Name: Adithya M   SRN: PES1UG20CS621   Section: K

Week 5

1.Update price of the ticket

```
MariaDB [cs621_railway]> 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.Ar
rival = route_info.To_station_name and fare.Train_type = ticket.Train_type and fare.compartment_type = ticket.compartmen
t_type);
Query OK, 0 rows affected (0.005 sec)

MariaDB [cs621_railway]> create view passenger_num as select PNR, count(PNR) as numbers from ticket_passenger group by P
NR;
Query OK, 0 rows affected (0.006 sec)

MariaDB [cs621_railway]> 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 (0.011 sec)
Rows matched: 12  Changed: 12  Warnings: 0
```

```
MariaDB [cs621_railway]> 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 (0.000 sec)
```

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

```
MariaDB [cs621_railway]> Select T.Train_no, T.train_Name, R.From_station_name, R.To_station_name, Distance From
Train as T NATURAL JOIN route_info as R;
+----------+------------------+-------------------+------------------+----------+
| Train_no | train_Name       | From_station_name | To_station_name  | Distance |
+----------+------------------+-------------------+------------------+----------+
|    25260 | Chennai Mail     | Mangaluru         | Kannur           |      131 |
|    25260 | Chennai Mail     | Mangaluru         | Palakkad         |      351 |
|    25260 | Chennai Mail     | Mangaluru         | Chennai          |      481 |
|    25260 | Chennai Mail     | Kannur            | Palakkad         |      220 |
|    25260 | Chennai Mail     | Kannur            | Chennai          |      350 |
|    25260 | Chennai Mail     | Palakkad          | Chennai          |      130 |
|    25261 | Managaluru Mail  | Chennai           | Palakkad         |      130 |
|    25261 | Managaluru Mail  | Chennai           | Kannur           |      350 |
|    25261 | Managaluru Mail  | Chennai           | Mangaluru        |      481 |
|    25261 | Managaluru Mail  | Palakkad          | Kannur           |      220 |
|    25261 | Managaluru Mail  | Palakkad          | Mangaluru        |      351 |
|    25261 | Managaluru Mail  | Kannur            | Mangaluru        |      131 |
|    58450 | MAN-BEN Express  | Mangaluru         | Subramanya       |      195 |
|    58450 | MAN-BEN Express  | Mangaluru         | Mysore           |      365 |
|    58450 | MAN-BEN Express  | Mangaluru         | Bengaluru        |      504 |
|    58450 | MAN-BEN Express  | Subramanya        | Mysore           |      170 |
|    58450 | MAN-BEN Express  | Subramanya        | Bengaluru        |      309 |
|    58450 | MAN-BEN Express  | Mysore            | Bengaluru        |      139 |
|    58451 | BEN-MAN Express  | Bengaluru         | Mysore           |      139 |
|    58451 | BEN-MAN Express  | Bengaluru         | Subramanya       |      309 |
|    58451 | BEN-MAN Express  | Bengaluru         | Mangaluru        |      503 |
|    58451 | BEN-MAN Express  | Mysore            | Subramanya       |      170 |
|    58451 | BEN-MAN Express  | Mysore            | Mangaluru        |      364 |
|    58451 | BEN-MAN Express  | Subramanya        | Mangaluru        |      194 |
|    62620 | CHE-BEN Shatabdi | Chennai           | Sholingur        |       90 |
|    62620 | CHE-BEN Shatabdi | Chennai           | Katpadi          |      129 |
|    62620 | CHE-BEN Shatabdi | Chennai           | Bangarpet        |      290 |
|    62620 | CHE-BEN Shatabdi | Chennai           | Bengaluru        |      361 |
|    62620 | CHE-BEN Shatabdi | Sholingur         | Katpadi          |       39 |
|    62620 | CHE-BEN Shatabdi | Sholingur         | Bangarpet        |      200 |
|    62620 | CHE-BEN Shatabdi | Sholingur         | Chennai          |      271 |
|    62620 | CHE-BEN Shatabdi | Katpadi           | Bangarpet        |      161 |
|    62620 | CHE-BEN Shatabdi | Katpadi           | Chennai          |      232 |
|    62620 | CHE-BEN Shatabdi | Bangarpet         | Bengaluru        |       71 |
|    62621 | BEN-CHE Shatabdi | Bengaluru         | Bangarpet        |       71 |
|    62621 | BEN-CHE Shatabdi | Bengaluru         | Katpadi          |      232 |
|    62621 | BEN-CHE Shatabdi | Bengaluru         | Sholigur         |      272 |
|    62621 | BEN-CHE Shatabdi | Bengaluru         | Chennai          |      362 |
|    62621 | BEN-CHE Shatabdi | Bangarpet         | Katpadi          |      161 |
|    62621 | BEN-CHE Shatabdi | Bangarpet         | Sholigur         |      201 |
|    62621 | BEN-CHE Shatabdi | Bangarpet         | Chennai          |      291 |
|    62621 | BEN-CHE Shatabdi | Katpadi           | Sholigur         |       40 |
```

