DBMS LAB 5

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SEC: I

1) Update price of the ticket.

create view view_1 as select ticket.pnr , ticket.train_no, ticket.departure, ticket.arrival,route_info.distance,fare.fare_per_km from (ticket join route_info on ticket.train_no=route_info.train_no and ticket.departure=route_info.from_station_name and ticket.arrival=route_info.to_station_name) join fare on ticket.train_type=fare.train_type and ticket.compartment_type=fare.compartment_type;

create view view_2 as select count(*) as passenger_number,pnr from ticket_passenger group by pnr;

update payment_info as p inner join (select view_2.pnr,view_2.passenger_number, view_1.fare_per_km,view_1.distance from view_1 inner join view_2 on view_1.pnr=view_2.pnr) as p2 on p.pnr=p2.pnr set p.price=p2.distance*p2.passenger_number *p2.fare_per_km;

```
MariaDB [pes1ug20cs552]> create view view_1 as select ticket.pnr , ticket.train_no, ticket.departure,
    -> ticket.arrival,route_info.distance,fare.fare_per_km from (ticket join route_info on
    -> ticket.train_no=route_info.train_no and ticket.departure=route_info.from_station_name and
    -> ticket.arrival=route_info.to_station_name) join fare on ticket.train_type=fare.train_type and
    -> ticket.compartment_type=fare.compartment_type;
Query OK, 0 rows affected (0.075 sec)

MariaDB [pes1ug20cs552]> select * from view_1;
+--------+----------+------------+------------+----------+-------------+
| pnr    | train_no | departure  | arrival    | distance | fare_per_km |
+--------+----------+------------+------------+----------+-------------+
| PNR001 |    62621 | Bengaluru  | Chennai    |      362 |           3 |
| PNR002 |    62620 | Chennai    | Bengaluru  |      361 |           3 |
| PNR003 |    25261 | Chennai    | Mangaluru  |      481 |           1 |
| PNR004 |    25260 | Mangaluru  | Chennai    |      481 |           1 |
| PNR005 |    58451 | Bengaluru  | Mangaluru  |      503 |           1 |
| PNR006 |    58450 | Mangaluru  | Bengaluru  |      504 |           2 |
| PNR007 |    62621 | Bangarpet  | Chennai    |      291 |           2 |
| PNR008 |    62620 | Chennai    | Bangarpet  |      290 |           3 |
| PNR010 |    25260 | Mangaluru  | Kannur     |      131 |           1 |
| PNR012 |    58451 | Subramanya | Mangaluru  |      194 |           3 |
| PNR014 |    25260 | Kannur     | Palakkad   |      220 |           1 |
| PNR015 |    25260 | Palakkad   | Chennai    |      130 |           1 |
+--------+----------+------------+------------+----------+-------------+
12 rows in set (0.070 sec)
```

```
MariaDB [pes1ug20cs552]> create view view_2 as select count(*) as passenger_number,pnr from ticket_passenger group
    -> by pnr;
Query OK, 0 rows affected (0.019 sec)

MariaDB [pes1ug20cs552]> select * from view_2;
+------------------+--------+
| passenger_number | pnr    |
+------------------+--------+
|                2 | PNR001 |
|                2 | PNR002 |
|                2 | PNR003 |
|                2 | PNR004 |
|                4 | PNR005 |
|                1 | PNR006 |
|                1 | PNR007 |
|                1 | PNR008 |
|                2 | PNR010 |
|                1 | PNR011 |
|                1 | PNR012 |
|                1 | PNR014 |
|                1 | PNR015 |
+------------------+--------+
13 rows in set (0.006 sec)
```

```
MariaDB [pes1ug20cs552]> update payment_info as p inner join (select view_2.pnr,view_2.passenger_number,
    -> view_1.fare_per_km,view_1.distance from view_1 inner join view_2 on view_1.pnr=view_2.pnr
    -> ) as p2 on p.pnr=p2.pnr set p.price=p2.distance*p2.passenger_number *p2.fare_per_km;
Query OK, 12 rows affected (0.027 sec)
Rows matched: 12  Changed: 12  Warnings: 0

MariaDB [pes1ug20cs552]> select * from payment_info;
+----------------+-------------+------------------+---------+--------+
| transaction_no | bank        | card_no          | price   | pnr    |
+----------------+-------------+------------------+---------+--------+
|         146445 | HDFC        | 1.23433E+15      | 1008.00 | PNR006 |
|         243535 | UNION BANK  | 2.43647E+15      |  582.00 | PNR012 |
|         342344 | IOB         | 5.62357E+15      | 2172.00 | PNR001 |
|         354364 | CANARA BANK | 5.76879E+15      |  220.00 | PNR014 |
|         531343 | SBI         | 8.95327E+15      |  962.00 | PNR004 |
|         576768 | ICICI       | 7.56356E+15      |  582.00 | PNR007 |
|         676756 | CANARA BANK | 7.36756E+15      | 2166.00 | PNR002 |
|         746745 | KOTAK       | 2.54564E+15      |  870.00 | PNR008 |
|         758900 | UNION BANK  | 2.43266E+15      |  130.00 | PNR015 |
|         867546 | UNION BANK  | 4.65769E+15      |  262.00 | PNR010 |
|         867547 | SBI         | 7.46635E+15      |    NULL | PNR011 |
|         978098 | INDIAN BANK | 9.88733E+15      | 2012.00 | PNR005 |
|         978776 | UNION BANK  | 1I54978597435874 |  962.00 | PNR003 |
+----------------+-------------+------------------+---------+--------+
13 rows in set (0.001 sec)
```

