

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 [pes1ug20cs494]> 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 (0.009 sec)
```

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");
```

```
MariaDB [pes1ug20cs494]> 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 (0.001 sec)
```

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"))
```

UNION

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

```
MariaDB [pes1ug20cs494]> 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"))
-> UNION
-> (select user_id, user_type, firstname, lastname from train_user, ticket where user_id = passenger_id
-> and (travel_date NOT BETWEEN "2021-10-01" AND "2021-10-31") AND (departure = "Bengaluru" and arrival = "Chennai"));
+-----+-----+-----+-----+
| 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 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
```

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 [pes1ug20cs494]> 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 (0.004 sec)
```

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SRN = PES1UG20CS494

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' and T1.Departure = 'Chennai');
```

```
MariaDB [pes1ug20cs494]> 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' and T1.Departure = 'Chennai');
```

user_id	user_type	firstname	lastname
USR_008	PSGR	Ajit	Sethi

```
1 row in set (0.003 sec)
```