Name: Vrushank G   **SRN: PES1UG20CS516**   **Section: I**

Lab 7 – UNION, INTERSECTION, MINUS operators

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

```
select tu.user_id,tu.user_type,tu.firstname,tu.lastname from train_user as
tu,ticket as ti where tu.user_id = ti.passenger_id and
ti.departure='Bengaluru' and ti.arrival='Chennai' and ti.travel_date<'2021-11-
1' UNION select tu.user_id,tu.user_type,tu.firstname,tu.lastname from
train_user as tu,ticket as ti where tu.user_id = ti.passenger_id and
ti.departure='Bengaluru' and ti.arrival='Chennai' and ti.travel_date>'2022-07-
31';
```

```
MariaDB [pes1ug20cs516]> select tu.user_id,tu.user_type,tu.firstname,tu.lastname from train_user as tu,ticket as ti wher
e tu.user_id = ti.passenger_id and ti.departure='Bengaluru' and ti.arrival='Chennai' and ti.travel_date<'2021-11-1' UNIO
N select tu.user_id,tu.user_type,tu.firstname,tu.lastname from train_user as tu,ticket as ti where tu.user_id = ti.passe
nger_id and ti.departure='Bengaluru' and ti.arrival='Chennai' and ti.travel_date>'2022-07-31';
+---------+-----------+-----------+----------+
| user_id | user_type | firstname | lastname |
+---------+-----------+-----------+----------+
| USR_008 | PSGR      | Ajit      | Sethi    |
| ADM_001 | ADMIN     | Narendra  | Modi     |
+---------+-----------+-----------+----------+
2 rows in set (0.001 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

```
select tu.user_id,tu.user_type,tu.firstname,tu.lastname from train_user as
tu,ticket as ti where tu.user_id = ti.passenger_id and
ti.departure='Bengaluru' and ti.arrival='Chennai' and (ti.travel_date<'2021-
11-1' and ti.travel_date>'2021-09-30') INTERSECT select
tu.user_id,tu.user_type,tu.firstname,tu.lastname from train_user as tu,ticket
as ti where tu.user_id = ti.passenger_id and ti.departure='Bengaluru' and
ti.arrival='Chennai' and (ti.travel_date>'2022-07-31' and
ti.travel_date<'2022-09-01');
```

```
MariaDB [pes1ug20cs516]> select tu.user_id,tu.user_type,tu.firstname,tu.lastname from train_user as tu,ticket as ti wher
e tu.user_id = ti.passenger_id and ti.departure='Bengaluru' and ti.arrival='Chennai' and (ti.travel_date<'2021-11-1' and
 ti.travel_date>'2021-09-30') INTERSECT select tu.user_id,tu.user_type,tu.firstname,tu.lastname from train_user as tu,ti
cket as ti where tu.user_id = ti.passenger_id and ti.departure='Bengaluru' and ti.arrival='Chennai' and (ti.travel_date>
'2022-07-31' and ti.travel_date<'2022-09-01');
Empty set (0.001 sec)
```

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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

```
select tu.user_id,tu.user_type,tu.firstname,tu.lastname from train_user as
tu,ticket as ti where tu.user_id = ti.passenger_id and
ti.departure='Bengaluru' and ti.arrival='Chennai' and
not(ti.travel_date<'2021-11-1' and ti.travel_date>'2021-09-30') union (select
tu.user_id,tu.user_type,tu.firstname,tu.lastname from train_user as tu,ticket
as ti where tu.user_id = ti.passenger_id and ti.departure='Bengaluru' and
ti.arrival='Chennai' and (ti.travel_date>'2022-07-31' and
ti.travel_date<'2022-09-01'));
```

```
MariaDB [pes1ug20cs516]> select tu.user_id,tu.user_type,tu.firstname,tu.lastname from train_user as tu,ticket as ti wher
e tu.user_id = ti.passenger_id and ti.departure='Bengaluru' and ti.arrival='Chennai' and not(ti.travel_date<'2021-11-1'
and ti.travel_date>'2021-09-30') union (select tu.user_id,tu.user_type,tu.firstname,tu.lastname from train_user as tu,ti
cket as ti where tu.user_id = ti.passenger_id and ti.departure='Bengaluru' and ti.arrival='Chennai' and (ti.travel_date>
'2022-07-31' and ti.travel_date<'2022-09-01'));
+---------+-----------+-----------+----------+
| user_id | user_type | firstname | lastname |
+---------+-----------+-----------+----------+
| ADM_001 | ADMIN     | Narendra  | Modi     |
+---------+-----------+-----------+----------+
1 row in set (0.003 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.

```
select tu.user_id, tu.user_type,tu.firstname, tu.lastname  from ticket as t,
train_user as tu where t.passenger_id = tu.user_id and t.Departure =
'Bengaluru' and t.Arrival = 'Chennai' and exists(select pnr from ticket as ti
where t.passenger_id = ti.passenger_id and ti.Departure = 'Chennai' and
ti.Arrival = 'Bengaluru' and (DATEDIFF(ti.travel_date,t.travel_date) BETWEEN 0
and 7));
```

```
MariaDB [pes1ug20cs516]> select tu.user_id, tu.user_type,tu.firstname, tu.lastname  from ticket as t, train_user as tu w
here t.passenger_id = tu.user_id and t.Departure = 'Bengaluru' and t.Arrival = 'Chennai' and exists(select pnr from tick
et as ti where t.passenger_id = ti.passenger_id and ti.Departure = 'Chennai' and ti.Arrival = 'Bengaluru' and (DATEDIFF(
ti.travel_date,t.travel_date) BETWEEN 0 and 7));
+---------+-----------+-----------+----------+
| user_id | user_type | firstname | lastname |
+---------+-----------+-----------+----------+
| ADM_001 | ADMIN     | Narendra  | Modi     |
+---------+-----------+-----------+----------+
1 row in set (0.009 sec)
```

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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)

```sql
select tu.user_id, tu.user_type,tu.firstname, tu.lastname  from ticket as t,
train_user as tu where t.passenger_id = tu.user_id and t.Departure =
'Bengaluru' and t.Arrival = 'Chennai' and not exists(select pnr from ticket as
ti where t.passenger_id = ti.passenger_id and ti.Departure = 'Chennai' and
ti.Arrival = 'Bengaluru');
```

```
MariaDB [pes1ug20cs516]> select tu.user_id, tu.user_type,tu.firstname, tu.lastname  from ticket as t, train_user as tu w
here t.passenger_id = tu.user_id and t.Departure = 'Bengaluru' and t.Arrival = 'Chennai' and not exists(select pnr from
ticket as ti where t.passenger_id = ti.passenger_id and ti.Departure = 'Chennai' and ti.Arrival = 'Bengaluru');
+---------+-----------+-----------+----------+
| user_id | user_type | firstname | lastname |
+---------+-----------+-----------+----------+
| USR_008 | PSGR      | Ajit      | Sethi    |
+---------+-----------+-----------+----------+
1 row in set (0.008 sec)
```