

DBMS Lab 5

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PES1UG20CS084

1.Update price of the ticket.

a. Create a view compute_price as below

```
MariaDB [lab4_peslug20cs084]> CREATE VIEW compute_price AS
-> SELECT Ticket.PNR, Ticket.Train_No, Ticket.Departure, Ticket.Arrival,
-> Route_Info.Distance, Fare.fare_per_km
-> FROM Ticket, Route_Info, Fare
-> WHERE (Ticket.Train_No = Route_Info.Train_No AND
-> Ticket.Departure = Route_Info.From_Station_Name AND
-> Ticket.Arrival = Route_Info.To_Station_Name AND
-> Fare.Train_Type=Ticket.Train_Type AND
-> Fare.Compartment_Type =Ticket.Compartment_type);
Query OK, 0 rows affected (0.072 sec)
```

b. Create a View passenger_num

```
MariaDB [lab4_peslug20cs084]> CREATE VIEW passenger_num AS select PNR, count(PNR) as numbers from
-> Ticket_Passenger group by PNR;
Query OK, 0 rows affected (0.007 sec)
```

c. Update Payment_info.price as below

```
MariaDB [lab4_peslug20cs084]> UPDATE Payment_Info AS p INNER JOIN compute_price AS cs ON p.PNR =
-> cs.PNR INNER JOIN passenger_num AS pn ON cs.PNR = pn.PNR SET p.Price =
-> cs.Distance * cs.Fare_Per_KM * pn.numbers;
Query OK, 12 rows affected (0.037 sec)
Rows matched: 12 Changed: 12 Warnings: 0
```

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 [lab4_peslug20cs084]> select distinct train_no from route_info inner join compartment on train_no=train_number where availability>10 and from_station_name='Bengaluru' and to_station_name='Chennai';
+-----+
| train_no |
+-----+
| 62621 |
+-----+
1 row in set (0.001 sec)
```

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

```
MariaDB [lab4_peslug20cs084]> select name from ticket_passenger inner join compute_price on ticket_passenger.pnr=compute_price.pnr where distance*fare_per_km>500;
+-----+
| name |
+-----+
| Saideepak Reddy |
| Sheela Reddy |
| SaiDeepak Reddy |
| Sheela Reddy |
| Hema Ullal |
| Hima Ullal |
| Asha Ullal |
| Ajit Ullal |
| Smriti Irani |
| Christon D Souza |
| Christon D Souza |
| Ramya R |
+-----+
12 rows in set (0.002 sec)
```

LEFT OUTER JOIN

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

```
MariaDB [lab4_peslug20cs084]> SELECT firstname,lastname,DOB,PNR FROM TRAIN_USER LEFT OUTER JOIN TICKET ON TRAIN_USER.User_ID=TICKET.passenger_id WHERE TICKET.PNR IS NOT NULL;
+-----+-----+-----+-----+
| 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 (0.001 sec)
```

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

```
MariaDB [lab4_peslug20cs084]> SELECT firstname,lastname FROM TRAIN_USER LEFT OUTER JOIN TICKET ON TRAIN_USER.User_ID=TICKET.passenger_id WHERE TICKET.PNR IS NULL;
+-----+-----+
| firstname | lastname |
+-----+-----+
| Ajit | Ullal |
| Sai Deepak | Reddy |
| Rudra | Agarwal |
| Rahul | Khanna |
| Nirmala | Seturaman |
| Kiran | Bedi |
| Rashmit | 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 |
+-----+-----+
24 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 [lab4_peslug20cs084]> SELECT PNR,TRAIN_No,Travel_date,firstname,lastname FROM TRAIN_USER RIGHT OUTER JOIN TICKET
ON TRAIN_USER.User_ID=TICKET.passenger_ID WHERE TRAIN_USER.User_ID IS NOT NULL;
```

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)

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

```
MariaDB [lab4_peslug20cs084]> SELECT passenger_id as User_ID,TRAIN.train_no,train_name FROM TICKET RIGHT OUTER JOIN TRAI
N ON TRAIN.train_No=TICKET.train_no WHERE (CURRENT_DATE>=TICKET.Travel_date);
```

User_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	Managalaru Mail
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

12 rows in set (0.001 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. (Correlated)

```
MariaDB [lab4_peslug20cs084]> SELECT distinct train.Train_No ,train.train_name FROM TRAIN,route_info,ticket WHERE train.
Destination != "Mangaluru" AND route_info.distance NOT IN (Select distance from route_info where distance<100) AND ticke
t.departure_time NOT IN(SELECT departure_time from ticket where departure_time = '20:30:00');
```

Train_No	train_name
25260	Chennai Mail
58450	MAN-BEN Express
62620	CHE-BEN Shatabdi
62621	BEN-CHE Shatabdi

4 rows in set (0.008 sec)

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

```
MariaDB [lab4_peslug20cs084]> SELECT passenger_id as user_id FROM TICKET JOIN PAYMENT_INFO ON PAYMENT_INFO.PNR=TICKET.PN
R WHERE ( PAYMENT_INFO.Price > (SELECT AVG(PRICE) FROM PAYMENT_INFO));
```

user_id
USR_002
ADM_001
ADM_001
USR_002

4 rows in set (0.001 sec)