SQL Queries (SIMPLE AND COMPLEX QUERIES)

- **This query choses the patients from the transfusion records who have received more than 100CC of blood -**

Select* FROM bloodbank.Transfusion_records WHERE quantity>100;

```
mysql> Select* FROM bloodbank.Transfusion_records WHERE quantity>100;
+-----+-----+-------------+----------+------------+
| tid | pid | Blood_group | quantity | date       |
+-----+-----+-------------+----------+------------+
| t1  | p7  | B-          |      200 | 2020-05-20 |
| t2  | p8  | O-          |      300 | 2020-05-20 |
+-----+-----+-------------+----------+------------+
2 rows in set (0.00 sec)
```

- **This query chooses the people from the persons table whose weight is below 45kg and age is below 18 as these people are not eligible to donate blood -**

Select* FROM bloodbank.persons WHERE persons.weight<45 OR persons.age<18;

```
mysql> Select* FROM bloodbank.persons WHERE persons.weight<45 OR persons.age<18;
+-----+--------+-----+--------+--------+-------------+----+
| pid | name   | age | gender | weight | Blood_group | DP |
+-----+--------+-----+--------+--------+-------------+----+
| p5  | Justin |  16 | M      |     51 | A-          | D  |
| p6  | Mary   |  22 | F      |     43 | B+          | D  |
+-----+--------+-----+--------+--------+-------------+----+
2 rows in set (0.00 sec)
```

- **This query helps in showing which all donors donated the blood of which blood group along with the stock quantity available in the inventory -**

```
SELECT I.Blood_group, I.Stock_quantity
FROM bloodbank.Inventory as I
WHERE EXISTS (SELECT *
                FROM Donation_Records as P
                WHERE P.Blood_group = I.Blood_group);
```

```
mysql> SELECT I.Blood_group, I.Stock_quantity
    -> FROM bloodbank.Inventory as I
    -> WHERE EXISTS (SELECT *
    -> FROM Donation_Records as P
    -> WHERE  P.Blood_group = I.Blood_group);
+-------------+----------------+
| Blood_group | Stock_quantity |
+-------------+----------------+
| O+          |           1000 |
| A+          |            200 |
+-------------+----------------+
2 rows in set (0.00 sec)
```

- **This query helps in showing which all patients (recipients) received the blood of which blood group along with the stock quantity available in the inventory–**

```
mysql> SELECT I.Blood_group, I.Stock_quantity
    -> FROM bloodbank.Inventory as I
    -> WHERE EXISTS (SELECT *
    -> FROM Transfusion_Records as Q
    -> WHERE  Q.Blood_group = I.Blood_group);
+-------------+----------------+
| Blood_group | Stock_quantity |
+-------------+----------------+
| B-          |            250 |
| O-          |            600 |
| O+          |           1000 |
| A+          |            200 |
+-------------+----------------+
4 rows in set (0.00 sec)
```

```
SELECT I.Blood_group, I.Stock_quantity
FROM bloodbank.Inventory as I
WHERE EXISTS (SELECT *
                    FROM Transfusion_Records as Q
                    WHERE Q.Blood_group = I.Blood_group);
```

- **This query helps in showing which blood group has not been donated by the donors. -**

```
SELECT I.Blood_group
FROM bloodbank.Inventory as I
WHERE NOT EXISTS (SELECT *
                    FROM Donation_Records as P
                    WHERE P.Blood_group = I.Blood_group);
```

```
mysql> SELECT I.Blood_group
    -> FROM bloodbank.Inventory as I
    -> WHERE NOT EXISTS (SELECT *
    -> FROM Donation_Records as P
    -> WHERE  P.Blood_group = I.Blood_group);
+--------------+
| Blood_group |
+--------------+
| A-           |
| AB-          |
| AB+          |
| B-           |
| B+           |
| O-           |
+--------------+
6 rows in set (0.00 sec)
```

- **This query helps in showing which blood group has notbeen used by the patients (recipients) -**

```
SELECT I.Blood_group
FROM bloodbank.Inventory as I
WHERE NOT EXISTS (SELECT *
                    FROM Transfusion_Records as Q
                    WHERE Q.Blood_group = I.Blood_group);
```

```
mysql> SELECT I.Blood_group
    -> FROM bloodbank.Inventory as I
    -> WHERE NOT EXISTS (SELECT *
    -> FROM Transfusion_Records as Q
    -> WHERE  Q.Blood_group = I.Blood_group);
+-------------+
| Blood_group |
+-------------+
| A-          |
| AB-         |
| AB+         |
| B+          |
+-------------+
4 rows in set (0.00 sec)
```

