DBMS Assignment Lab 4

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PES1UG20CS462

Task 1

```
mysql> USE PES1UG20CS462;
Database changed
```

1)

```
mysql> load data infile "compartment.csv" into table compartment columns terminated by ',' optionally enclosed by "" escaped by "" lines
terminated by '\n' ignore 1 lines;
Query OK, 20 rows affected (0.01 sec)
Records: 20  Deleted: 0  Skipped: 0  Warnings: 0

mysql> select * from compartment;
+----------------+------------------+----------+--------------+--------------+
| compartment_no | compartment_type | capacity | availability | train_number |
+----------------+------------------+----------+--------------+--------------+
| F01            | I Class          |       16 |            6 |        62621 |
| S01            | II Class         |       30 |            4 |        62621 |
| S02            | II Class         |       30 |            6 |        62621 |
| G01            | III Class        |       60 |           10 |        62621 |
| G02            | III Class        |       60 |           12 |        62621 |
| F01            | I Class          |       16 |           15 |        62620 |
| F02            | I Class          |       16 |            0 |        62620 |
| F01            | I Class          |       16 |            0 |        25261 |
| S01            | II Class         |       30 |           15 |        25261 |
| G01            | III Class        |       60 |           33 |        25261 |
| G02            | III Class        |       60 |           45 |        25261 |
| F01            | I Class          |       16 |            0 |        25260 |
| S01            | II Class         |       30 |           15 |        25260 |
| S02            | II Class         |       30 |           17 |        25260 |
| F01            | I Class          |       16 |            5 |        58451 |
| G01            | III Class        |       60 |           40 |        58451 |
| F01            | I Class          |       16 |            4 |        58450 |
| S01            | II Class         |       30 |            5 |        58450 |
| S02            | II Class         |       30 |            3 |        58450 |
| G01            | III Class        |       60 |            2 |        58450 |
+----------------+------------------+----------+--------------+--------------+
```

