DBMS Lab-7

Name : Adarsh Subhas Nayak
SRN : PES1UG20CS620
Roll No : 54
Date : 28/10/2022

UNION, INTERSECTION, MINUS operators

```
/*------- Before all tasks are executed we execute these commands based on
guidelines--------*/
INSERT INTO ticket (PNR, Train_No, Travel_date, user_id,arrival_time,
departure_time, Train_Type, compartment_type,compartment_Number, arrival,
departure) VALUES ('PNR021',
62621,'2021-10-22','USR_008','20:30:00','16:00:00','Superfast' ,'I
Class','F01','Chennai','Bengaluru' );
update train set source = trim(source) , destination = trim(destination);
```

```
MariaDB [620_rr]> INSERT INTO ticket (PNR, Train_No, Travel_date, passenger_ID,arrival_time, departure_time, Train_Type, compartment_type,compartment_Number, arrival, departure) VALUES ('PNR021', 62621
16:00:00','Superfast' ,'I Class','F01','Chennai','Bengaluru' );
ERROR 1054 (42S22): Unknown column 'compartment_Number' in 'field list'
MariaDB [620_rr]>
MariaDB [620_rr]> INSERT INTO ticket (PNR, Train_No, Travel_date, passenger_ID,arrival_time, departure_time, Train_Type, compartment_type,compartment_no, arrival, departure) VALUES ('PNR021', 62621,'20
0:00','Superfast' ,'I Class','F01','Chennai','Bengaluru' );
Query OK, 1 row affected (0.007 sec)

MariaDB [620_rr]> update train set source = trim(source) , destination = trim(destination);
Query OK, 2 rows affected (0.004 sec)
Rows matched: 6  Changed: 2  Warnings: 0
```

1. Find the list of passengers (user_id, user_type First name and last name) who have traveled from Bengaluru to Chennai during the month of Oct 2021 and Aug 2022

```
select user_id,user_type,firstname,lastname from train_user inner

join ticket on train_user.user_id = ticket.passenger_id where departure

= 'Bengaluru' and arrival = 'Chennai' and travel_date between

'2021-10-01' and '2022-08-31';
```

```
MariaDB [620_rr]> select user_id,user_type,firstname,lastname from train_user inner
    -> join ticket on train_user.user_id = ticket.passenger_id where departure
    -> = 'Bengaluru' and arrival = 'Chennai' and travel_date between
    -> '2021-10-01' and '2022-08-31';
+---------+-----------+-----------+----------+
| user_id | user_type | firstname | lastname |
+---------+-----------+-----------+----------+
| ADM_001 | ADMIN     | Narendra  | Modi     |
| USR_008 | PSGR      | Ajit      | Sethi    |
+---------+-----------+-----------+----------+
2 rows in set (0.034 sec)
```

2. Find the list of passengers (user_id, user_type First name and last name) who have traveled from Bengaluru to Chennai during the month of Oct 2021 and also during Aug 2022

```
SELECT train_user.user_id, user_type, firstname, lastname
FROM train_user, ticket
WHERE ticket.Departure = 'Bengaluru' AND ticket.Arrival = 'Chennai'
AND EXISTS
        (SELECT train_user.User_ID, User_Type, Firstname, Lastname
        FROM train_user, ticket
        WHERE ticket.Travel_Date BETWEEN '2022-08-01' AND '2022-08-31' AND
ticket.Travel_Date BETWEEN '2021-10-01' AND '2021-10-31');
```

```
MariaDB [620_rr]> SELECT train_user.user_id, user_type, firstname, lastname
    -> FROM train_user, ticket
    -> WHERE ticket.Departure = 'Bengaluru' AND ticket.Arrival = 'Chennai'
    -> AND EXISTS
    -> (SELECT train_user.User_ID, User_Type, Firstname, Lastname
    ->         FROM train_user, ticket
    -> WHERE ticket.Travel_Date BETWEEN '2022-08-01' AND '2022-08-31' AND ticket.Travel_Date BETWEEN '2021-10-01' AND '2021-10-31');
Empty set (0.013 sec)
```

