

Name: Y Srinivas  
SRN: PES1UG20CS517  
Section: I

1. Find the list of passengers (user\_id, user\_type First name and last name) who have travelled from Bengaluru to Chennai during the month of Oct 2021 and Aug 2022.

Query:

```
select user_id, user_type, firstname, lastname from
train_user, ticket where user_id = passenger_id
    and (travel_date >= "2021-10-01" and travel_date <= "2021-
10-31") and (departure = "Bengaluru" and arrival = "Chennai")
union
select user_id, user_type, firstname, lastname from
train_user, ticket where user_id = passenger_id
    and (travel_date >= "2022-08-01" and travel_date <= "2022-
08-31") and (departure = "Bengaluru" and arrival = "Chennai");
```

```
MariaDB [peslug20cs517]> select user_id, user_type, firstname, lastname from train_user, ticket where user_id = passenger_id
    and (travel_date >= "2021-10-01" and travel_date <= "2021-10-31") and (departure = "Bengaluru" and arrival = "Chennai")
    union
    select user_id, user_type, firstname, lastname from train_user, ticket where user_id = passenger_id
    and (travel_date >= "2022-08-01" and travel_date <= "2022-08-31") and (departure = "Bengaluru" and arrival = "Chennai");
+-----+-----+-----+-----+
| user_id | user_type | firstname | lastname |
+-----+-----+-----+-----+
| USR_008 | PSGR     | Ajit      | Sethi    |
| ADM_001 | ADMIN    | Narendra  | Modi     |
+-----+-----+-----+-----+
2 rows in set (0.005 sec)
```

```
MariaDB [peslug20cs517]> _
```

2. Find the list of passengers (user\_id, user\_type First name and last name) who have travelled from Bengaluru to Chennai during the month of Oct 2021 and also during Aug 2022.

Query:

```
select user_id, user_type, firstname, lastname from
train_user, ticket where user_id = passenger_id
    and (travel_date >= "2021-10-01" and travel_date <= "2021-
10-31") and (departure = "Bengaluru" and arrival = "Chennai")
INTERSECT
select user_id, user_type, firstname, lastname from
train_user, ticket where user_id = passenger_id
    and (travel_date >= "2022-08-01" and travel_date <= "2022-
08-31") and (departure = "Bengaluru" and arrival = "Chennai");
```

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```
MariaDB [peslug20cs517]> select user_id, user_type, firstname, lastname from train_user, ticket where user_id = passenger_id
    and (travel_date >= "2021-10-01" and travel_date <= "2021-10-31") and (departure = "Bengaluru" and arrival = "Chennai")
    INTERSECT
    select user_id, user_type, firstname, lastname from train_user, ticket where user_id = passenger_id
    and (travel_date >= "2022-08-01" and travel_date <= "2022-08-31") and (departure = "Bengaluru" and arrival = "Chennai");
Empty set (0.002 sec)

MariaDB [peslug20cs517]> _
```

3. Find the list of passengers (user\_id, user\_type First name and last name) who have travelled from Bengaluru to Chennai during the month of Aug 2022 and not in Oct 2021.

Query:

```
select user_id, user_type, firstname, lastname from
train_user, ticket where (user_id = passenger_id
    and (travel_date >= "2022-08-01" and travel_date <= "2022-08-31") and (departure = "Bengaluru" and arrival = "Chennai"))
AND NOT EXISTS
(select user_id, user_type, firstname, lastname from
train_user, ticket where user_id = passenger_id
    and (travel_date >= "2021-10-01" and travel_date <= "2021-10-31") and (departure = "Bengaluru" and arrival = "Chennai"));
```

```
MariaDB [peslug20cs517]> select user_id, user_type, firstname, lastname from train_user, ticket where (user_id = passenger_id
    and (travel_date >= "2022-08-01" and travel_date <= "2022-08-31") and (departure = "Bengaluru" and arrival = "Chennai"))
    AND NOT EXISTS
    (select user_id, user_type, firstname, lastname from train_user, ticket where user_id = passenger_id
    and (travel_date >= "2021-10-01" and travel_date <= "2021-10-31") and (departure = "Bengaluru" and arrival = "Chennai"));
Empty set (0.009 sec)

MariaDB [peslug20cs517]>
```

4. Find the list of passengers (user\_id, user\_type, First name and last name) who have travelled from Bengaluru to Chennai and returned to Bengaluru within a week.

Query:

```
select U.user_id, U.user_type, U.firstname, U.lastname from
train_user AS U, ticket AS T where U.user_id = T.passenger_id
    AND (T.departure = "Bengaluru" and T.arrival = "Chennai")
    AND EXISTS
    (select U1.user_id, U1.user_type, U1.firstname,
U1.lastname from train_user AS U1, ticket AS T1 where
U1.user_id = T1.passenger_id
```

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```
AND (T1.departure = "Chennai" and T1.arrival =  
"Bengaluru")  
AND (T1.travel_date BETWEEN T.travel_date AND  
DATE_ADD(T.travel_date, INTERVAL 7 DAY))  
);
```

```
MariaDB [peslug20cs517]> select U.user_id, U.user_type, U.firstname, U.lastname from train_user AS U, ticket AS T where U.user_id = T.passenger_id  
-> AND (T.departure = "Bengaluru" and T.arrival = "Chennai")  
-> AND EXISTS  
-> (select U1.user_id, U1.user_type, U1.firstname, U1.lastname from train_user AS U1, ticket AS T1 where U1.user_id = T1.passenger_id  
-> AND (T1.departure = "Chennai" and T1.arrival = "Bengaluru")  
-> AND (T1.travel_date BETWEEN T.travel_date AND DATE_ADD(T.travel_date, INTERVAL 7 DAY))  
-> );  
+-----+-----+-----+-----+  
| user_id | user_type | firstname | lastname |  
+-----+-----+-----+-----+  
| ADM_001 | ADMIN    | Narendra  | Modi     |  
+-----+-----+-----+-----+  
1 row in set (0.002 sec)
```

5. Find the list of passengers (user\_id, user\_type, First name and last name) who have travelled from Bengaluru to Chennai and did not return to Bengaluru (in other words, only one way travel from Bengaluru to Chennai).

Query:

```
select U.user_id, U.user_type, U.firstname, U.lastname from  
ticket as T, train_user as U  
where T.passenger_id = U.user_id and T.departure = 'Bengaluru'  
and T.Arrival = 'Chennai'  
and NOT EXISTS (select pnr from ticket as T1 where  
T.passenger_id = T1.passenger_id and T1.Arrival =  
'Bengaluru');
```

```
MariaDB [peslug20cs517]> select U.user_id, U.user_type, U.firstname, U.lastname from ticket as T, train_user as U  
-> where T.passenger_id = U.user_id and T.departure = 'Bengaluru' and T.Arrival = 'Chennai'  
-> and NOT EXISTS (select pnr from ticket as T1 where T.passenger_id = T1.passenger_id and T1.Arrival = 'Bengaluru');  
+-----+-----+-----+-----+  
| user_id | user_type | firstname | lastname |  
+-----+-----+-----+-----+  
| USR_008 | PSGR     | Ajit      | Sethi    |  
+-----+-----+-----+-----+  
1 row in set (0.002 sec)  
  
MariaDB [peslug20cs517]>
```