

# DBMS

## LAB – 5

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## 1. Query :

```
--First view--
CREATE VIEW compute_price_385 AS
SELECT ticket_385.PNR, ticket_385.Train_No, ticket_385.Departure,
ticket_385.Arrival,
route_info_385.Distance, fare_table_385.FarePerKM
FROM ticket_385, route_info_385, fare_table_385
WHERE (ticket_385.Train_No = route_info_385.Train_No AND
      ticket_385.Departure = route_info_385.From_Station_Name AND
      ticket_385.Arrival = route_info_385.To_Station_Name AND
      fare_table_385.Train_Type = ticket_385.Train_Type AND
      fare_table_385.Compartment_Type = ticket_385.Compartment_type);

--second view--
CREATE VIEW passenger_num_385 AS SELECT ticket_passenger_385.PNR,
COUNT(ticket_passenger_385.PNR) as numbers from ticket_passenger_385 GROUP BY
ticket_passenger_385.PNR;

--final query--
UPDATE payment_info_385 AS pi INNER JOIN compute_price_385 AS cp ON pi.PNR =
cp.PNR INNER JOIN passenger_num_385 AS pn on cp.PNR = pn.PNR SET pi.Price =
cp.Distance * cp.FarePerKM * pn.numbers;
```

## OUT PUT :

```
MariaDB [railway_reservation]> CREATE VIEW compute_price_385 AS
-> SELECT ticket_385.PNR, ticket_385.Train_No, ticket_385.Departure, ticket_385.Arrival,
-> route_info_385.Distance, fare_table_385.FarePerKM
-> FROM ticket_385, route_info_385, fare_table_385
-> WHERE (ticket_385.Train_No = route_info_385.Train_No AND
-> ticket_385.Departure = route_info_385.From_Station_Name AND
-> ticket_385.Arrival = route_info_385.To_Station_Name AND
-> fare_table_385.Train_Type = ticket_385.Train_Type AND
-> fare_table_385.Compartment_Type = ticket_385.Compartment_type);
Query OK, 0 rows affected (0.017 sec)

MariaDB [railway_reservation]> CREATE VIEW passenger_num_385 AS SELECT ticket_passenger_385.PNR, COUNT(ticket_passenger_385.PNR) as numbers from ticket_passenger_385 GROUP BY ticket_passenger_385.PNR;
Query OK, 0 rows affected (0.011 sec)

MariaDB [railway_reservation]> UPDATE payment_info_385 AS pi INNER JOIN compute_price_385 AS cp ON pi.PNR = cp.PNR INNER JOIN passenger_num_385 AS pn on cp.PNR = pn.PNR SET pi.Price = cp.Distance * cp.FarePerKM * pn.numbers;
Query OK, 12 rows affected (0.024 sec)
Rows matched: 12 Changed: 12 Warnings: 0

MariaDB [railway_reservation]> select * from payment_info_385;
+-----+-----+-----+-----+-----+
| Transaction_id | Bank | Card_Number | Price | PNR |
+-----+-----+-----+-----+-----+
| 146445 | HDFC | 1234330000000000 | 806.40 | PNR006 |
| 243335 | UNION BANK | 2436470000000000 | 533.50 | PNR012 |
| 342344 | IOB | 5623570000000000 | 2389.20 | PNR001 |
| 354364 | CANARA BANK | 5768790000000000 | 297.00 | PNR014 |
| 531343 | SBI | 8953270000000000 | 1298.70 | PNR004 |
| 576768 | ICICI | 7563560000000000 | 558.72 | PNR007 |
| 676756 | CANARA BANK | 7367560000000000 | 2392.60 | PNR002 |
| 746745 | KOTAK | 2525640000000000 | 957.00 | PNR008 |
| 758900 | UNION BANK | 2432660000000000 | 175.50 | PNR015 |
| 867546 | UNION BANK | 4657690000000000 | 353.70 | PNR010 |
| 867547 | SBI | 7466350000000000 | NULL | PNR011 |
| 978098 | INDIAN BANK | 9887330000000000 | 2213.20 | PNR005 |
| 978776 | UNION BANK | 1 | 913.90 | PNR003 |
+-----+-----+-----+-----+-----+
13 rows in set (0.001 sec)
```

## 2. Query :

```
SELECT train_385.Train_No, train_385.Name, route_info_385.From_Station_No,
route_info_385.From_Station_Name, route_info_385.To_Station_Name,
route_info_385.To_Station_No, route_info_385.Distance from train_385 NATURAL
JOIN route_info_385;
```