2)

```
mysql> update train_user set age = DATE_FORMAT(FROM_DAYS(DATEDIFF(NOW(), DOB)), '%Y')+0;
Query OK, 33 rows affected (0.03 sec)
Rows matched: 33  Changed: 33  Warnings: 0

mysql> SELECT * FROM TRAIN_USER;
+---------+-----------+------------+-----------+-----+------------+---------+----------------------------+
| user_id | user_type | firstname  | lastname  | age | dob        | pincode | street_number              |
+---------+-----------+------------+-----------+-----+------------+---------+----------------------------+
| ADM_001 | ADMIN     | Narendra   | Modi      |  33 | 1989-04-14 | 600047  | Old Jail Road              |
| ADM_002 | ADMIN     | Droupadi   | Murmu     |  32 | 1990-04-14 | 640012  | High Street                |
| ADM_003 | ADMIN     | Manmohan   | Singh     |  31 | 1991-04-08 | 575003  | Pumpwell Road              |
| USR_001 | PSGR      | Ajit       | Ullal     |  51 | 1971-01-01 | 560001  | 10, Janpath                |
| USR_002 | PSGR      | Muhammed   | Ali       |  21 | 2000-10-09 | 560003  | 10, Downing                |
| USR_003 | PSGR      | Sai Deepak | Reddy     |  25 | 1996-12-12 | 600001  | 14, Kailsh Marg            |
| USR_004 | PSGR      | Rudra      | Agarwal   |  25 | 1996-12-13 | 600042  | 5, Lohia Garden            |
| USR_005 | PSGR      | Rahul      | Khanna    |  24 | 1997-12-14 | 600067  | 1, Pink Street             |
| USR_006 | PSGR      | Nirmala    | Seturaman |  23 | 1998-12-15 | 560105  | 3, Blue Avenue             |
| USR_007 | PSGR      | Smriti     | Irani     |  22 | 1999-12-16 | 575014  | 4, Banyan Avenie           |
| USR_008 | PSGR      | Ajit       | Sethi     |  56 | 1966-04-14 | 575001  | 6, Poes Garden             |
| USR_009 | PSGR      | Arjun      | Allu      |  55 | 1967-04-08 | 575020  | 7, Dhamaka street          |
| USR_010 | PSGR      | Samanta    | Prabhu    |  54 | 1968-04-14 | 600042  | 8, Clone Colony            |
| USR_011 | PSGR      | Kiran      | Bedi      |  53 | 1969-04-14 | 560003  | 56, Brigade Road           |
| USR_012 | PSGR      | Rahul      | Gandhi    |  52 | 1970-04-08 | 475001  | Mirza road                 |
| USR_013 | PSGR      | Rashkit    | Shetty    |  51 | 1971-04-14 | 560009  | JC Road                    |
| USR_014 | PSGR      | Rishi      | Sunak     |  50 | 1972-04-14 | 600034  | Anna Sali                  |
| USR_015 | PSGR      | Vedavalli  | Srinath   |  49 | 1973-04-14 | 560054  | Church Street, Bangalore   |
| USR_016 | PSGR      | Subbu      | Saravana  |  48 | 1974-04-14 | 600043  | American Street            |
| USR_017 | PSGR      | Sheela     | Dixit     |  47 | 1975-04-08 | 560048  | Kasturba Road              |
| USR_018 | PSGR      | Margaret   | Alva      |  46 | 1976-04-14 | 560008  | New BEL Road               |
| USR_019 | PSGR      | Arun       | Kumar     |  45 | 1977-04-14 | 600046  | Mint Street                |
| USR_020 | PSGR      | Anshu      | Bhardwaj  |  44 | 1978-04-14 | 575001  | KSR Road                   |
| USR_021 | PSGR      | Suma       | Sampat    |  43 | 1979-04-08 | 560012  | Old Airport Road, Bangalore|
| USR_022 | PSGR      | Srihari    | Udupa     |  42 | 1980-04-14 | 560015  | Suranjan Das Road          |
| USR_023 | PSGR      | Satish     | Kotian    |  41 | 1981-04-14 | 600044  | T Nagar                    |
| USR_024 | PSGR      | Shradha    | Nayar     |  40 | 1982-04-08 | 560006  | M G Road, Bangalore        |
| USR_025 | PSGR      | Manisha    | Solanki   |  39 | 1983-04-08 | 575030  | M G Road                   |
| USR_026 | PSGR      | Bharti     | Devgan    |  38 | 1984-04-14 | 560059  | NAL Wind Tunnel Road       |
| USR_027 | PSGR      | Roopa      | Ram       |  37 | 1985-04-14 | 575023  | Bunder Road                |
| USR_028 | PSGR      | Pallavi    | Ram       |  36 | 1986-04-08 | 560044  | Lavelle Road               |
| USR_029 | PSGR      | Ravi       | Naik      |  35 | 1987-04-14 | 600045  | Thiru V ka Salai           |
| USR_030 | PSGR      | Virat      | Murthy    |  34 | 1988-04-14 | 575011  | Bejai New Road             |
+---------+-----------+------------+-----------+-----+------------+---------+----------------------------+
33 rows in set (0.00 sec)
```

3)

```
mysql> SELECT * FROM ROUTE_INFO WHERE DISTANCE BETWEEN 70 AND 150;
+-----------------+---------------+------------------+----------------+----------+----------+
| from_station_no | to_station_no | from_station_name| to_station_name| distance | train_no |
+-----------------+---------------+------------------+----------------+----------+----------+
|               1 |             2 | Mangaluru        | Kannur         |      131 |    25260 |
|               4 |             4 | Palakkad         | Chennai        |      130 |    25260 |
|               1 |             2 | Chennai          | Palakkad       |      130 |    25261 |
|               3 |             4 | Kannur           | Mangaluru      |      131 |    25261 |
|               3 |             4 | Mysore           | Bengaluru      |      139 |    58450 |
|               1 |             2 | Bengaluru        | Mysore         |      139 |    58451 |
|               1 |             2 | Chennai          | Sholingur      |       90 |    62620 |
|               1 |             3 | Chennai          | Katpadi        |      129 |    62620 |
|               4 |             5 | Bangarpet        | Bengaluru      |       71 |    62620 |
|               1 |             2 | Bengaluru        | Bangarpet      |       71 |    62621 |
|               3 |             5 | Katpadi          | Chennai        |      130 |    62621 |
|               4 |             5 | Sholingur        | Chennai        |       90 |    62621 |
+-----------------+---------------+------------------+----------------+----------+----------+
12 rows in set (0.02 sec)
```

