman Basabrain – 2041768 (2041768@uj.edu.sa)

Abdulrahman Alsomali – 2040214 (2040214@uj.edu.sa)

Faris Alghamdi – 2041424 (2041424@uj.edu.sa)

Breif explanation:

This database would store interrelated data on patients who are affected severely by corona and it's vareiants, and blood donors who are willing to volunteer, and blood banks to store blood. You can take a cue from the data points given below:

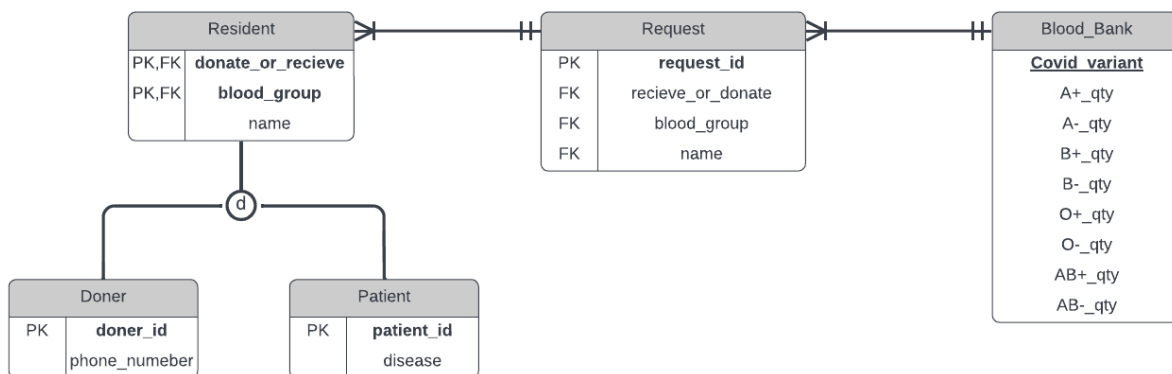
Patient's Name, Unique ID, Blood group, and Disease

Donor's Name, Unique ID, Blood Group, Contact Number

Blood bank's Name, covid vareiant

Er diagram

we created 5 entities where patients and donors are subtypes of the supertypes resident and the resident is linked with one to many relationship with the request entity and the request is linked with also one to many relationship with the blood bank entity.



Relational schema :

resident

<u>Receive or donate</u>	<u>Blood_group</u>	Name
--------------------------	--------------------	------

Request

<u>Request id</u>	Receive or donate	Blood group
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Blood bank

<u>Covid vareiant</u>	A+	A-	B+	B-	O+	O-	AB+	AB-
---------------------------	----	----	----	----	----	----	-----	-----

Doner

<u>Doner id</u>	Phone Number
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Patient

<u>Patient id</u>	Disease
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all schema before and after normalization:

- The tables satisfy the conditions in the 3rd NF

all sql statements:

```
CREATE TABLE Resident (  
    donate_or_recieve varchar2(28),  
    blood_group varchar2(28),  
    name_id varchar2(28),  
    PRIMARY KEY (donate_or_recieve, blood_group)  
)
```

[4:49 PM]

```
CREATE TABLE Doner (  
    doner_id varchar2(28),  
    phone_numeber number(10),
```

```
PRIMARY KEY (doner_id)
)
```

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```
CREATE TABLE Patient (
  patient_id varchar2(28),
  disease varchar2(28),
  PRIMARY KEY (patient_id)
)
```

```
CREATE TABLE Request (
  request_id varchar2(28),
  recieve_or_donate varchar2(28),
  blood_group varchar2(28),
  name_id varchar2(28),
  PRIMARY KEY (request_id)
)
```

