New Queries added to the UI:

Query1:

```
SELECT
    h.HospitalID,
    h.HospitalName,
    COALESCE(SUM(dr.Quantity), 0) - COALESCE(SUM(br.Quantity), 0) AS SupplyDemandGap,
    COALESCE(SUM(dr.Quantity), 0) AS TotalBloodDonated,
    COALESCE(SUM(br.Quantity), 0) AS TotalBloodRequested,
    h.Address,
    h.Phone,
    h.Email,
    h.ContactPersonName
FROM
  Hospital h
LEFT JOIN
  BloodRequest br ON h.HospitalID = br.HospitalID AND (br.BloodGroup = %s OR %s IS NULL)
LEFT JOIN
  DonationEntry dr ON br.BloodRequestID = dr.BloodRequestID
WHERE
  (h.HospitalID = %s OR %s IS NULL)
  AND (h.HospitalName LIKE %s OR %s IS NULL)
GROUP BY
  h.HospitalID, h.HospitalName
ORDER BY SupplyDemandGap DESC;
```

This query is designed to analyze the supply and demand gap of blood donations for hospitals. It provides a detailed summary of the total blood donated and requested per hospital, alongside the hospital's contact information.

Query2:

```
SELECT

DATE_FORMAT(DonationTS, '%Y-%m') AS YearMonth,

  COUNT(DonationEntryID) AS NumberOfDonations,

  SUM(Quantity) AS TotalQuantityDonated

  FROM DonationEntry

  WhERE  DATE_FORMAT(DonationTS, '%Y-%m') = \'{}-{}\'

  GROUP BY DATE_FORMAT(DonationTS, '%Y-%m')

  ORDER BY YearMonth desc;
```

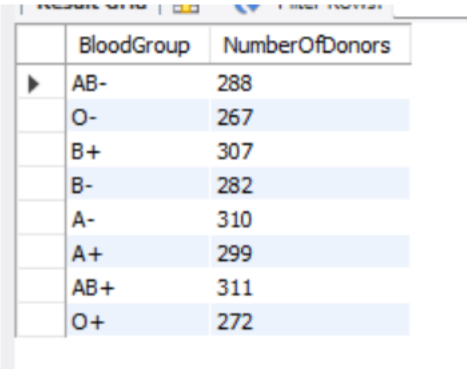
This query gets the total no. of donations and total blood donated for a specific month and day.

Previous Queries

Query 1:

This Query will list of total number of Donors available for each Blood Group.

```
SELECT BloodGroup, COUNT(*) AS NumberOfDonors FROM mm_team02_02.Donor GROUP BY
BloodGroup;
```

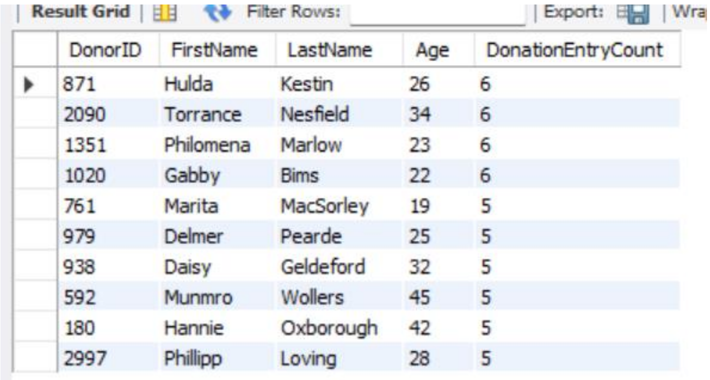


BloodGroup	NumberOfDonors
AB-	288
O-	267
B+	307
B-	282
A-	310
A+	299
AB+	311
O+	272

Query 2:

This query will give us the top 10 Donors based on number of donations they have made so far. We can find the active donors from this.

```
SELECT

        d.DonorID,

        CONCAT(d.FirstName, d.LastName) AS 'Full Name',

        TIMESTAMPDIFF(YEAR, DOB, CURDATE()) AS Age,  -- Derived Column

        COUNT(de.DonationEntryID) AS DonationEntryCount

FROM mm_team02_02.DonationEntry de

JOIN mm_team02_02.Donor d ON de.DonorID = d.DonorID

GROUP BY d.DonorID, d.FirstName, d.LastName

ORDER BY DonationEntryCount DESC

LIMIT 10;
```



DonorID	FirstName	LastName	Age	DonationEntryCount
871	Hulda	Kestin	26	6
2090	Torrance	Nesfield	34	6
1351	Philomena	Marlow	23	6
1020	Gabby	Bims	22	6
761	Marita	MacSorley	19	5
979	Delmer	Pearde	25	5
938	Daisy	Geldeford	32	5
592	Munmro	Wollers	45	5
180	Hannie	Oxborough	42	5
2997	Phillipp	Loving	28	5

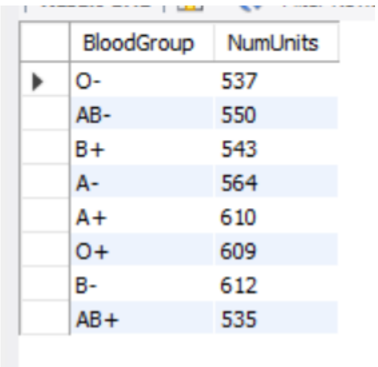
Query 3:

This query will give us the count of blood units of each blood group available at the moment.

SELECT BloodGroup, COUNT(*) AS NumUnits

FROM mm_team02_02.Blood

GROUP BY BloodGroup;



BloodGroup	NumUnits
O-	537
AB-	550
B+	543
A-	564
A+	610
O+	609
B-	612
AB+	535

Query 4:

This Query will give us the top 5 hospitals which submitted the highest number of blood requests.