## OUT PUT :

```
MariaDB [railway_reservation]> SELECT train_385.Train_No, train_385.Name, route_info_385.From_Station_No, route_info_385.From_Station_Name, route_info_385.To_Station_Name, route_info_385.To_Station_No, route_inf
o_385.Distance from train_385 NATURAL JOIN route_info_385;
```

Train_No	Name	From_Station_No	From_Station_Name	To_Station_Name	To_Station_No	Distance
25260	Chennai Mail	1	Mangaluru	Kannur	2	131.00
25260	Chennai Mail	2	Kannur	Palakkad	3	220.00
25260	Chennai Mail	4	Palakkad	Chennai	4	130.00
25260	Chennai Mail	1	Mangaluru	Palakkad	3	351.00
25260	Chennai Mail	1	Mangaluru	Chennai	4	481.00
25260	Chennai Mail	2	Kannur	Chennai	4	350.00
25261	Managaluru Mail	1	Chennai	Palakkad	2	130.00
25261	Managaluru Mail	2	Palakkad	Kannur	3	220.00
25261	Managaluru Mail	3	Kannur	Mangaluru	4	131.00
25261	Managaluru Mail	1	Chennai	Kannur	3	350.00
25261	Managaluru Mail	1	Chennai	Mangaluru	4	481.00
25261	Managaluru Mail	2	Palakkad	Mangaluru	4	351.00
58450	MAN-BEN Express	1	Mangaluru	Subramanya	2	195.00
58450	MAN-BEN Express	2	Subramanya	Mysore	3	170.00
58450	MAN-BEN Express	3	Mysore	Bengaluru	4	139.00
58450	MAN-BEN Express	1	Mangaluru	Mysore	3	365.00
58450	MAN-BEN Express	1	Mangaluru	Bengaluru	4	504.00
58450	MAN-BEN Express	2	Subramanya	Bengaluru	4	309.00
58451	BEN-MAN Express	1	Bengaluru	Mysore	2	139.00
58451	BEN-MAN Express	2	Mysore	Subramanya	3	170.00
58451	BEN-MAN Express	3	Subramanya	Mangaluru	4	194.00
58451	BEN-MAN Express	1	Bengaluru	Subramanya	3	309.00
58451	BEN-MAN Express	1	Bengaluru	Mangaluru	4	503.00
58451	BEN-MAN Express	2	Mysore	Mangaluru	4	364.00
62620	CHE-BEN Shatabdi	1	Chennai	Sholigur	2	90.00
62620	CHE-BEN Shatabdi	2	Sholigur	Katpadi	3	39.00
62620	CHE-BEN Shatabdi	3	Katpadi	Bangarpet	4	161.00
62620	CHE-BEN Shatabdi	4	Bangarpet	Bengaluru	5	71.00
62620	CHE-BEN Shatabdi	1	Chennai	Katpadi	3	129.00
62620	CHE-BEN Shatabdi	1	Chennai	Bangarpet	4	290.00
62620	CHE-BEN Shatabdi	1	Chennai	Bengaluru	5	361.00
62620	CHE-BEN Shatabdi	2	Sholigur	Bangarpet	4	200.00
62620	CHE-BEN Shatabdi	2	Sholigur	Chennai	5	271.00
62620	CHE-BEN Shatabdi	3	Katpadi	Chennai	5	232.00
62621	BEN-CHE Shatabdi	1	Bengaluru	Bangarpet	2	71.00
62621	BEN-CHE Shatabdi	2	Bangarpet	Katpadi	3	161.00
62621	BEN-CHE Shatabdi	3	Katpadi	Sholigur	4	40.00
62621	BEN-CHE Shatabdi	4	Sholigur	Chennai	5	90.00
62621	BEN-CHE Shatabdi	1	Bengaluru	Katpadi	3	232.00
62621	BEN-CHE Shatabdi	1	Bengaluru	Sholigur	4	272.00
62621	BEN-CHE Shatabdi	1	Bengaluru	Chennai	5	362.00
62621	BEN-CHE Shatabdi	2	Bangarpet	Sholigur	4	201.00
62621	BEN-CHE Shatabdi	2	Bangarpet	Chennai	5	291.00