```
CREATE TABLE Blood_Bank (
  Covid_variant varchar2(28),
  A_plus_qty varchar2(28),
  A_minus_qty varchar2(28),
  B_plus_qty varchar2(28),
  B_minus_qty varchar2(28),
  O_plus_qty varchar2(28),
  O_minus_qty varchar2(28),
  AB_plus_qty varchar2(28),
```

AB_minus_qty varchar2(28)
)

INSERT INTO Resident (donate_or_recieve, blood_group, name_id)
VALUES ('donate', 'O', 'Jake Park')

INSERT INTO Resident (donate_or_recieve, blood_group, name_id)
VALUES ('donate', 'A+', 'Mark Henry')

INSERT INTO Resident (donate_or_recieve, blood_group, name_id)
VALUES ('donate', 'B-', 'Amanda Green')

INSERT INTO Resident (donate_or_recieve, blood_group, name_id)
VALUES ('recieve', 'B-', 'Nick Davidson')

INSERT INTO Resident (donate_or_recieve, blood_group, name_id)
VALUES ('recieve', 'A+', 'Mary Jane')

INSERT INTO Resident (donate_or_recieve, blood_group, name_id)
VALUES ('recieve', 'O+', 'Tim Drake')

INSERT INTO Resident (donate_or_recieve, blood_group, name_id)
VALUES ('donate', 'O+', 'Sam Hayden')

INSERT INTO Resident (donate_or_recieve, blood_group, name_id)
VALUES ('donate', 'AB+', 'Margaret Thatcher')

INSERT INTO Resident (donate_or_recieve, blood_group, name_id)
VALUES ('Recieve', 'AB-', 'Tommy Smith')

INSERT INTO blood_bank (Covid_variant, A_plus_qty, A_minus_qty, B_plus_qty, B_minus_qty,
O_plus_qty, O_minus_qty, AB_plus_qty, AB_minus_qty)
VALUES ('Omicron_BA.1', '456L', '567L', '864L', '325L', '685L', '460L', '213L', '926L')

INSERT INTO blood_bank (Covid_variant, A_plus_qty, A_minus_qty, B_plus_qty, B_minus_qty,
O_plus_qty, O_minus_qty, AB_plus_qty, AB_minus_qty)
VALUES ('Omicron_BA.2', '346L', '965L', '123L', '583L', '473L', '897L', '325L', '764L')

INSERT INTO blood_bank (Covid_variant, A_plus_qty, A_minus_qty, B_plus_qty, B_minus_qty,
O_plus_qty, O_minus_qty, AB_plus_qty, AB_minus_qty)
VALUES ('Omicron_BA.3', '975L', '235L', '756L', '435L', '347L', '473L', '564L', '945L')

```
INSERT INTO blood_bank (Covid_variant, A_plus_qty, A_minus_qty, B_plus_qty, B_minus_qty,
O_plus_qty, O_minus_qty, AB_plus_qty, AB_minus_qty)
```

```
VALUES ('Omicron_BA.1.1', '436L', '845L', '685L', '213L', '975L', '673L', '134L', '348L')
```

```
INSERT INTO blood_bank (Covid_variant, A_plus_qty, A_minus_qty, B_plus_qty, B_minus_qty,
O_plus_qty, O_minus_qty, AB_plus_qty, AB_minus_qty)
```

```
VALUES ('Omicron_BA.1.1.529', '675L', '235L', '857L', '124L', '765L', '127L', '154L', '743L')
```

```
-----
INSERT INTO Patient (patient_id, disease)
```

```
VALUES ('1117842298', 'Omicron.BA.2')
```

```
INSERT INTO Patient (patient_id, disease)
```

```
VALUES ('1118976643', 'Omicron.BA.3')
```

```
INSERT INTO Patient (patient_id, disease)
```

```
VALUES ('1113456678', 'Omicron.BA.1.1.529')
```

```
INSERT INTO Patient (patient_id, disease)
```

```
VALUES ('1116547781', 'Omicron.BA.1.1')
```

```
-----
INSERT INTO patient (patient_id, disease)
```

```
VALUES ('1116309982', 'Omicron.BA.1')
```

```
INSERT INTO Patient (patient_id, disease)
```

```
VALUES ('1117842298', 'Omicron.BA.2')
```

```
INSERT INTO Patient (patient_id, disease)
```

```
VALUES ('1118976643', 'Omicron.BA.3')
```

```
INSERT INTO Patient (patient_id, disease)
```

```
VALUES ('1113456678', 'Omicron.BA.1.1.529')
```

```
INSERT INTO Patient (patient_id, disease)
```

```
VALUES ('1116547781', 'Omicron.BA.1.1')
```

```
INSERT INTO doner (doner_id, phone_numeber)
```

```
VALUES ('1116278859', 0503278195)
```

```
INSERT INTO doner (doner_id, phone_numeber)
```

```
VALUES ('1112759084', 0543768912)
```

```
INSERT INTO doner (doner_id, phone_numeber)
```

```
VALUES ('1117438164', 0501892376)
```

```
INSERT INTO doner (doner_id, phone_numeber)
```

```
VALUES ('1119283746', 0541289761)
```

```
INSERT INTO doner (doner_id, phone_numeber)
```

```
VALUES ('1118172635', 0509981276)
```

```
INSERT INTO request (request_id, recieve_or_donate, blood_group, name_id)
```

```
VALUES ('1894', 'donate', 'A+', 'Mark Henry')
```

```
INSERT INTO request (request_id, recieve_or_donate, blood_group, name_id)
```

```
VALUES ('1286', 'donate', 'B-', 'Amanda Green')
```

```
INSERT INTO request (request_id, recieve_or_donate, blood_group, name_id)
```

```
VALUES ('9827', 'recieve', 'O+', 'Tim Drake')
```

```
INSERT INTO request (request_id, recieve_or_donate, blood_group, name_id)
```

```
VALUES ('5642', 'donate', 'AB+', 'Margaret Thatcher')
```

```
INSERT INTO request (request_id, recieve_or_donate, blood_group, name_id)
```