SELECT h.HospitalID, h.HospitalName, COUNT(br.BloodRequestID) AS NumberOfRequests

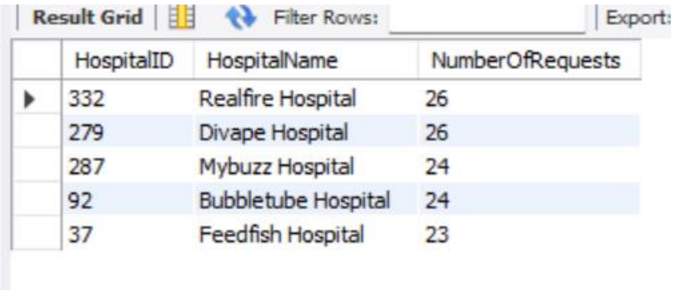
FROM mm_team02_02.BloodRequest br

JOIN mm_team02_02.Hospital h ON br.HospitalID = h.HospitalID

GROUP BY br.HospitalID

ORDER BY NumberOfRequests DESC

LIMIT 5;



HospitalID	HospitalName	NumberOfRequests
332	Realfire Hospital	26
279	Divape Hospital	26
287	Mybuzz Hospital	24
92	Bubbletube Hospital	24
37	Feedfish Hospital	23

Query 5:

This Query will give us the Employee who handled most blood requests successfully.

SELECT e.EmployeeID, e.FirstName, e.LastName, COUNT(br.BloodRequestID) AS NumberOfRequestsHandled

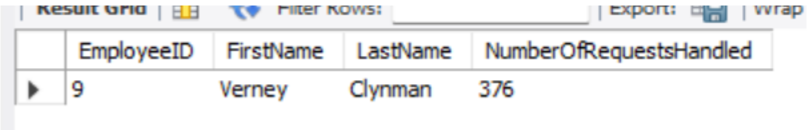
FROM mm_team02_02.Employee e

JOIN mm_team02_02.BloodRequest br ON e.EmployeeID = br.EmployeeID

GROUP BY e.EmployeeID

ORDER BY NumberOfRequestsHandled DESC

LIMIT 1;



EmployeeID	FirstName	LastName	NumberOfRequestsHandled
9	Verney	Clynman	376

Query 6:

This query will give the blood group that was most donated by the blood bank.

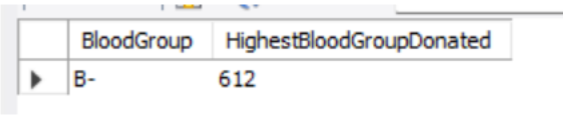
SELECT b.BloodGroup, COUNT(*) AS HighestBloodGroupDonated

FROM mm_team02_02.Blood b

GROUP BY b.BloodGroup

ORDER BY HighestBloodGroupDonated DESC

LIMIT 1;

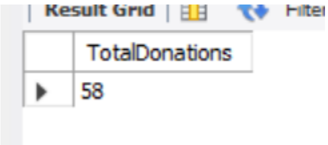


BloodGroup	HighestBloodGroupDonated
B-	612

Query 7:

This query gives us the total number of blood donations made in the past month.

```
SELECT COUNT(*) AS TotalDonations

FROM mm_team02_02.Blood

WHERE CollectionDate >= DATE_SUB(CURRENT_DATE(), INTERVAL 1 MONTH);
```

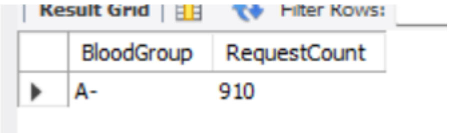


TotalDonations
58

Query 8:

This Query is to find the blood group with highest number of requests (demanded blood group).

```
SELECT BloodGroup, COUNT(*) AS RequestCount

FROM mm_team02_02.BloodRequest

GROUP BY BloodGroup

ORDER BY RequestCount DESC

LIMIT 1;
```

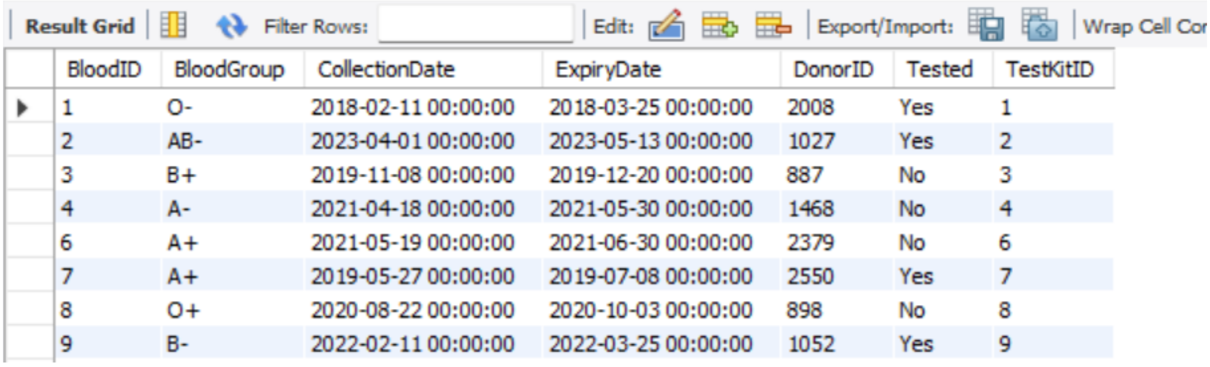


BloodGroup	RequestCount
A-	910

Query 9:

This Query will retrieve blood that are expired already. So this cannot be used any more or needed to be disposed.

```
SELECT *

FROM mm_team02_02.Blood

WHERE ExpiryDate  < CURRENT_TIMESTAMP;
```



BloodID	BloodGroup	CollectionDate	ExpiryDate	DonorID	Tested	TestKitID
1	O-	2018-02-11 00:00:00	2018-03-25 00:00:00	2008	Yes	1
2	AB-	2023-04-01 00:00:00	2023-05-13 00:00:00	1027	Yes	2
3	B+	2019-11-08 00:00:00	2019-12-20 00:00:00	887	No	3
4	A-	2021-04-18 00:00:00	2021-05-30 00:00:00	1468	No	4
6	A+	2021-05-19 00:00:00	2021-06-30 00:00:00	2379	No	6
7	A+	2019-05-27 00:00:00	2019-07-08 00:00:00	2550	Yes	7
8	O+	2020-08-22 00:00:00	2020-10-03 00:00:00	898	No	8
9	B-	2022-02-11 00:00:00	2022-03-25 00:00:00	1052	Yes	9

Query 10:

This query will give us the employee who has the longest tenure in the blood bank