3. Find the list of passengers (user_id, user_type First name and last name) who have traveled from Bengaluru to Chennai during the month of Aug 2022 and not in Oct 2021

```
select user_id,user_type,firstname,lastname
from train_user inner join ticket on train_user.user_id =
ticket.passenger_id
where departure = 'Bengaluru' and arrival = 'Chennai' and travel_date not
between '2021-10-01' and '2021-10-31' and travel_date between '2022-08-01'
and '2022-08-31';
```

```
MariaDB [620_rr]> select user_id,user_type,firstname,lastname
    -> from train_user inner join ticket on train_user.user_id = ticket.passenger_id
    -> where departure = 'Bengaluru' and arrival = 'Chennai' and travel_date not between '2021-10-01' and '2021-10-31' and travel_date between '2022-08-01' and '2022-08-31';
+---------+-----------+-----------+----------+
| user_id | user_type | firstname | lastname |
+---------+-----------+-----------+----------+
| ADM_001 | ADMIN     | Narendra  | Modi     |
+---------+-----------+-----------+----------+
1 row in set (0.001 sec)
```

4. Find the list of passengers (user_id, user_type, First name and last name) who have traveled from Bengaluru to Chennai and returned to Bengaluru within a week.

```sql
SELECT U1.user_id, user_Type, firstname, lastname
FROM ticket as T1, train_user as U1
WHERE T1.passenger_id = U1.user_id
AND T1.Departure = 'Bengaluru' AND T1.Arrival = 'Chennai'
AND EXISTS (SELECT pnr FROM ticket AS Ti WHERE T1.passenger_id =
Ti.passenger_id
AND Ti.Departure = 'Chennai' AND Ti.Arrival = 'Bengaluru' AND
(DATEDIFF(Ti.Travel_Date,T1.Travel_Date) BETWEEN 0 AND 7));
```

```
MariaDB [620_rr]> SELECT U1.user_id, user_Type, firstname, lastname
    -> FROM ticket as T1, train_user as U1
    -> WHERE T1.passenger_id = U1.user_id
    -> AND T1.Departure = 'Bengaluru' AND T1.Arrival = 'Chennai'
    -> AND EXISTS (SELECT pnr FROM ticket AS Ti WHERE T1.passenger_id = Ti.passenger_id
    -> AND Ti.Departure = 'Chennai' AND Ti.Arrival = 'Bengaluru' AND (DATEDIFF(Ti.Travel_Date,T1.Travel_Date) BETWEEN 0 AND 7));
+---------+-----------+-----------+----------+
| user_id | user_Type | firstname | lastname |
+---------+-----------+-----------+----------+
| ADM_001 | ADMIN     | Narendra  | Modi     |
+---------+-----------+-----------+----------+
1 row in set (0.051 sec)
```

5. Find the list of passengers (user_id, user_type, First name and last name) who have traveled from Bengaluru to Chennai and did not return to Bengaluru (in other words, only one way travel from Bengaluru to Chennai)

```sql
SELECT U1.User_ID, User_Type, firstname, lastname
FROM ticket as T1, train_user as U1
WHERE T1.passenger_ID = U1.User_ID
AND T1.Departure = 'Bengaluru' AND T1.Arrival = 'Chennai'
AND NOT EXISTS(SELECT pnr FROM ticket AS TIC WHERE T1.passenger_ID =
TIC.passenger_ID
AND TIC.Departure = 'Chennai' AND TIC.Arrival = 'Bengaluru');
```

```
MariaDB [620_rr]> SELECT U1.User_ID, User_Type, firstname, lastname
    -> FROM ticket as T1, train_user as U1
    -> WHERE T1.passenger_ID = U1.User_ID
    -> AND T1.Departure = 'Bengaluru' AND T1.Arrival = 'Chennai'
    -> AND NOT EXISTS(SELECT pnr FROM ticket AS TIC WHERE T1.passenger_ID = TIC.passenger_ID
    -> AND TIC.Departure = 'Chennai' AND TIC.Arrival = 'Bengaluru');
+---------+-----------+-----------+----------+
| User_ID | User_Type | firstname | lastname |
+---------+-----------+-----------+----------+
| USR_008 | PSGR      | Ajit      | Sethi    |
+---------+-----------+-----------+----------+
1 row in set (0.008 sec)

MariaDB [620_rr]>
```