## 3. Query :

```
SELECT * FROM (SELECT * FROM train_385 WHERE train_385.Source = "Bengaluru"
AND train_385.Destination = "Chennai") AS V1,
(SELECT compartment_385.Train_No AS Train_No,
SUM(compartment_385.Availability) AS Avai FROM compartment_385 GROUP BY
compartment_385.Train_No) AS V2
WHERE V1.Train_No = V2.Train_No AND V2.Avai > 10;
```

## OUT PUT :

```
MariaDB [railway_reservation]> SELECT * FROM (SELECT * FROM train_385 WHERE train_385.Source = "Bengaluru" AND train_385.Destination = "Chennai") AS V1,
-> (SELECT compartment_385.Train_No AS Train_No, SUM(compartment_385.Availability) AS Avai FROM compartment_385 GROUP BY compartment_385.Train_No) AS V2
-> WHERE V1.Train_No = V2.Train_No AND V2.Avai > 10;
```

Train_No	Name	Train_Type	Source	Destination	Availability	Train_No	Avai
62621	BEN-CHE Shatabdi	Superfast	Bengaluru	Chennai	Yes	62621	38

1 row in set (0.003 sec)

#### 4. Query :

```
SELECT user_385.Fname, user_385.Lname, V1.Price FROM ( SELECT
payment_info_385.Price, payment_info_385.PNR, ticket_385.User_ID FROM
payment_info_385 INNER JOIN ticket_385 ON payment_info_385.PNR =
ticket_385.PNR) AS V1 INNER JOIN user_385 ON V1.User_ID = user_385.User_ID
WHERE V1.Price > 500;
```

#### OUT PUT :

```
MariaDB [railway_reservation]> SELECT user_385.Fname, user_385.Lname, V1.Price FROM ( SELECT payment_info_385.Price, payment_info_385.PNR, ticket_385.User_ID FROM payment_info_385 INNER JOIN ticket_385 ON payment_info_385.PNR = ticket_385.PNR) AS V1 INNER JOIN user_385 ON V1.User_ID = user_385.User_ID WHERE V1.Price > 500;
+-----+-----+-----+
| Fname | Lname | Price |
+-----+-----+-----+
| Muhammed | Ali | 806.40 |
| Arjun | Allu | 533.50 |
| Narendra | Modi | 2389.20 |
| Manmohan | Singh | 1298.70 |
| Droupadi | Murmu | 558.72 |
| Narendra | Modi | 2382.60 |
| Droupadi | Murmu | 957.00 |
| Muhammed | Ali | 2213.20 |
| Manmohan | Singh | 913.90 |
+-----+-----+-----+
9 rows in set (0.001 sec)
```

#### 5. Query :

```
SELECT user_385.Fname, user_385.Lname, user_385.DOB, ticket_385.PNR FROM
user_385 LEFT OUTER JOIN ticket_385 ON user_385.User_ID = ticket_385.User_ID
```

#### OUT PUT :

```
MariaDB [railway_reservation]> SELECT user_385.Fname, user_385.Lname, user_385.DOB, ticket_385.PNR FROM user_385 LEFT OUTER JOIN ticket_385 ON user_385.User_ID = ticket_385.User_ID
-> ;
+-----+-----+-----+-----+
| Fname | Lname | 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 |
| Virat | Kohli | 1988-11-05 | NULL |
| Ajit | Ullal | 1971-01-01 | NULL |
| Muhammed | Ali | 2000-10-09 | PNR005 |
| Muhammed | Ali | 2000-10-09 | PNR006 |
| Sai Deepak | Reddy | 1996-12-12 | NULL |
| Rudra | Agarwal | 1996-12-13 | NULL |
| Rahul | Khanna | 1997-12-14 | NULL |
| Nirmala | Seturaman | 1998-12-15 | NULL |
| Smriti | Irani | 1999-12-16 | PNR010 |
| Ajit | Sethi | 1966-04-14 | PNR011 |
| Arjun | Allu | 1967-04-08 | PNR012 |
| Samanta | Prabhu | 1968-04-14 | PNR014 |
| Kiran | Bedi | 1969-04-14 | NULL |
| Rahul | Gandhi | 1970-04-08 | PNR015 |
| Rashmit | Shetty | 1971-04-14 | NULL |
| Rishi | Sunak | 1972-04-14 | NULL |
| Vedavalli | Srinath | 1973-04-14 | NULL |
| Subbu | Saravana | 1974-04-14 | NULL |
| Sheela | Dixit | 1975-04-08 | NULL |
| Margaret | Alva | 1976-04-14 | NULL |
| Arun | Kumar | 1977-04-14 | NULL |
| Anshu | Bhardwaj | 1978-04-14 | NULL |
| Suma | Sampat | 1979-04-08 | NULL |
| Srihari | Udupa | 1980-04-14 | NULL |
| Satish | Kotian | 1981-04-14 | NULL |
| Shradha | Nayar | 1982-04-08 | NULL |
| Manisha | Solanki | 1983-04-08 | NULL |
| Bharti | Devgan | 1984-04-14 | NULL |
| Roopa | Ram | 1985-04-14 | NULL |
| Pallavi | Ram | 1986-04-08 | NULL |
| Ravi | Naik | 1987-04-14 | NULL |
| Virat | Murthy | 1988-04-14 | NULL |
| Virat | Kohli | 0000-00-00 | NULL |
+-----+-----+-----+-----+
39 rows in set (0.001 sec)
```