2) Retrieve the all stations along route of the Trains along with the distance between the stations

select train_no,from_station_no,to_station_no,distance from route_info where to_station_no-from_station_no=1 order by train_no;

```
3-1 order by train_no at line 1
MariaDB [pes1ug20cs552]> select train_no,from_station_no,to_station_no,distance from route_info where to_station_no-from_station_no=1 order by train_no;
+----------+-----------------+---------------+----------+
| train_no | from_station_no | to_station_no | distance |
+----------+-----------------+---------------+----------+
|    25260 |               1 |             2 |      131 |
|    25260 |               2 |             3 |      220 |
|    25261 |               1 |             2 |      130 |
|    25261 |               2 |             3 |      220 |
|    25261 |               3 |             4 |      131 |
|    58450 |               1 |             2 |      195 |
|    58450 |               2 |             3 |      170 |
|    58450 |               3 |             4 |      139 |
|    58451 |               1 |             2 |      139 |
|    58451 |               2 |             3 |      170 |
|    58451 |               3 |             4 |      194 |
|    62620 |               1 |             2 |       90 |
|    62620 |               2 |             3 |       39 |
|    62620 |               3 |             4 |      161 |
|    62620 |               4 |             5 |       71 |
|    62621 |               1 |             2 |       71 |
|    62621 |               2 |             3 |      161 |
|    62621 |               3 |             4 |       40 |
|    62621 |               4 |             5 |       90 |
+----------+-----------------+---------------+----------+
19 rows in set (0.003 sec)

MariaDB [pes1ug20cs552]>
```

3) Retrieve the Train no of train which is leaving Bengaluru and arriving at Chennai with compartments availability greater than 10.

select train_no from route_info INNER JOIN compartment ON route_info.train_no=compartment.train_number where compartment.availability>10 and route_info.from_station_name='Bengaluru' and to_station_name='Chennai';

```
MariaDB [pes1ug20cs552]> select train_no from route_info INNER JOIN compartment ON
    -> route_info.train_no=compartment.train_number where compartment.availability>10 and
    -> route_info.from_station_name='Bengaluru' and to_station_name='Chennai';
+----------+
| train_no |
+----------+
|    62621 |
+----------+
1 row in set (0.019 sec)

MariaDB [pes1ug20cs552]>
```

4) Retrieve first and last name of users who have booked a ticket with price greater than 500.

select distinct name from ticket_passenger inner join payment_info on ticket_passenger.pnr= payment_info.pnr where payment_info.price>500;

```
MariaDB [pes1ug20cs552]> select distinct name from ticket_passenger inner join payment_info on ticket_passenger.pnr=
    -> payment_info.pnr where payment_info.price>500;
+-----------------+
| name            |
+-----------------+
| Smriti Irani    |
| Ramya R         |
| Saideepak Reddy |
| Sheela Reddy    |
| Anwar Hussein   |
| Karishma Husein |
| Christon D Souza|
| Hema Ullal      |
| Hima Ullal      |
| Asha Ullal      |
| Ajit Ullal      |
+-----------------+
11 rows in set (0.004 sec)

MariaDB [pes1ug20cs552]>
```