4)

```
mysql> SELECT * FROM ROUTE_INFO WHERE ((from_station_name="Chennai" AND to_station_name="Sholingur") OR (from_station_name=
"Sholingur" AND to_station_name="Chennai"));
+----------------+--------------+------------------+-----------------+----------+----------+
| from_station_no | to_station_no | from_station_name | to_station_name | distance | train_no |
+----------------+--------------+------------------+-----------------+----------+----------+
|              1 |            2 | Chennai          | Sholingur       |       90 |    62620 |
|              2 |            5 | Sholingur        | Chennai         |      271 |    62620 |
|              4 |            5 | Sholingur        | Chennai         |       90 |    62621 |
+----------------+--------------+------------------+-----------------+----------+----------+
3 rows in set (0.01 sec)
```

5)

```
mysql> SELECT * FROM TRAIN WHERE NOT TRAIN_TYPE = "Mail";
+----------+----------------+------------+-----------+-------------+--------------+
| train_no | train_name     | train_type | source    | destination | availability |
+----------+----------------+------------+-----------+-------------+--------------+
|    58450 | MAN-BEN Express | Fast      | Mangaluru | Bengaluru   | yes          |
|    58451 | BEN-MAN Express | Fast      | Bengaluru | Mangaluru   | yes          |
|    62620 | CHE-BEN Shatabdi | Superfast | Chennai   | Bengaluru   | No           |
|    62621 | BEN-CHE Shatabdi | Superfast | Bengaluru | Chennai     | yes          |
+----------+----------------+------------+-----------+-------------+--------------+
4 rows in set (0.00 sec)
```

6)

```
mysql> SELECT train_no,train_name,departure,departure_time FROM Train NATURAL JOIN Ticket WHERE departure="Chennai" AND dep
arture_time>"8:00:00";
+----------+----------------+-----------+----------------+
| train_no | train_name     | departure | departure_time |
+----------+----------------+-----------+----------------+
|    25261 | Managaluru Mail | Chennai  | 18:00:00       |
+----------+----------------+-----------+----------------+
1 row in set (0.02 sec)
```

7)

```
mysql> SELECT * FROM Train_user WHERE dob >= "1980-01-01" AND dob < "1990-01-01";
+---------+-----------+-----------+----------+-----+------------+---------+----------------------+
| user_id | user_type | firstname | lastname | age | dob        | pincode | street_number        |
+---------+-----------+-----------+----------+-----+------------+---------+----------------------+
| ADM_001 | ADMIN     | Narendra  | Modi     |  33 | 1989-04-14 | 600047  | Old Jail Road        |
| USR_022 | PSGR      | Srihari   | Udupa    |  42 | 1980-04-14 | 560015  | Suranjan Das Road    |
| USR_023 | PSGR      | Satish    | Kotian   |  41 | 1981-04-14 | 600044  | T Nagar              |
| USR_024 | PSGR      | Shradha   | Nayar    |  40 | 1982-04-08 | 560006  | M G Road, Bangalore  |
| USR_025 | PSGR      | Manisha   | Solanki  |  39 | 1983-04-08 | 575030  | M G Road             |
| USR_026 | PSGR      | Bharti    | Devgan   |  38 | 1984-04-14 | 560059  | NAL Wind Tunnel Road |
| USR_027 | PSGR      | Roopa     | Ram      |  37 | 1985-04-14 | 575023  | Bunder Road          |
| USR_028 | PSGR      | Pallavi   | Ram      |  36 | 1986-04-08 | 560044  | Lavelle Road         |
| USR_029 | PSGR      | Ravi      | Naik     |  35 | 1987-04-14 | 600045  | Thiru V ka Salai     |
| USR_030 | PSGR      | Virat     | Murthy   |  34 | 1988-04-14 | 575011  | Bejai New Road       |
+---------+-----------+-----------+----------+-----+------------+---------+----------------------+
10 rows in set (0.00 sec)
```