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

```
MariaDB [cs621_railway]> Select T.Train_no From Train as T, Compartment as C Where T.Train_No=
C.Train_Number and T.Source="Bengaluru" and T.Destination="Chennai" and C.Availability>10;
+----------+
| Train_no |
+----------+
|    62621 |
+----------+
1 row in set (0.002 sec)
```

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

```
MariaDB [cs621_railway]> Select U.Firstname, U.Lastname From train_user as U, Ticket as T, Pay
ment_Info as P Where U.User_ID=T.passenger_id and T.PNR=P.PNR and P.Price>500;
+-----------+----------+
| Firstname | Lastname |
+-----------+----------+
| Muhammed  | Ali      |
| Arjun     | Allu     |
| Narendra  | Modi     |
| Manmohan  | Singh    |
| Droupadi  | Murmu    |
| Narendra  | Modi     |
| Droupadi  | Murmu    |
| Muhammed  | Ali      |
| Manmohan  | Singh    |
+-----------+----------+
9 rows in set (0.001 sec)
```

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

```
MariaDB [cs621_railway]> Select U.Firstname, U.Lastname, U.DOB, T.PNR From train_user as U LEF
T OUTER JOIN Ticket as T ON U.User_ID=T.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 |
| 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 |
| Rashkit   | 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   |
+-----------+-----------+------------+--------+
37 rows in set (0.000 sec)
```

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

```
MariaDB [cs621_railway]> Select U.firstname, U.lastname, U.DOB, T.PNR From train_User as U LEF
T OUTER JOIN Ticket as T ON U.User_ID=T.passenger_id where T.PNR is null;
+------------+-----------+------------+------+
| firstname  | lastname  | DOB        | PNR  |
+------------+-----------+------------+------+
|    Ajit    | Ullal     | 1971-01-01 | NULL |
| 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 |
| Kiran      | Bedi      | 1969-04-14 | NULL |
| Rashkit    | 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 |
+------------+-----------+------------+------+
24 rows in set (0.000 sec)
```

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

```
MariaDB [cs621_railway]> Select T.PNR, T.Train_No, T.Travel_Date, U.firstname, U.lastname From
 Ticket as T RIGHT OUTER JOIN train_User as U ON T.passenger_ID=U.User_ID
    -> ;
+--------+----------+-------------+------------+-----------+
| PNR    | Train_No | Travel_Date | firstname  | lastname  |
+--------+----------+-------------+------------+-----------+
| 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        |   Ajit     | Ullal     |
| PNR005 |    58451 | 2022-08-03  | Muhammed   | Ali       |
| PNR006 |    58450 | 2033-08-04  | 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  | Smriti     | 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    |
+--------+----------+-------------+------------+-----------+
37 rows in set (0.000 sec)
```