5) Retrieve the first name, last name, DOB and ticket PNR if they've bought it for all users.

select firstname,lastname,dob,pnr from ticket left join train_user on
ticket.passenger_id=train_user.user_id;

```
MariaDB [pes1ug20cs552]> select firstname,lastname,dob,pnr from ticket left join train_user on
    -> ticket.passenger_id=train_user.user_id;
+-----------+----------+------------+--------+
| firstname | lastname | dob        | pnr    |
+-----------+----------+------------+--------+
| Narendra  | Modi     | 1989-04-14 | PNR001 |
| Narendra  | Modi     | 1989-04-14 | PNR002 |
| Droupadi  | Murmu    | 1990-04-14 | PNR007 |
| Droupadi  | Murmu    | 1990-04-14 | PNR008 |
| Manmohan  | Singh    | 1991-04-08 | PNR003 |
| Manmohan  | Singh    | 1991-04-08 | PNR004 |
| Muhammed  | Ali      | 2000-10-09 | PNR005 |
| Muhammed  | Ali      | 2000-10-09 | PNR006 |
| Smriti    | Irani    | 1999-12-16 | PNR010 |
| Ajit      | Sethi    | 1966-04-14 | PNR011 |
| Arjun     | Allu     | 1967-04-08 | PNR012 |
| Samanta   | Prabhu   | 1968-04-14 | PNR014 |
| Rahul     | Gandhi   | 1970-04-08 | PNR015 |
+-----------+----------+------------+--------+
13 rows in set (0.021 sec)

MariaDB [pes1ug20cs552]>
```

6) Retrieve the first name, last name of the Users who have not bought a ticket.

select distinct firstname,lastname from train_user left join ticket on
train_user.user_id!=ticket.passenger_id;

```
MariaDB [pes1ug20cs552]> select distinct firstname,lastname from train_user left join ticket on
    -> train_user.user_id!=ticket.passenger_id;
+-----------+-----------+
| firstname | lastname  |
+-----------+-----------+
| Droupadi  | Murmu     |
| Manmohan  | Singh     |
| Ajit      | Ullal     |
| Muhammed  | Ali       |
| Sai Deepak| Reddy     |
| Rudra     | Agarwal   |
| Rahul     | Khanna    |
| Nirmala   | Seturaman |
| Smriti    | Irani     |
| Ajit      | Sethi     |
| Arjun     | Allu      |
| Samanta   | Prabhu    |
| Kiran     | Bedi      |
| Rahul     | Gandhi    |
| Rashkit   | Shetty    |
| Rishi     | Sunak     |
| Vedavalli | Srinath   |
| Subbu     | Saravana  |
| Sheela    | Dixit     |
| Margaret  | Alva      |
| Arun      | Kumar     |
| Anshu     | Bhardwaj  |
| Suma      | Sampat    |
| Srihari   | Udupa     |
| Satish    | Kotian    |
| Shradha   | Nayar     |
| Manisha   | Solanki   |
| Bharti    | Devgan    |
| Roopa     | Ram       |
| Pallavi   | Ram       |
| Ravi      | Naik      |
| Virat     | Murthy    |
| Narendra  | Modi      |
+-----------+-----------+
```

7) Retrieve the ticket PNR, Train number, travel date and along with all users first name and last name.