## 6. Query :

```
SELECT * FROM ( SELECT user_385.Fname, user_385.Lname, ticket_385.PNR FROM user_385 LEFT OUTER JOIN ticket_385 ON user_385.User_ID = ticket_385.User_ID) AS T1 WHERE T1.PNR IS NULL
```

## OUT PUT :

```
MarlaDB [railway_reservation]> SELECT * FROM ( SELECT user_385.Fname, user_385.Lname, ticket_385.PNR FROM user_385 LEFT OUTER JOIN ticket_385 ON user_385.User_ID = ticket_385.User_ID) AS T1 WHERE T1.PNR IS NULL;
```

Fname	Lname	PNR
Virat	Kohli	NULL
Ajit	Ullal	NULL
Sai Deepak	Reddy	NULL
Rudra	Agarwal	NULL
Rahul	Khanna	NULL
Nirmala	Seturaman	NULL
Kiran	Bedi	NULL
Rashkit	Shetty	NULL
Rishi	Sunak	NULL
Vedavalli	Srinath	NULL
Subbu	Saravana	NULL
Sheela	Dixit	NULL
Margaret	Alva	NULL
Arun	Kumar	NULL
Anshu	Bhardwaj	NULL
Suma	Sampat	NULL
Srihari	Udupa	NULL
Satish	Kotian	NULL
Shradha	Nayar	NULL
Manisha	Solanki	NULL
Bharti	Devgan	NULL
Roopa	Ram	NULL
Pallavi	Ram	NULL
Ravi	Naik	NULL
Virat	Murthy	NULL
Virat	Kohli	NULL

26 rows in set (0.002 sec)

## 7. Query :

```
SELECT ticket_385.PNR, ticket_385.Train_No, ticket_385.Travel_Date, user_385.Fname, user_385.Lname FROM ticket_385 RIGHT OUTER JOIN user_385 ON ticket_385.User_ID = user_385.User_ID
```

## OUT PUT :

```
MarlaDB [railway_reservation]> SELECT ticket_385.PNR, ticket_385.Train_No, ticket_385.Travel_Date, user_385.Fname, user_385.Lname FROM ticket_385 RIGHT OUTER JOIN user_385 ON ticket_385.User_ID = user_385.User_ID -> ;
```

PNR	Train_No	Travel_Date	Fname	Lname
PNR001	62621	2022-08-07	Narendra	Modi
PNR002	62620	2022-08-14	Narendra	Modi
PNR007	62621	2022-08-07	Droupadi	Murmu
PNR008	62620	2022-08-02	Droupadi	Murmu
PNR003	25261	2022-08-01	Manmohan	Singh
PNR004	25260	2022-08-15	Manmohan	Singh
NULL	NULL	NULL	Virat	Kohli
NULL	NULL	NULL	Ajit	Ullal
PNR005	58451	2022-08-03	Muhammed	Ali
PNR006	58450	2022-08-04	Muhammed	Ali
NULL	NULL	NULL	Sai Deepak	Reddy
NULL	NULL	NULL	Rudra	Agarwal
NULL	NULL	NULL	Rahul	Khanna
NULL	NULL	NULL	Nirmala	Seturaman
PNR010	25260	2022-08-19	Smiti	Irani
PNR011	62621	2022-08-22	Ajit	Sethi
PNR012	58451	2022-08-11	Arjun	Allu
PNR014	25260	2022-08-17	Samanta	Prabhu
NULL	NULL	NULL	Kiran	Bedi
PNR015	25260	2022-08-05	Rahul	Gandhi
NULL	NULL	NULL	Rashkit	Shetty
NULL	NULL	NULL	Rishi	Sunak
NULL	NULL	NULL	Vedavalli	Srinath
NULL	NULL	NULL	Subbu	Saravana
NULL	NULL	NULL	Sheela	Dixit
NULL	NULL	NULL	Margaret	Alva
NULL	NULL	NULL	Arun	Kumar
NULL	NULL	NULL	Anshu	Bhardwaj
NULL	NULL	NULL	Suma	Sampat
NULL	NULL	NULL	Srihari	Udupa
NULL	NULL	NULL	Satish	Kotian
NULL	NULL	NULL	Shradha	Nayar
NULL	NULL	NULL	Manisha	Solanki
NULL	NULL	NULL	Bharti	Devgan
NULL	NULL	NULL	Roopa	Ram
NULL	NULL	NULL	Pallavi	Ram
NULL	NULL	NULL	Ravi	Naik
NULL	NULL	NULL	Virat	Murthy
NULL	NULL	NULL	Virat	Kohli