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

```
MariaDB [cs621_railway]> Select U.User_ID, T.Train_no, T.train_Name From User_Train as U RIGHT
 OUTER JOIN Train AS T ON U.Train_ID=T.Train_No;
+----------+-----------+-------------------+
| User_ID  | Train_no  | train_Name        |
+----------+-----------+-------------------+
| ADM_003  |     25260 | Chennai Mail      |
| USR_007  |     25260 | Chennai Mail      |
| ADM_001  |     25261 | Managaluru Mail   |
| ADM_001  |     25261 | Managaluru Mail   |
| ADM_001  |     25261 | Managaluru Mail   |
| ADM_002  |     25261 | Managaluru Mail   |
| ADM_003  |     25261 | Managaluru Mail   |
| ADM_003  |     25261 | Managaluru Mail   |
| USR_004  |     25261 | Managaluru Mail   |
| USR_005  |     25261 | Managaluru Mail   |
| USR_009  |     25261 | Managaluru Mail   |
| USR_015  |     25261 | Managaluru Mail   |
| ADM_001  |     58450 | MAN-BEN Express   |
| ADM_002  |     58450 | MAN-BEN Express   |
| ADM_002  |     58450 | MAN-BEN Express   |
| ADM_002  |     58450 | MAN-BEN Express   |
| ADM_003  |     58450 | MAN-BEN Express   |
| ADM_003  |     58450 | MAN-BEN Express   |
| ADM_003  |     58450 | MAN-BEN Express   |
| USR_003  |     58450 | MAN-BEN Express   |
| USR_003  |     58450 | MAN-BEN Express   |
| USR_004  |     58450 | MAN-BEN Express   |
| USR_006  |     58450 | MAN-BEN Express   |
| USR_010  |     58450 | MAN-BEN Express   |
| USR_012  |     58450 | MAN-BEN Express   |
| USR_014  |     58450 | MAN-BEN Express   |
| USR_018  |     58450 | MAN-BEN Express   |
| USR_019  |     58450 | MAN-BEN Express   |
| USR_020  |     58450 | MAN-BEN Express   |
| USR_021  |     58450 | MAN-BEN Express   |
| USR_022  |     58450 | MAN-BEN Express   |
| USR_023  |     58450 | MAN-BEN Express   |
| USR_026  |     58450 | MAN-BEN Express   |
| ADM_001  |     58451 | BEN-MAN Express   |
| ADM_001  |     58451 | BEN-MAN Express   |
| ADM_002  |     58451 | BEN-MAN Express   |
| ADM_002  |     58451 | BEN-MAN Express   |
| ADM_003  |     58451 | BEN-MAN Express   |
| ADM_003  |     58451 | BEN-MAN Express   |
```

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 [cs621_railway]> SELECT T.Train_No, T.train_name
    -> FROM Train as T
    -> WHERE T.Destination!='Mangaluru' AND T.Train_No NOT IN (
    -> SELECT R.Train_No FROM Route_Info AS R LEFT OUTER JOIN Ticket AS A ON R.Train_No=A.Trai
n_No WHERE R.Distance<100 AND A.Departure AND A.departure_time=TIME('8:30:00')
    -> UNION
    -> SELECT R.Train_No FROM Route_Info AS R LEFT OUTER JOIN Ticket AS A ON R.Train_No=A.Trai
n_No WHERE R.Distance<100 AND A.Departure AND A.departure_time=TIME('8:30:00') );
+----------+-------------------+
| Train_No | train_name        |
+----------+-------------------+
|    25260 | Chennai Mail      |
|    58450 | MAN-BEN Express   |
|    62620 | CHE-BEN Shatabdi  |
|    62621 | BEN-CHE Shatabdi  |
+----------+-------------------+
4 rows in set, 30 warnings (0.073 sec)
```

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

```
ERROR 1054 (42S22): Unknown column 'T.user_id' in 'field list'
MariaDB [cs621_railway]> SELECT T.passenger_id
    -> FROM Ticket AS T JOIN Payment_Info AS P ON T.PNR=P.PNR
    -> WHERE P.Price>(SELECT AVG(P.Price) FROM Payment_Info AS P);
+--------------+
| passenger_id |
+--------------+
| USR_002      |
| ADM_001      |
| ADM_001      |
| USR_002      |
+--------------+
4 rows in set (0.001 sec)

MariaDB [cs621_railway]>
```