

DBMS Lab-05

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Section: H

Roll No: 50

List of tables in the database:

```
MariaDB [pes1ug20cs450]> show tables;
+-----+
| Tables_in_pes1ug20cs450 |
+-----+
| compartment              |
| fare_table               |
| payment_info             |
| route_info               |
| ticket_details           |
| ticket_passenger         |
| train                    |
| train_user               |
| user_phone               |
| user_train               |
| view1                    |
| view2                    |
+-----+
12 rows in set (0.001 sec)
```

1.Update price of the ticket.

```

MariaDB [pes1ug20cs450]> CREATE VIEW view1 AS
-> SELECT ticket_details.pnr, ticket_details.train_no, ticket_details.departure, ticket_details.arrival,
-> route_info.Distance, fare_table.fare_per_km
-> FROM ticket_details, route_info, fare_table
-> WHERE (ticket_details.train_no = route_info.train_no AND
-> ticket_details.departure = route_info.from_station_name AND
-> ticket_details.arrival = route_info.to_station_name AND
-> fare_table.train_type=ticket_details.train_type AND
-> fare_table.compartment_type =ticket_details.compartment_type);
Query OK, 0 rows affected (0.015 sec)

MariaDB [pes1ug20cs450]> CREATE VIEW view2 AS select PNR, count(PNR) as numbers from
-> ticket_passenger group by PNR;
Query OK, 0 rows affected (0.015 sec)

MariaDB [pes1ug20cs450]> UPDATE payment_Info AS p
-> INNER JOIN view1 AS v1 ON p.PNR = v1.PNR
-> INNER JOIN view2 AS v2 ON v1.PNR = v2.PNR SET p.price = v1.distance * v1.fareperkm * v2.numbers;
ERROR 1054 (42S22): Unknown column 'v1.fareperkm' in 'field list'
MariaDB [pes1ug20cs450]> UPDATE payment_Info AS p
-> INNER JOIN view1 AS v1 ON p.PNR = v1.PNR
-> INNER JOIN view2 AS v2 ON v1.PNR = v2.PNR SET p.price = v1.distance * v1.fare_per_km * v2.numbers;
Query OK, 12 rows affected (0.042 sec)
Rows matched: 12 Changed: 12 Warnings: 0

MariaDB [pes1ug20cs450]> 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)

```

NATURAL JOIN

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

```

MariaDB [pes1ug20cs450]> SELECT T.Train_No , T.Train_Name , R.from_station_no , R.to_station_no , R.to_station_name , R.distance
-> from train as T Natural JOIN route_Info as R
-> where R.to_station_no=R.from_station_no =1
-> order by 1;
+-----+-----+-----+-----+-----+-----+
| Train_No | Train_Name | from_station_no | to_station_no | to_station_name | distance |
+-----+-----+-----+-----+-----+-----+
| 25260 | Chennai Mail | 1 | 2 | Kannur | 131 |
| 25260 | Chennai Mail | 2 | 3 | Palakkad | 220 |
| 25261 | Managaluru Mail | 1 | 2 | Palakkad | 130 |
| 25261 | Managaluru Mail | 2 | 3 | Kannur | 220 |
| 25261 | Managaluru Mail | 3 | 4 | Mangaluru | 131 |
| 58450 | MAN-BEN Express | 1 | 2 | Subramanya | 195 |
| 58450 | MAN-BEN Express | 2 | 3 | Mysore | 170 |
| 58450 | MAN-BEN Express | 3 | 4 | Bengaluru | 139 |
| 58451 | BEN-MAN Express | 1 | 2 | Mysore | 139 |
| 58451 | BEN-MAN Express | 2 | 3 | Subramanya | 170 |
| 58451 | BEN-MAN Express | 3 | 4 | Mangaluru | 194 |
| 62620 | CHE-BEN Shatabdi | 1 | 2 | Sholingur | 90 |
| 62620 | CHE-BEN Shatabdi | 2 | 3 | Katpadi | 39 |
| 62620 | CHE-BEN Shatabdi | 3 | 4 | Bangarpet | 161 |
| 62620 | CHE-BEN Shatabdi | 4 | 5 | Bengaluru | 71 |
| 62621 | BEN-CHE Shatabdi | 1 | 2 | Bangarpet | 71 |
| 62621 | BEN-CHE Shatabdi | 2 | 3 | Katpadi | 161 |
| 62621 | BEN-CHE Shatabdi | 3 | 4 | Sholigur | 40 |
| 62621 | BEN-CHE Shatabdi | 4 | 5 | Chennai | 90 |
+-----+-----+-----+-----+-----+-----+
19 rows in set (0.001 sec)