39 rows in set (0.001 sec)

## 8. Query :

```
SELECT ticket_385.User_ID, ticket_385.Train_No, train_385.Name from ticket_385  
RIGHT OUTER JOIN train_385 ON ticket_385.Train_No = train_385.Train_No
```

## OUT PUT :

```
MariaDB [railway_reservation]> SELECT ticket_385.User_ID, ticket_385.Train_No, train_385.Name from ticket_385 RIGHT OUTER JOIN train_385 ON ticket_385.Train_No = train_385.Train_No  
-> ;  
+-----+-----+-----+  
| User_ID | Train_No | Name |  
+-----+-----+-----+  
| ADM_001 | 62621 | BEN-CHE Shatabdi |  
| ADM_001 | 62620 | CHE-BEN Shatabdi |  
| ADM_003 | 25261 | Mangaluru Mail |  
| ADM_003 | 25260 | Chennai Mail |  
| USR_002 | 58451 | BEN-MAN Express |  
| USR_002 | 58450 | MAN-BEN Express |  
| ADM_002 | 62621 | BEN-CHE Shatabdi |  
| ADM_002 | 62620 | CHE-BEN Shatabdi |  
| USR_007 | 25260 | Chennai Mail |  
| USR_008 | 62621 | BEN-CHE Shatabdi |  
| USR_009 | 58451 | BEN-MAN Express |  
| USR_010 | 25260 | Chennai Mail |  
| USR_012 | 25260 | Chennai Mail |  
+-----+-----+-----+  
13 rows in set (0.002 sec)
```

## 9. Query :

```
SELECT train_385.Train_No, train_385.Name FROM train_385 WHERE  
train_385.Destination IN (  
    SELECT train_385.Destination FROM train_385 WHERE  
train_385.Destination != "Mangaluru")  
AND  
    train_385.Train_No IN (SELECT ticket_385.Train_No FROM ticket_385  
WHERE Departure_Time >= '20:30:00');
```

## OUT PUT :

```
MariaDB [railway_reservation]> SELECT train_385.Train_No, train_385.Name FROM train_385 WHERE train_385.Destination IN (  
-> SELECT train_385.Destination FROM train_385 WHERE train_385.Destination != "Mangaluru")  
-> AND  
-> train_385.Train_No IN (SELECT ticket_385.Train_No FROM ticket_385 WHERE Departure_Time >= '20:30:00');  
+-----+-----+  
| Train_No | Name |  
+-----+-----+  
| 25260 | Chennai Mail |  
+-----+-----+  
1 row in set (0.001 sec)
```

## 10. Query :

```
SELECT ticket_385.User_ID
FROM payment_info_385 NATURAL JOIN ticket_385
where payment_info_385.price > (SELECT AVG(payment_info_385.Price) FROM
payment_info_385)
```

## OUT PUT :

```
MariaDB [railway_reservation]> SELECT ticket_385.User_ID
-> FROM payment_info_385 NATURAL JOIN ticket_385
-> where payment_info_385.price > (SELECT AVG(payment_info_385.Price) FROM payment_info_385)
-> ;
+-----+
| User_ID |
+-----+
| ADM_001 |
| ADM_003 |
| ADM_001 |
| USR_002 |
+-----+
4 rows in set (0.006 sec)
```