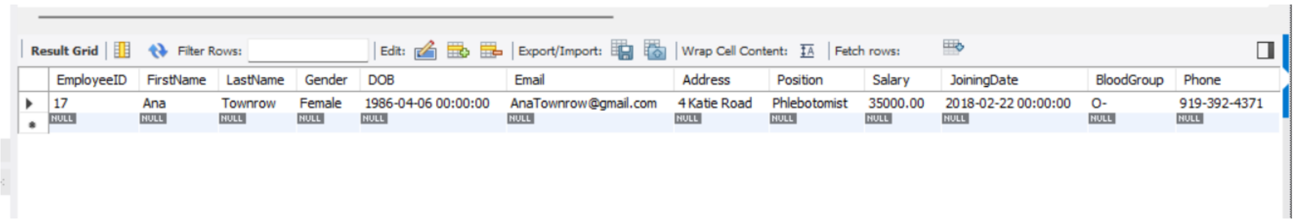
Query:

SELECT * FROM mm_team02_02.Employee

ORDER BY JoiningDate ASC

LIMIT 1;

Output:



EmployeeID	FirstName	LastName	Gender	DOB	Email	Address	Position	Salary	JoiningDate	BloodGroup	Phone
17	Ana	Townrow	Female	1986-04-06 00:00:00	AnaTownrow@gmail.com	4 Katie Road	Phlebotomist	35000.00	2018-02-22 00:00:00	O-	919-392-4371
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Query 11:

This query will give us the average, minimum and maximum age of Donors

Query:

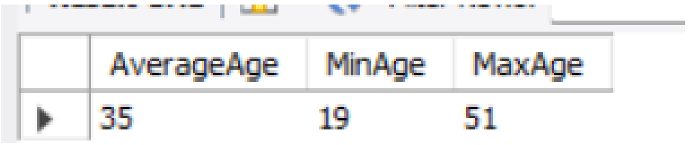
SELECT Round(AVG(TIMESTAMPDIFF(YEAR, DOB, CURDATE())),0) AS AverageAge,

MIN(TIMESTAMPDIFF(YEAR, DOB, CURDATE())) AS MinAge,

MAX(TIMESTAMPDIFF(YEAR, DOB, CURDATE())) AS MaxAge

FROM Donor;

Output:



AverageAge	MinAge	MaxAge
35	19	51

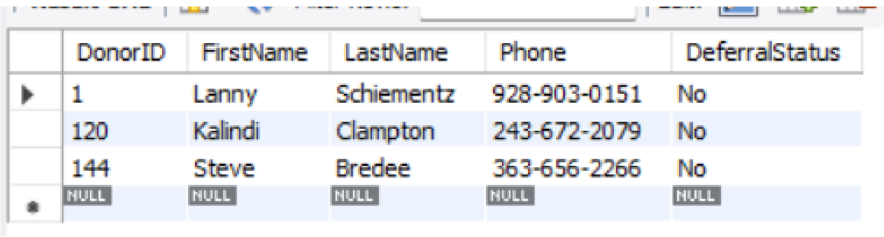
Query 12:

This query will give us list of the list of healthy donors who were never “Deferred” and who has good health.

Query:

```
SELECT DonorID, FirstName,LastName, Phone, DeferralStatus

FROM mm_team02_02.Donor

where DeferralStatus = 'No' AND

PastMedicalConditions IS NULL AND

CurrentMedicalConditions IS NULL AND

Medications IS NULL AND

SurgicalHistory IS NULL

GROUP BY DonorID;
```

Output:



	DonorID	FirstName	LastName	Phone	DeferralStatus
▶	1	Lanny	Schiementz	928-903-0151	No
	120	Kalindi	Clampton	243-672-2079	No
	144	Steve	Bredee	363-656-2266	No
*	NULL	NULL	NULL	NULL	NULL

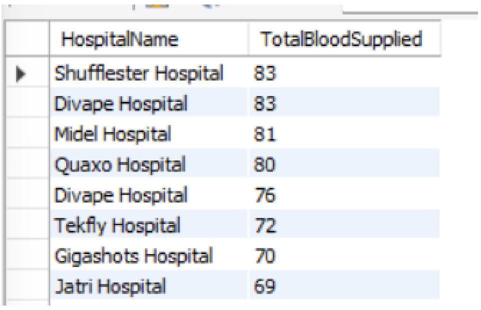
Query 13:

This query will Retrieve total blood supplied by each hospital ordered by the amount supplied

Query:

```
SELECT HospitalName, TotalBloodSupplied

FROM mm_team02_02.Hospital

ORDER BY TotalBloodSupplied DESC;
```

Output:



HospitalName	TotalBloodSupplied
Shufflester Hospital	83
Divape Hospital	83
Midel Hospital	81
Quaxo Hospital	80
Divape Hospital	76
Tekfly Hospital	72
Gigashots Hospital	70
Jatri Hospital	69

Query 14:

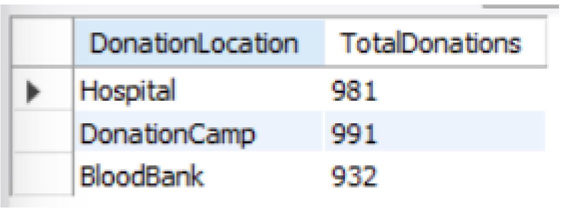
This query will give us Total Donations corresponding to each location

Select DonationLocation, Count(*) AS TotalDonations

FROM mm_team02_02.DonationEntry

GROUP BY DonationLocation;

Output:



DonationLocation	TotalDonations
Hospital	981
DonationCamp	991
BloodBank	932

Query 15:

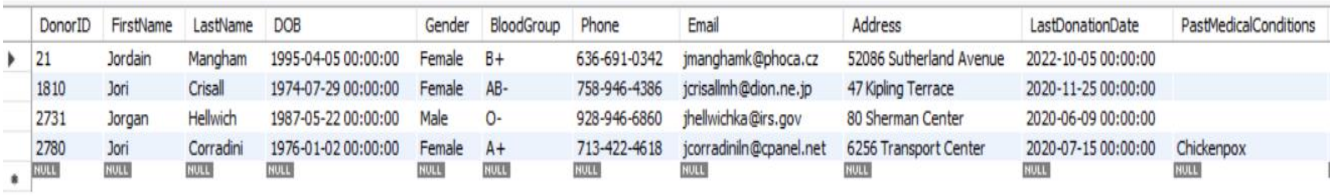
This query will give us the list of the Donors whose name is similar to “jor__”.

