

Lab 7 Database Management Systems

PES1UG20CS084

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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
train_user.user_id,train_user.user_type,train_user.firstname,train_user.lastname
from train_user join ticket on
train_user.User_ID=ticket.passenger_id where Travel_Date > '2022-8-1' and
Travel_Date<'2022-8-31' and Departure='bengaluru' and Arrival='chennai'
union
select
train_user.User_ID,train_user.User_Type,train_user.firstname,train_user.lastname
from train_user join ticket on
train_user.user_id=ticket.passenger_id where Travel_Date > '2021-10-1' and
Travel_Date<'2021-10-31' and Departure='bengaluru' and Arrival='chennai';
```

```
MariaDB [lab4_pes1ug20cs084]> select train_user.user_id,train_user.user_type,train_user.firstname,train_user.lastname
from train_user join ticket on
-> train_user.User_ID=ticket.passenger_id where Travel_Date > '2022-8-1' and Travel_Date<'2022-8-31' and Departure='bengaluru' and Arrival='chennai'
-> union
-> select train_user.User_ID,train_user.User_Type,train_user.firstname,train_user.lastname from train_user join ticket on
-> train_user.user_id=ticket.passenger_id where Travel_Date > '2021-10-1' and Travel_Date<'2021-10-31' and Departure='bengaluru' and Arrival='chennai';
+-----+-----+-----+-----+
| user_id | user_type | firstname | lastname |
+-----+-----+-----+-----+
| ADM_001 | ADMIN    | Narendra | Modi     |
+-----+-----+-----+-----+
1 row in set (0.035 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 u1.user_id,u1.user_type,u1.firstname,u1.lastname from train_user u1
join ticket on
u1.user_id=ticket.passenger_id where Travel_Date > '2021-10-1' and
Travel_Date<'2021-10-30' and Departure='bengaluru' and Arrival='chennai'
and exists(select u2.user_id,u2.user_type,u2.firstname,u2.lastname from
train_user u2 join ticket on
u2.user_id=ticket.passenger_id where Travel_Date > '2022-8-1' and
Travel_Date<'2022-8-30' and Departure='bengaluru' and Arrival='chennai' and
u1.user_id=u2.user_id);
```

```
MariaDB [lab4_peslug20cs084]> select u1.user_id,u1.user_type,u1.firstname,u1.lastname from train_user u1 join ticket t on
-> u1.user_id=ticket.passenger_id where Travel_Date > '2021-10-1' and Travel_Date<'2021-10-30' and Departure='bengaluru' and Arrival='chennai'
-> and exists(select u2.user_id,u2.user_type,u2.firstname,u2.lastname from train_user u2 join ticket on
-> u2.user_id=ticket.passenger_id where Travel_Date > '2022-8-1' and Travel_Date<'2022-8-30' and Departure='bengaluru' and Arrival='chennai' and u1.user_id=u2.user_id);
Empty set (0.004 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 u2.user_id,u2.user_type,u2.firstname,u2.lastname from train_user u2
join ticket on
u2.user_id=ticket.passenger_id where Travel_Date > '2022-8-1' and
Travel_Date<'2022-8-30' and Departure='bengaluru' and Arrival='chennai'
and not exists(select u1.user_id,u1.user_type,u1.firstname,u1.lastname from
train_user u1 join ticket on
u1.user_id=ticket.passenger_id where Travel_Date > '2021-10-1' and
Travel_Date<'2021-10-30' and Departure='bengaluru' and Arrival='chennai' and
u1.user_id=u2.user_id);
```

```
MariaDB [lab4_peslug20cs084]> select u2.user_id,u2.user_type,u2.firstname,u2.lastname from train_user u2 join ticket t on
-> u2.user_id=ticket.passenger_id where Travel_Date > '2022-8-1' and Travel_Date<'2022-8-30' and Departure='bengaluru' and Arrival='chennai'
-> and not exists(select u1.user_id,u1.user_type,u1.firstname,u1.lastname from train_user u1 join ticket on
-> u1.user_id=ticket.passenger_id where Travel_Date > '2021-10-1' and Travel_Date<'2021-10-30' and Departure='bengaluru' and Arrival='chennai' and u1.user_id=u2.user_id);
+-----+-----+-----+-----+
| user_id | user_type | firstname | lastname |
+-----+-----+-----+-----+
| ADM_001 | ADMIN    | Narendra | Modi     |
+-----+-----+-----+-----+
1 row in set (0.011 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.

```
select u1.user_id,u1.user_type,u1.firstname,u1.lastname from train_user u1
join ticket t1 on
u1.user_id=t1.passenger_id where Departure='bengaluru' and Arrival='chennai'
and exists(select u2.user_id,u2.user_type,u2.firstname,u2.lastname from
train_user u2 join ticket t2 on
u2.user_id=t2.passenger_id where Departure='chennai' and Arrival='bengaluru'
and DATEDIFF(t2.travel_date,t1.travel_date)<= 7 and u2.user_id=u1.user_id);
```

```
MariaDB [lab4_peslug20cs084]> select u1.user_id,u1.user_type,u1.firstname,u1.lastname from train_user u1 join ticket t1 on
-> u1.user_id=t1.passenger_id where Departure='bengaluru' and Arrival='chennai'
-> and exists(select u2.user_id,u2.user_type,u2.firstname,u2.lastname from train_user u2 join ticket t2 on
-> u2.user_id=t2.passenger_id where Departure='chennai' and Arrival='bengaluru' and DATEDIFF(t2.travel_date,t1.travel_date)<= 7 and u2.user_id=u1.user_id);
+-----+-----+-----+-----+
| user_id | user_type | firstname | lastname |
+-----+-----+-----+-----+
| ADM_001 | ADMIN    | Narendra | Modi     |
+-----+-----+-----+-----+
1 row in set (0.018 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)

```
select u1.user_id,u1.user_type,u1.firstname,u1.lastname from train_user u1
join ticket t1 on
u1.user_id=t1.passenger_id where Departure='bengaluru' and Arrival='chennai'
and not exists(select u2.user_id,u2.user_type,u2.firstname,u2.lastname from
train_user u2 join ticket t2 on
u2.user_id=t2.passenger_id where Departure='chennai' and Arrival='bengaluru'
and u2.user_id=u1.user_id);
```

```
MariaDB [peslug20cs084_rail]> select u1.user_id,u1.user_type,u1.firstname,u1.lastname from train_user u1 join ticket t1 on
-> u1.user_id=t1.passenger_id where Departure='bengaluru' and Arrival='chennai'
-> and not exists(select u2.user_id,u2.user_type,u2.firstname,u2.lastname from train_user u2 join ticket t2 on
-> u2.user_id=t2.passenger_id where Departure='chennai' and Arrival='bengaluru' and u2.user_id=u1.user_id);
+-----+-----+-----+-----+
| user_id | user_type | firstname | lastname |
+-----+-----+-----+-----+
| USR_008 | PSGR      | Ajit      | Sethi    |
+-----+-----+-----+-----+
1 row in set (0.002 sec)
```