select pnr,train_no,travel_date,firstname,lastname from train_user right outer join ticket on
train_user.user_id=ticket.passenger_id;

```
MariaDB [pes1ug20cs552]> select pnr,train_no,travel_date,firstname,lastname from train_user right outer join ticket on
    -> train_user.user_id=ticket.passenger_id;
+--------+----------+-------------+-----------+----------+
| pnr    | train_no | travel_date | firstname | lastname |
+--------+----------+-------------+-----------+----------+
| PNR001 |    62621 | 2022-08-07  | Narendra  | Modi     |
| PNR002 |    62620 | 2022-08-14  | Narendra  | Modi     |
| PNR003 |    25261 | 2022-08-01  | Manmohan  | Singh    |
| PNR004 |    25260 | 2022-08-15  | Manmohan  | Singh    |
| PNR005 |    58451 | 2022-08-03  | Muhammed  | Ali      |
| PNR006 |    58450 | 2033-08-04  | Muhammed  | Ali      |
| PNR007 |    62621 | 2022-08-07  | Droupadi  | Murmu    |
| PNR008 |    62620 | 2022-08-02  | Droupadi  | Murmu    |
| PNR010 |    25260 | 2022-08-19  | Smriti    | Irani    |
| PNR011 |    62621 | 2022-08-22  | Ajit      | Sethi    |
| PNR012 |    58451 | 2022-08-11  | Arjun     | Allu     |
| PNR014 |    25260 | 2022-08-17  | Samanta   | Prabhu   |
| PNR015 |    25260 | 2022-08-05  | Rahul     | Gandhi   |
+--------+----------+-------------+-----------+----------+
13 rows in set (0.001 sec)

MariaDB [pes1ug20cs552]> _
```

8) Retrieve the user id if they've traveled in a train along with train id and name of all trains

select passenger_id,ticket.train_no,train_name from ticket RIGHT OUTER JOIN train on ticket.train_no=train.train_no;

```
MariaDB [pes1ug20cs552]> select passenger_id,ticket.train_no,train_name from ticket RIGHT OUTER JOIN train on
    -> ticket.train_no=train.train_no;
+--------------+----------+-----------------+
| passenger_id | train_no | train_name      |
+--------------+----------+-----------------+
| NULL         |     NULL | karwar express  |
| ADM_003      |    25260 | Chennai Mail    |
| USR_007      |    25260 | Chennai Mail    |
| USR_010      |    25260 | Chennai Mail    |
| USR_012      |    25260 | Chennai Mail    |
| ADM_003      |    25261 | Managaluru Mail |
| USR_002      |    58450 | MAN-BEN Express |
| USR_002      |    58451 | BEN-MAN Express |
| USR_009      |    58451 | BEN-MAN Express |
| ADM_001      |    62620 | CHE-BEN Shatabdi|
| ADM_002      |    62620 | CHE-BEN Shatabdi|
| ADM_001      |    62621 | BEN-CHE Shatabdi|
| ADM_002      |    62621 | BEN-CHE Shatabdi|
| USR_008      |    62621 | BEN-CHE Shatabdi|
+--------------+----------+-----------------+
14 rows in set (0.017 sec)

MariaDB [pes1ug20cs552]>
```

9) Retrieve the train no and name of trains whose destination is not Mangaluru and distance is not less than 100km and departure time is not 8:30:00 PM.

SELECT t1.train_no,t1.train_name from train as t1, (select distinct t2.train_no from route_info as t2,(select distinct train_no from ticket where departure_time!="20:30:00") as t3 where (t2.train_no=t3.train_no) and (t2.Distance>100)) as t2 where (t1.train_no=t2.train_no) and (t1.Destination!="Mangaluru");

```
MariaDB [pes1ug20cs552]> SELECT t1.train_no,t1.train_name from train as t1, (select distinct t2.train_no from route_info
    -> as t2,(select distinct train_no from ticket where departure_time!="20:30:00") as t3 where
    -> (t2.train_no=t3.train_no) and (t2.Distance>100)) as t2 where (t1.train_no=t2.train_no) and
    -> (t1.Destination!="Mangaluru");
+----------+------------------+
| train_no | train_name       |
+----------+------------------+
|    25260 | Chennai Mail     |
|    58450 | MAN-BEN Express  |
|    62620 | CHE-BEN Shatabdi |
|    62621 | BEN-CHE Shatabdi |
+----------+------------------+
4 rows in set (0.003 sec)

MariaDB [pes1ug20cs552]>
```

10) Retrieve the User ID who has spent more ticket price than the average ticket price.

select distinct passenger_id from ticket join payment_info on ticket.pnr=payment_info.pnr where payment_info.price>(select avg(price) from payment_info);

```
MariaDB [pes1ug20cs552]> select distinct passenger_id from ticket join payment_info on ticket.pnr=payment_info.pnr
    -> where payment_info.price>(select avg(price) from payment_info);
+--------------+
| passenger_id |
+--------------+
| USR_002      |
| ADM_001      |
+--------------+
2 rows in set (0.007 sec)

MariaDB [pes1ug20cs552]>
```