8)

```
mysql> SELECT user_id,firstname,lastname from Train_user WHERE dob >= "1980-01-01" AND dob < "1990-01-01";
+---------+-----------+----------+
| user_id | firstname | lastname |
+---------+-----------+----------+
| ADM_001 | Narendra  | Modi     |
| USR_022 | Srihari   | Udupa    |
| USR_023 | Satish    | Kotian   |
| USR_024 | Shradha   | Nayar    |
| USR_025 | Manisha   | Solanki  |
| USR_026 | Bharti    | Devgan   |
| USR_027 | Roopa     | Ram      |
| USR_028 | Pallavi   | Ram      |
| USR_029 | Ravi      | Naik     |
| USR_030 | Virat     | Murthy   |
+---------+-----------+----------+
10 rows in set (0.00 sec)
```

9)

```
mysql> SELECT user_id,firstname,lastname from Train_user WHERE LEFT(firstname, 1)='S';
+---------+------------+----------+
| user_id | firstname  | lastname |
+---------+------------+----------+
| USR_003 | Sai Deepak | Reddy    |
| USR_007 | Smriti     | Irani    |
| USR_010 | Samanta    | Prabhu   |
| USR_016 | Subbu      | Saravana |
| USR_017 | Sheela     | Dixit    |
| USR_021 | Suma       | Sampat   |
| USR_022 | Srihari    | Udupa    |
| USR_023 | Satish     | Kotian   |
| USR_024 | Shradha    | Nayar    |
+---------+------------+----------+
9 rows in set (0.01 sec)
```

10)

```
mysql> SELECT availability FROM Compartment WHERE compartment_type="I Class" AND train_number=62621;
+--------------+
| availability |
+--------------+
|            6 |
+--------------+
1 row in set (0.00 sec)
```

11)

```
mysql> SELECT pnr, transaction_no FROM Payment_info WHERE bank="UNION BANK";
+--------+----------------+
| pnr    | transaction_no |
+--------+----------------+
| PNR012 |         243535 |
| PNR015 |         758900 |
| PNR010 |         867546 |
| PNR003 |         978776 |
+--------+----------------+
4 rows in set (0.01 sec)
```

Task 2

1)

```
mysql> CREATE USER TARUNM@localhost IDENTIFIED BY '789244';
Query OK, 0 rows affected (0.03 sec)

mysql> GRANT INSERT, UPDATE ON TABLE COMPARTMENT TO TARUNM@localhost;
Query OK, 0 rows affected (0.01 sec)
```

2)

```
mysql> REVOKE SELECT, UPDATE, DELETE ON COMPARTMENT FROM TARUNM@localhost;
Query OK, 0 rows affected (0.01 sec)
```

3)

```
mysql> SAVEPOINT S1;
Query OK, 0 rows affected (0.00 sec)

mysql> SELECT * FROM FARE;
+------------+------------------+-------------+
| train_type | compartment_type | fare_per_km |
+------------+------------------+-------------+
| Fast       | I Class          |           3 |
| Mail       | I Class          |           2 |
| Superfast  | I Class          |           3 |
| Fast       | II Class         |           2 |
| Mail       | II Class         |           1 |
| Superfast  | II Class         |           2 |
| Fast       | III Class        |           1 |
| Mail       | III Class        |           1 |
| Superfast  | III Class        |           1 |
+------------+------------------+-------------+
9 rows in set (0.01 sec)

mysql> UPDATE FARE SET fare_per_km=4 where train_type='Fast';
Query OK, 3 rows affected (0.01 sec)
Rows matched: 3  Changed: 3  Warnings: 0

mysql> SELECT * FROM FARE;
+------------+------------------+-------------+
| train_type | compartment_type | fare_per_km |
+------------+------------------+-------------+
| Fast       | I Class          |           4 |
| Mail       | I Class          |           2 |
| Superfast  | I Class          |           3 |
| Fast       | II Class         |           4 |
| Mail       | II Class         |           1 |
| Superfast  | II Class         |           2 |
| Fast       | III Class        |           4 |
| Mail       | III Class        |           1 |
| Superfast  | III Class        |           1 |
+------------+------------------+-------------+
9 rows in set (0.00 sec)
```