```
VALUES ('6298', 'recieve', 'AB-', 'Tommy Smith')
```

```
SELECT * FROM Resident
```

```
WHERE blood_group = 'O+'
```

```
[5:00 PM]
```

```
[5:00 PM]
```

```
SELECT * FROM Resident
```

```
ORDER BY blood_group
```

```
[5:00 PM]
```

```
[5:00 PM]
```

SELECT COUNT(patient_id), disease

FROM patient

GROUP BY disease

[5:00 PM]

WHERE

SQL Worksheet

```
1 SELECT * FROM Resident
2 WHERE blood_group = 'O+';
3
4
5
```

DONATE_OR_RECIEVE	BLOOD_GROUP	NAME_ID
recieve	O+	Tim Drake
donate	O+	Sam Hayden

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2 rows selected.

ORDER BY

SQL Worksheet

```
1 SELECT * FROM Resident
2 ORDER BY name_id;
3
4
5
```

DONATE_OR_RECIEVE	BLOOD_GROUP	NAME_ID
donate	B-	Amanda Green
donate	AB+	Margaret Thatcher
donate	A+	Mark Henry
recieve	A+	Mary Jane
recieve	B-	Nick Davidson
donate	O+	Sam Hayden
recieve	O+	Tim Drake
Recieve	AB-	Tommy Smith

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8 rows selected.

Group by

SQL Worksheet

```
1 SELECT COUNT(patient_id), disease
2 FROM patient
3 GROUP BY disease;
4
```

COUNT(PATIENT_ID)	DISEASE
1	Omicron.BA.1.1.529
1	Omicron.BA.3
1	Omicron.BA.2
1	Omicron.BA.1
1	Omicron.BA.1.1

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5 rows selected.

Tables:

DONATE_OR_RECIEVE	BLOOD_GROUP	NAME_ID
donate	A+	Mark Henry
donate	B-	Amanda Green
recieve	B-	Nick Davidson
recieve	A+	Mary Jane
recieve	O+	Tim Drake
donate	O+	Sam Hayden
donate	AB+	Margaret Thatcher
Recieve	AB-	Tommy Smith

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8 rows selected.

REQUEST_ID	RECIEVE_OR_DONATE	BLOOD_GROUP	NAME_ID
1894	donate	A+	Mark Henry
1286	donate	B-	Amanda Green
9827	recieve	O+	Tim Drake
5642	donate	AB+	Margaret Thatcher
6298	recieve	AB-	Tommy Smith

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5 rows selected.

PATIENT_ID	DISEASE
1113456678	Omicron.BA.1.1.529
1116309982	Omicron.BA.1
1116547781	Omicron.BA.1.1
1117842298	Omicron.BA.2
1118976643	Omicron.BA.3

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5 rows selected.

DONER_ID	PHONE_NUMEBER
1117438164	501892376
1118172635	509981276
1116278859	503278195
1112759084	543768912
1119283746	541289761

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5 rows selected.

COVID_VARIANT	A_PLUS_QTY	A_MINUS_QTY	B_PLUS_QTY	B_MINUS_QTY	O_PLUS_QTY	O_MINUS_QTY	AB_PLUS_QTY	AB_MINUS_QTY
Omicron_BA.3	975L	235L	756L	435L	347L	473L	564L	945L
Omicron_BA.1	456L	567L	864L	325L	685L	460L	213L	926L
Omicron_BA.2	346L	965L	123L	583L	473L	897L	325L	764L
Omicron_BA.3	975L	235L	756L	435L	347L	473L	564L	945L
Omicron_BA.1.1	436L	845L	685L	213L	975L	673L	134L	348L
Omicron_BA.1.1.529	675L	235L	857L	124L	765L	127L	154L	743L
Omicron_BA.1	456L	567L	864L	325L	685L	460L	213L	926L
Omicron_BA.2	346L	965L	123L	583L	473L	897L	325L	764L
Omicron_BA.3	975L	235L	756L	435L	347L	473L	564L	945L
Omicron_BA.1.1	436L	845L	685L	213L	975L	673L	134L	348L
Omicron_BA.1.1.529	675L	235L	857L	124L	765L	127L	154L	743L
Omicron_BA.1	456L	567L	864L	325L	685L	460L	213L	926L
Omicron_BA.2	346L	965L	123L	583L	473L	897L	325L	764L
Omicron_BA.1.1	436L	845L	685L	213L	975L	673L	134L	348L
Omicron_BA.1.1.529	675L	235L	857L	124L	765L	127L	154L	743L
Omicron_BA.1	456L	567L	864L	325L	685L	460L	213L	926L
Omicron_BA.2	346L	965L	123L	583L	473L	897L	325L	764L
Omicron_BA.3	975L	235L	756L	435L	347L	473L	564L	945L
Omicron_BA.1.1	436L	845L	685L	213L	975L	673L	134L	348L
Omicron_BA.1.1.529	675L	235L	857L	124L	765L	127L	154L	743L

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20 rows selected.