```

INNER JOIN (equijoin)

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

```

MariaDB [pes1ug20cs450]> SELECT Train.Train_No from Train inner join compartment
-> where Train.Train_No=compartment.train_number and compartment.availability>10
-> and Train.source='Bengaluru' and destination='Chennai';
+-----+
| Train_No |
+-----+
| 62621 |
+-----+
1 row in set (0.014 sec)

```

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

```
MariaDB [pes1ug20cs450]> SELECT DISTINCT ticket_passenger.name
-> from ticket_passenger INNER JOIN payment_info
-> where payment_info.price>500;
```

name
Saideepak Reddy
Sheela Reddy
Anwar Hussein
Karishma Husein
Hema Ullal
Hima Ullal
Asha Ullal
Ajit Ullal
Smriti Irani
Christon D Souza
Samanta Prabhu
Rakshita Prabhu
Sheela Seth
Ramya R
Shradha Nayar
Khushi Jha

```
16 rows in set (0.001 sec)
```

LEFT OUTER JOIN

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

```
MariaDB [pes1ug20cs450]> SELECT DISTINCT firstname, lastname, dob, ticket_details.pnr
-> from train_user join ticket_details on train_user.user_id=ticket_details.passenger_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 (0.012 sec)
```

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

```
MariaDB [peslug20cs450]> SELECT Distinct train_user.firstname, train_user.lastname
-> from train_user left outer join ticket_details on train_user.user_id!=ticket_details.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	Udapa
Satish	Kotian
Shradha	Nayar
Manisha	Solanki
Bharti	Devgan
Roopa	Ram
Pallavi	Ram
Ravi	Naik
Virat	Murthy
Narendra	Modi

```
33 rows in set (0.001 sec)
```

RIGHT OUTER JOIN

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

```
MariaDB [peslug20cs450]> SELECT ticket_details.pnr,ticket_details.train_no,ticket_details.travel_date,train_user.firstname,train_user.lastname
-> from train_user right outer join ticket_details on train_user.user_id=ticket_details.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	2023-08-04	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)
```

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

```

MariaDB [pes1ug20cs450]> SELECT ticket_details.passenger_id, train.Train_No, train.Train_Name
-> from ticket_details right outer join train on ticket_details.train_no=train.Train_No;
+-----+-----+-----+
| passenger_id | Train_No | Train_Name |
+-----+-----+-----+
| 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 |
+-----+-----+-----+
13 rows in set (0.012 sec)

```

NESTED QUERIES

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.

```

MariaDB [pes1ug20cs450]> SELECT train.train_no, train.train_name from train where train_no in (
-> select train_no
-> from ticket_details
-> where Train_No in (
-> select Train_No
-> from route_info
-> where distance>100)
-> and Departure_Time!="20:30:00")
-> and 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 (0.001 sec)

```

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

```

MariaDB [pes1ug20cs450]> SELECT DISTINCT ticket_details.passenger_id
-> from ticket_details join payment_info
-> where payment_info.price>(select AVG(payment_info.price)
-> from payment_info);
+-----+
| passenger_id |
+-----+
| ADM_001      |
| ADM_002      |
| ADM_003      |
| USR_002      |
| USR_007      |
| USR_008      |
| USR_009      |
| USR_010      |
| USR_012      |
+-----+
9 rows in set (0.003 sec)

```