Query:

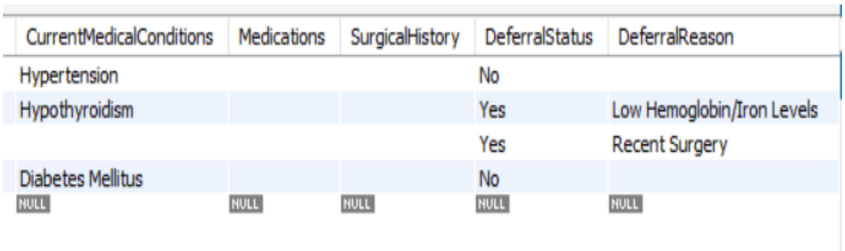
SELECT * FROM mm_team02_02.Donor

WHERE FirstName LIKE 'Jor%';

Output:



	DonorID	FirstName	LastName	DOB	Gender	BloodGroup	Phone	Email	Address	LastDonationDate	PastMedicalConditions
▶	21	Jordain	Mangham	1995-04-05 00:00:00	Female	B+	636-691-0342	jmanghamk@phoca.cz	52086 Sutherland Avenue	2022-10-05 00:00:00	
	1810	Jori	Crisall	1974-07-29 00:00:00	Female	AB-	758-946-4386	jcrisallmh@dion.ne.jp	47 Kipling Terrace	2020-11-25 00:00:00	
	2731	Jorgan	Hellwich	1987-05-22 00:00:00	Male	O-	928-946-6860	jhellwichka@irs.gov	80 Sherman Center	2020-06-09 00:00:00	
	2780	Jori	Corradini	1976-01-02 00:00:00	Female	A+	713-422-4618	jcorradiniln@cpanel.net	6256 Transport Center	2020-07-15 00:00:00	Chickenpox
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL



CurrentMedicalConditions	Medications	SurgicalHistory	DeferralStatus	DeferralReason
Hypertension			No	
Hypothyroidism			Yes	Low Hemoglobin/Iron Levels
			Yes	Recent Surgery
Diabetes Mellitus			No	
NULL	NULL	NULL	NULL	NULL

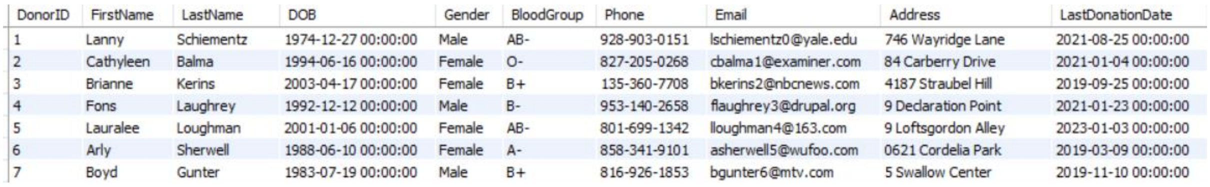
Query 16:

This query will give us the those donors who have not donated in last 6 months.

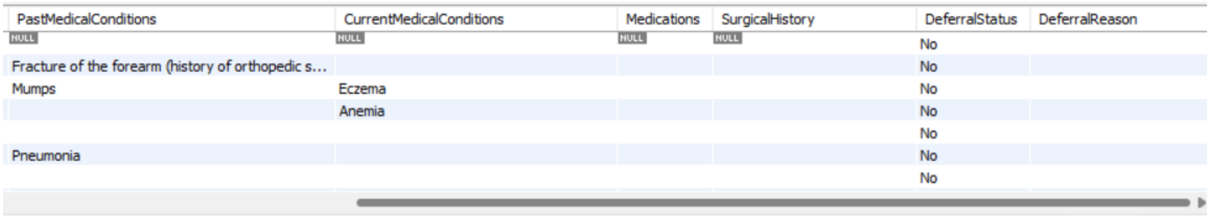
Query:

```
SELECT *
FROM mm_team02_02.Donor
WHERE DonorID NOT IN (
    SELECT DonorID
    FROM DonationEntry
    WHERE
      LastDonationDate >= DATE_SUB(CURRENT_DATE, INTERVAL 6 MONTH)
  );
```

Output:



DonorID	FirstName	LastName	DOB	Gender	BloodGroup	Phone	Email	Address	LastDonationDate
1	Lanny	Schiementz	1974-12-27 00:00:00	Male	AB-	928-903-0151	lschiementz0@yale.edu	746 Wayridge Lane	2021-08-25 00:00:00
2	Cathyleen	Balma	1994-06-16 00:00:00	Female	O-	827-205-0268	cbalma1@examiner.com	84 Carberry Drive	2021-01-04 00:00:00
3	Brianne	Kerins	2003-04-17 00:00:00	Female	B+	135-360-7708	bkerins2@nbcnews.com	4187 Straubel Hill	2019-09-25 00:00:00
4	Fons	Laughrey	1992-12-12 00:00:00	Male	B-	953-140-2658	flaughrey3@drupal.org	9 Declaration Point	2021-01-23 00:00:00
5	Lauralee	Loughman	2001-01-06 00:00:00	Female	AB-	801-699-1342	lloughman4@163.com	9 Loftsgordon Alley	2023-01-03 00:00:00
6	Arly	Sherwell	1988-06-10 00:00:00	Female	A-	858-341-9101	asherwell5@wufoo.com	0621 Cordelia Park	2019-03-09 00:00:00
7	Boyd	Gunter	1983-07-19 00:00:00	Male	B+	816-926-1853	bgunter6@mtv.com	5 Swallow Center	2019-11-10 00:00:00



PastMedicalConditions	CurrentMedicalConditions	Medications	SurgicalHistory	DeferralStatus	DeferralReason
NULL	NULL	NULL	NULL	No	
Fracture of the forearm (history of orthopedic s...				No	
Mumps	Eczema			No	
	Anemia			No	
				No	
Pneumonia				No	
				No	

Query 17:

This query will give us the salary of employees between the range of $38,000 and $40,000

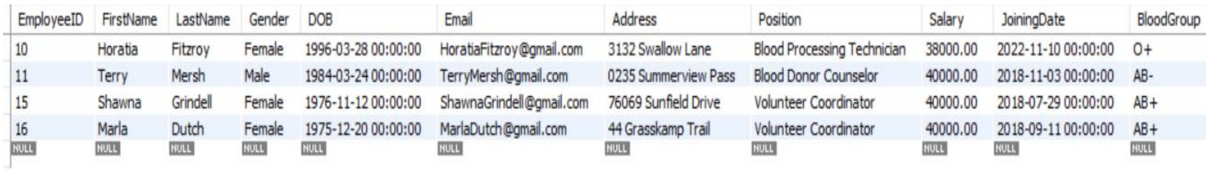
Query:

SELECT * FROM mm_team02_02.Employee

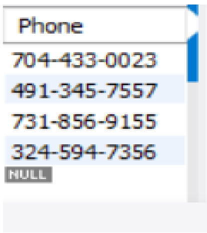
WHERE Salary BETWEEN 38000 and 40000

ORDER BY Salary ASC;

Output:



EmployeeID	FirstName	LastName	Gender	DOB	Email	Address	Position	Salary	JoiningDate	BloodGroup
10	Horatia	Fitzroy	Female	1996-03-28 00:00:00	HoratiaFitzroy@gmail.com	3132 Swallow Lane	Blood Processing Technician	38000.00	2022-11-10 00:00:00	O+
11	Terry	Mersh	Male	1984-03-24 00:00:00	TerryMersh@gmail.com	0235 Summerview Pass	Blood Donor Counselor	40000.00	2018-11-03 00:00:00	AB-
15	Shawna	Grindell	Female	1976-11-12 00:00:00	ShawnaGrindell@gmail.com	76069 Sunfield Drive	Volunteer Coordinator	40000.00	2018-07-29 00:00:00	AB+
16	Marla	Dutch	Female	1975-12-20 00:00:00	MarlaDutch@gmail.com	44 Grasskamp Trail	Volunteer Coordinator	40000.00	2018-09-11 00:00:00	AB+
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

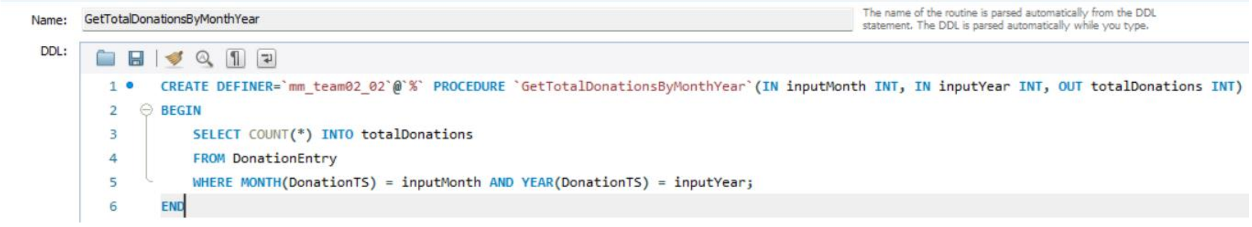


Phone
704-433-0023
491-345-7557
731-856-9155
324-594-7356
NULL

STORED PROCEDURES:

1. GetTotalDonationsByMonthYear

This stored procedure gets the total number of donations by month and year which are given as inputs.



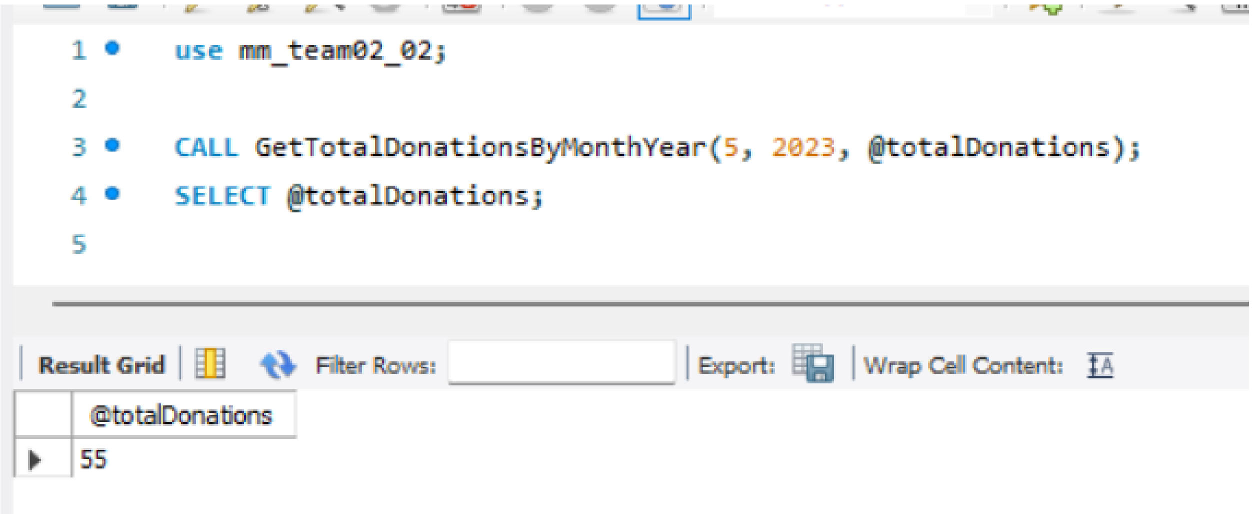
Name: GetTotalDonationsByMonthYear

The name of the routine is parsed automatically from the DDL statement. The DDL is parsed automatically while you type.

DDL:

```
CREATE DEFINER=`mm_team02_02`@`%` PROCEDURE `GetTotalDonationsByMonthYear`(IN inputMonth INT, IN inputYear INT, OUT totalDonations INT)
BEGIN
    SELECT COUNT(*) INTO totalDonations
    FROM DonationEntry
    WHERE MONTH(DonationTS) = inputMonth AND YEAR(DonationTS) = inputYear;
END
```

Calling the stored procedure:

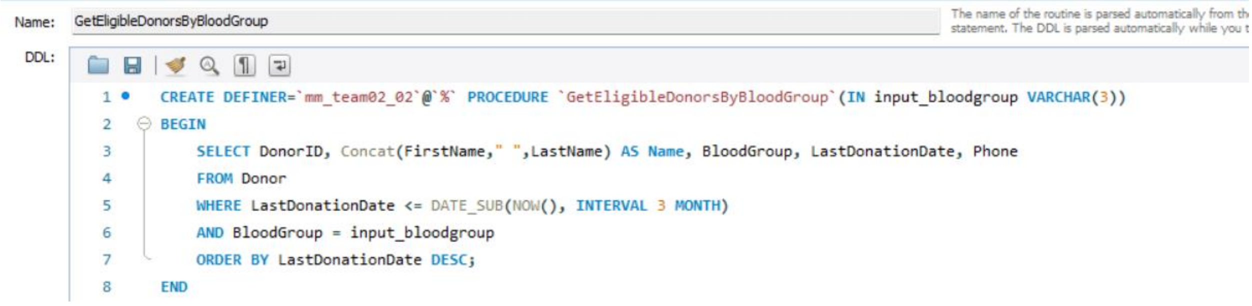


```
use mm_team02_02;

CALL GetTotalDonationsByMonthYear(5, 2023, @totalDonations);
SELECT @totalDonations;

```

```
@totalDonations
55
```

2. GetEligibleDonorsByBloodGroup

This stored procedure gets the eligible donors for a particular blood group which is given as an input.