- **This query helps in calculating the total sum, maximum , minimum and average of the stock quantity of blood present in the inventory**

  SELECT SUM(Stock_quantity), MAX(Stock_quantity), MIN(Stock_quantity), AVG(Stock_quantity)
  FROM bloodbank.Inventory;

- **This query helps in counting the total blood groups present in the blood bank inventory -**

  SELECT COUNT(Blood_group)
  FROM bloodbank.Inventory;

```
mysql> SELECT COUNT(Blood_group)
    -> FROM bloodbank.Inventory;
+----------------------+
| COUNT(Blood_group) |
+----------------------+
|                    8 |
+----------------------+
1 row in set (0.00 sec)
```

- **This query used the INNER JOIN commands and joins the table persons and donation_records accordingly -**

```
SELECT p.pid,
p.name,
p.gender,
COUNT(d.pid) AS TimesDonated,
SUM(d.quantity) AS TotalAmount
FROM persons p INNER JOIN donation_records d ON p.pid =
d.pid
GROUP BY p.pid
ORDER by TotalAmount asc;
```

```
mysql> SELECT p.pid,
    -> p.name,
    -> p.gender,
    -> COUNT(d.pid) AS TimesDonated,
    -> SUM(d.quantity) AS TotalAmount
    -> FROM persons p INNER JOIN donation_records d ON p.pid = d.pid
    -> GROUP BY p.pid
    -> ORDER by TotalAmount asc;
+-----+--------+--------+--------------+-------------+
| pid | name   | gender | TimesDonated | TotalAmount |
+-----+--------+--------+--------------+-------------+
| p11 | Sid    | M      |            1 |         300 |
| p4  | Andy   | M      |            1 |         350 |
| p2  | Ross   | M      |            1 |         470 |
| p3  | Rachel | F      |            1 |         470 |
+-----+--------+--------+--------------+-------------+
4 rows in set (0.00 sec)
```

- **This query used the LEFT JOIN command and joins the table persons and Donation_records accordingly -**

```
SELECT persons.pid, persons.name,
Donation_records.blood_group, Donation_records.quantity
FROM persons
LEFT JOIN Donation_records
ON persons.pid = Donation_records.pid;
```

```
mysql> SELECT persons.pid, persons.name, Donation_records.blood_group, Donation_records.quantity
    -> FROM persons
    -> LEFT JOIN Donation_records
    -> ON persons.pid = Donation_records.pid;
+-----+--------+-------------+----------+
| pid | name   | blood_group | quantity |
+-----+--------+-------------+----------+
| p1  | John   | NULL        |     NULL |
| p10 | Erica  | NULL        |     NULL |
| p11 | Sid    | O+          |      300 |
| p12 | Pete   | NULL        |     NULL |
| p2  | Ross   | O+          |      470 |
| p3  | Rachel | A+          |      470 |
| p4  | Andy   | O+          |      350 |
| p5  | Justin | NULL        |     NULL |
| p6  | Mary   | NULL        |     NULL |
| p7  | Monica | NULL        |     NULL |
| p8  | Joey   | NULL        |     NULL |
| p9  | Robert | NULL        |     NULL |
+-----+--------+-------------+----------+
12 rows in set (0.00 sec)
```

- **This query used the RIGHT JOIN command and joins the table persons and Transfusion_records accordingly -**

```
SELECT Transfusion_records.pid,
Transfusion_records.blood_group, Transfusion_records.quantity,
persons.name, persons.age, persons.gender, persons.weight
FROM persons
RIGHT JOIN Transfusion_records
ON persons.pid = Transfusion_records.pid;
```

```
mysql> SELECT Transfusion_records.pid, Transfusion_records.blood_group, Transfusion_records.quantity, persons.name, persons.age, persons.gender, persons.weight
    -> FROM persons
    -> RIGHT JOIN Transfusion_records
    -> ON persons.pid = Transfusion_records.pid;
+-----+-------------+----------+--------+------+--------+--------+
| pid | blood_group | quantity | name   | age  | gender | weight |
+-----+-------------+----------+--------+------+--------+--------+
| p7  | B-          |      200 | Monica |   52 | F      |     70 |
| p8  | O-          |      300 | Joey   |   47 | M      |     79 |
| p10 | O+          |      100 | Erica  |   38 | F      |     64 |
| p12 | A+          |      100 | Pete   |   42 | M      |     74 |
+-----+-------------+----------+--------+------+--------+--------+
4 rows in set (0.00 sec)

mysql>
```