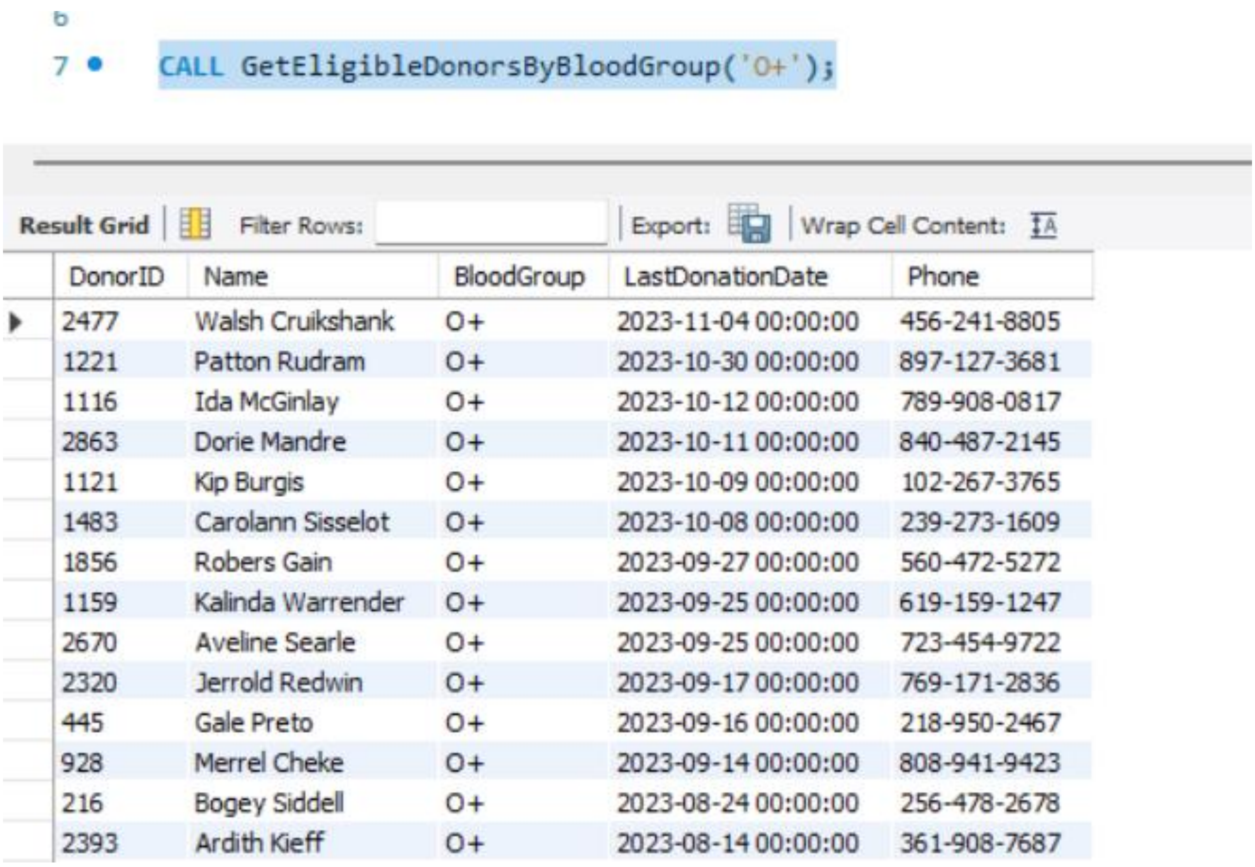
Name: GetEligibleDonorsByBloodGroup

The name of the routine is parsed automatically from th
statement. The DDL is parsed automatically while you t

DDL:

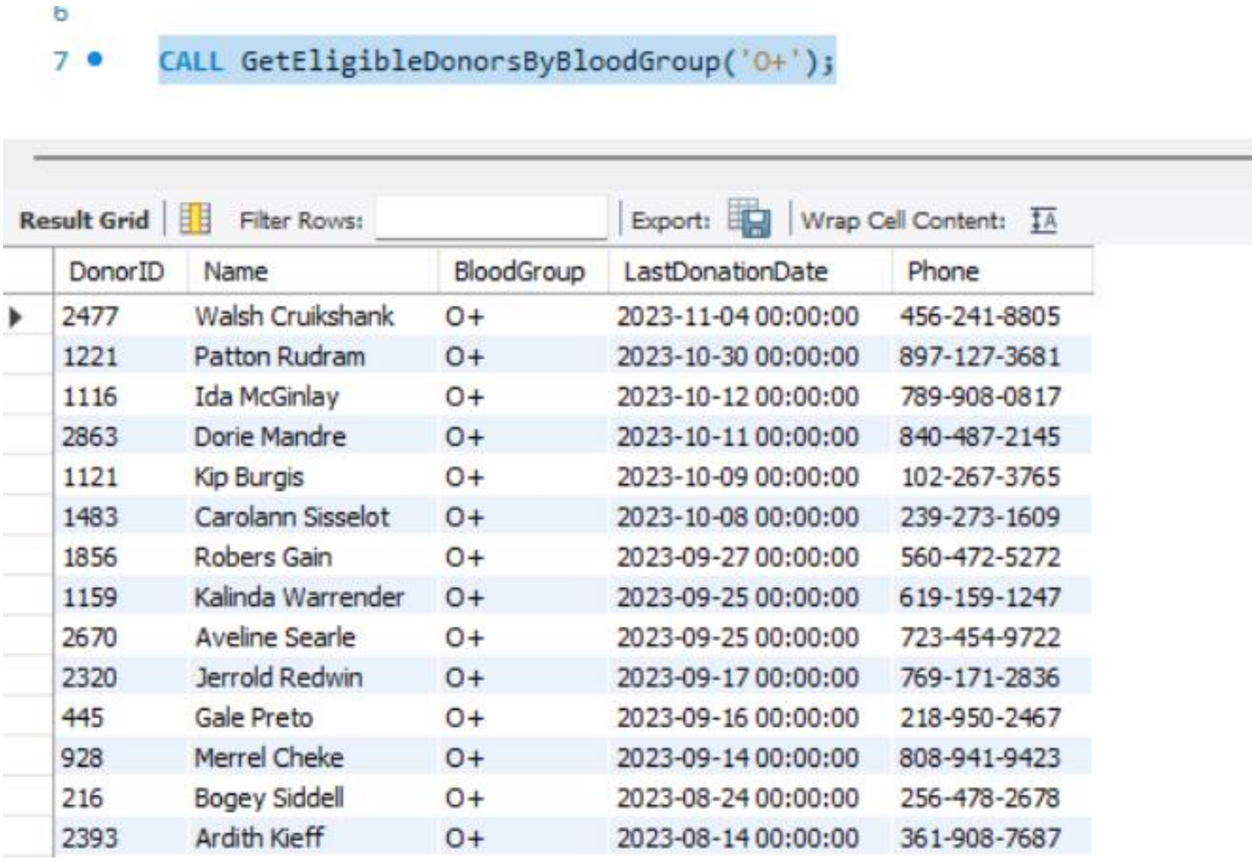
```
CREATE DEFINER=`mm_team02_02`@`%` PROCEDURE `GetEligibleDonorsByBloodGroup`(IN input_bloodgroup VARCHAR(3))
BEGIN
    SELECT DonorID, Concat(FirstName," ",LastName) AS Name, BloodGroup, LastDonationDate, Phone
    FROM Donor
    WHERE LastDonationDate <= DATE_SUB(NOW(), INTERVAL 3 MONTH)
    AND BloodGroup = input_bloodgroup
    ORDER BY LastDonationDate DESC;
END
```

Calling the stored procedure:



```
CALL GetEligibleDonorsByBloodGroup('O+');
```

DonorID	Name	BloodGroup	LastDonationDate	Phone
2477	Walsh Cruikshank	O+	2023-11-04 00:00:00	456-241-8805
1221	Patton Rudram	O+	2023-10-30 00:00:00	897-127-3681
1116	Ida McGinlay	O+	2023-10-12 00:00:00	789-908-0817
2863	Dorie Mandre	O+	2023-10-11 00:00:00	840-487-2145
1121	Kip Burgis	O+	2023-10-09 00:00:00	102-267-3765
1483	Carolann Sisselot	O+	2023-10-08 00:00:00	239-273-1609
1856	Robers Gain	O+	2023-09-27 00:00:00	560-472-5272
1159	Kalinda Warrender	O+	2023-09-25 00:00:00	619-159-1247
2670	Aveline Searle	O+	2023-09-25 00:00:00	723-454-9722
2320	Jerrold Redwin	O+	2023-09-17 00:00:00	769-171-2836
445	Gale Preto	O+	2023-09-16 00:00:00	218-950-2467
928	Merrel Cheke	O+	2023-09-14 00:00:00	808-941-9423
216	Bogey Siddell	O+	2023-08-24 00:00:00	256-478-2678
2393	Ardith Kieff	O+	2023-08-14 00:00:00	361-908-7687

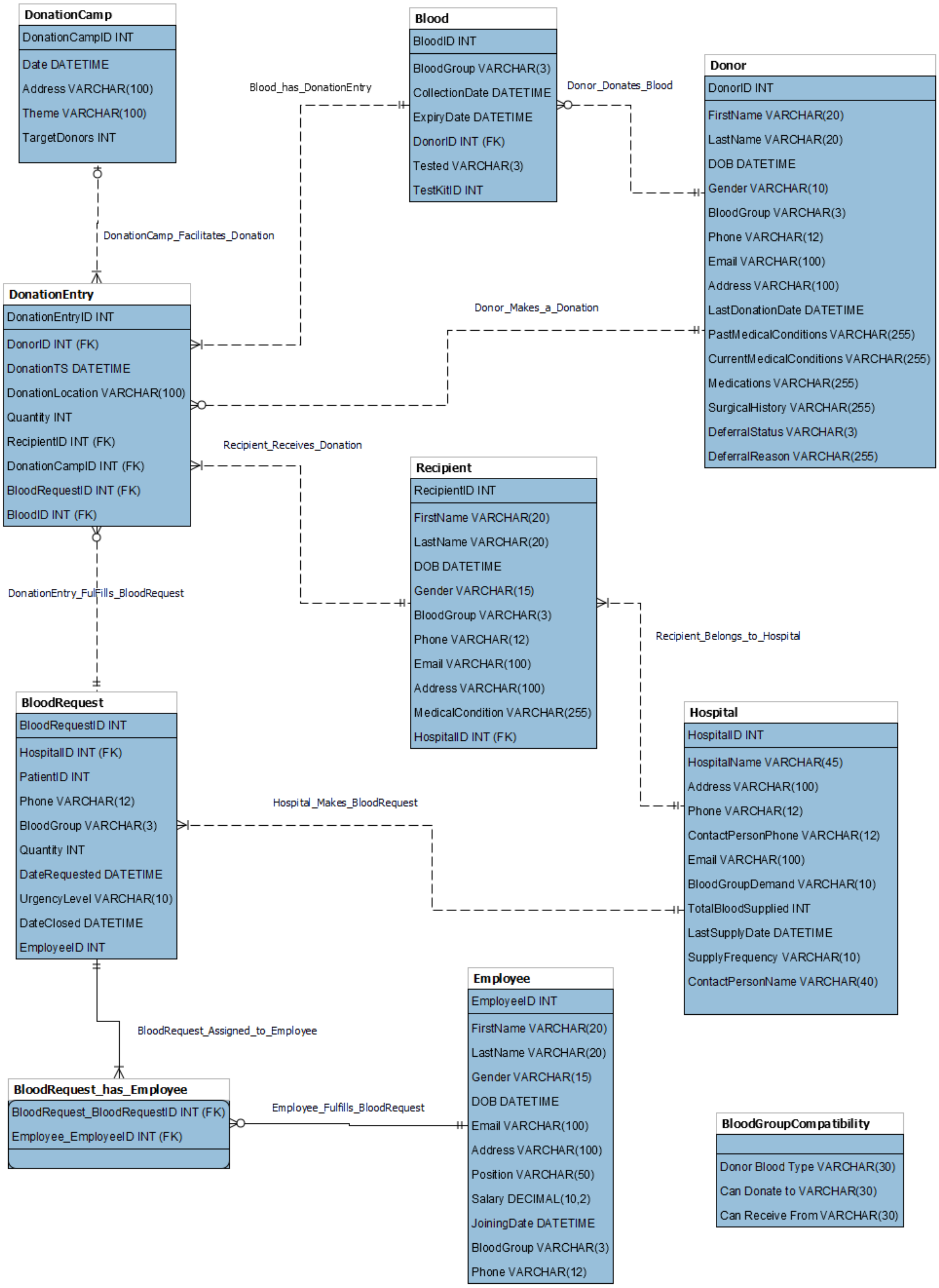


```sql
CALL GetEligibleDonorsByBloodGroup('O+');
```

DonorID	Name	BloodGroup	LastDonationDate	Phone
2477	Walsh Cruikshank	O+	2023-11-04 00:00:00	456-241-8805
1221	Patton Rudram	O+	2023-10-30 00:00:00	897-127-3681
1116	Ida McGinlay	O+	2023-10-12 00:00:00	789-908-0817
2863	Dorie Mandre	O+	2023-10-11 00:00:00	840-487-2145
1121	Kip Burgis	O+	2023-10-09 00:00:00	102-267-3765
1483	Carolann Sisselot	O+	2023-10-08 00:00:00	239-273-1609
1856	Robers Gain	O+	2023-09-27 00:00:00	560-472-5272
1159	Kalinda Warrender	O+	2023-09-25 00:00:00	619-159-1247
2670	Aveline Searle	O+	2023-09-25 00:00:00	723-454-9722
2320	Jerrold Redwin	O+	2023-09-17 00:00:00	769-171-2836
445	Gale Preto	O+	2023-09-16 00:00:00	218-950-2467
928	Merrel Cheke	O+	2023-09-14 00:00:00	808-941-9423
216	Bogey Siddell	O+	2023-08-24 00:00:00	256-478-2678
2393	Ardith Kieff	O+	2023-08-14 00:00:00	361-908-7687

ER model:

One standalone table BloodGroupCompatibility is there which has no relationships with the rest of the tables because it was scraped from a website for Milestone3.



DonationCamp
- DonationCampID INT
- Date DATETIME
- Address VARCHAR(100)
- Theme VARCHAR(100)
- TargetDonors INT

Blood
- BloodID INT
- BloodGroup VARCHAR(3)
- CollectionDate DATETIME
- ExpiryDate DATETIME
- DonorID INT (FK)
- Tested VARCHAR(3)
- TestKitID INT

Donor
- DonorID INT
- FirstName VARCHAR(20)
- LastName VARCHAR(20)
- DOB DATETIME
- Gender VARCHAR(10)
- BloodGroup VARCHAR(3)
- Phone VARCHAR(12)
- Email VARCHAR(100)
- Address VARCHAR(100)
- LastDonationDate DATETIME
- PastMedicalConditions VARCHAR(255)
- CurrentMedicalConditions VARCHAR(255)
- Medications VARCHAR(255)
- SurgicalHistory VARCHAR(255)
- DeferralStatus VARCHAR(3)
- DeferralReason VARCHAR(255)

DonationEntry
- DonationEntryID INT
- DonorID INT (FK)
- DonationTS DATETIME
- DonationLocation VARCHAR(100)
- Quantity INT
- RecipientID INT (FK)
- DonationCampID INT (FK)
- BloodRequestID INT (FK)
- BloodID INT (FK)

Recipient
- RecipientID INT
- FirstName VARCHAR(20)
- LastName VARCHAR(20)
- DOB DATETIME
- Gender VARCHAR(15)
- BloodGroup VARCHAR(3)
- Phone VARCHAR(12)
- Email VARCHAR(100)
- Address VARCHAR(100)
- MedicalCondition VARCHAR(255)
- HospitalID INT (FK)

BloodRequest
- BloodRequestID INT
- HospitalID INT (FK)
- PatientID INT
- Phone VARCHAR(12)
- BloodGroup VARCHAR(3)
- Quantity INT
- DateRequested DATETIME
- UrgencyLevel VARCHAR(10)
- DateClosed DATETIME
- EmployeeID INT

Hospital
- HospitalID INT
- HospitalName VARCHAR(45)
- Address VARCHAR(100)
- Phone VARCHAR(12)
- ContactPersonPhone VARCHAR(12)
- Email VARCHAR(100)
- BloodGroupDemand VARCHAR(10)
- TotalBloodSupplied INT
- LastSupplyDate DATETIME
- SupplyFrequency VARCHAR(10)
- ContactPersonName VARCHAR(40)

Employee
- EmployeeID INT
- FirstName VARCHAR(20)
- LastName VARCHAR(20)
- Gender VARCHAR(15)
- DOB DATETIME
- Email VARCHAR(100)
- Address VARCHAR(100)
- Position VARCHAR(50)
- Salary DECIMAL(10,2)
- JoiningDate DATETIME
- BloodGroup VARCHAR(3)
- Phone VARCHAR(12)

BloodRequest_has_Employee
- BloodRequest_BloodRequestID INT (FK)
- Employee_EmployeeID INT (FK)

BloodGroupCompatibility
- Donor Blood Type VARCHAR(30)
- Can Donate to VARCHAR(30)
- Can Receive From VARCHAR(30)

Blood_has_DonationEntry
Donor_Donates_Blood
DonationCamp_Facilitates_Donation
Donor_Makes_a_Donation
Recipient_Receives_Donation
DonationEntry_FulFills_BloodRequest
Recipient_Belongs_to_Hospital
Hospital_Makes_BloodRequest
BloodRequest_Assigned_to_Employee
Employee_Fulfills_BloodRequest