

DATABASE MANAGEMENT SYSTEMS LAB

Week 4

Vanshika Goel	PES1UG20CS484	Section H	Roll No 40
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Task-I: Use INSERT/SELECT/UPDATE queries for the following tasks:

1. Insert the shared data into the respective tables using appropriate insert query
 - Show the usage of INSERT and LOAD DATA INFILE commands explicitly

INSERT INTO TICKET TABLE

```
MariaDB [PES1UG20CS484_RAILWAY_RESERVATION]> INSERT INTO TICKET_484(Pnr, Train_no, Travel_date, Departure, Arrival, Departure_time, Arrival_time, User_id, Train_type, Compartment_type) VALUES
-> ('PNR001', 62621, '2022-08-07', 'Bengaluru', 'Chennai', '16:00:00', '20:30:00', 'ADM_001', 'Superfast', 'I Class', 'F01'),
-> ('PNR002', 62620, '2022-08-14', 'Chennai', 'Bengaluru', '08:00:00', '12:25:00', 'ADM_001', 'Superfast', 'I Class', 'F02'),
-> ('PNR003', 25261, '2022-08-01', 'Chennai', 'Mangaluru', '18:00:00', '07:30:00', 'ADM_003', 'Mail', 'III Class', 'G02'),
-> ('PNR004', 25260, '2022-08-15', 'Mangaluru', 'Chennai', '19:15:00', '06:00:00', 'ADM_003', 'Mail', 'II Class', 'S02'),
-> ('PNR005', 58451, '2022-08-03', 'Bengaluru', 'Mangaluru', '06:00:00', '14:00:00', 'USR_002', 'Fast', 'III Class', 'G01'),
-> ('PNR006', 58450, '2033-08-04', 'Mangaluru', 'Bengaluru', '08:00:00', '10:15:00', 'USR_002', 'Fast', 'II Class', 'S01'),
-> ('PNR007', 62621, '2022-08-07', 'Bangarpet', 'Chennai', '18:00:00', '20:30:00', 'ADM_002', 'Superfast', 'II Class', 'S01'),
-> ('PNR008', 62620, '2022-08-07', 'Chennai', 'Bangarpet', '08:00:00', '09:00:00', 'ADM_002', 'Superfast', 'I Class', 'F01'),
-> ('PNR010', 25260, '2022-08-19', 'Mangaluru', 'Kannur', '19:15:00', '23:15:00', 'USR_007', 'Mail', 'II Class', 'S01'),
-> ('PNR011', 62621, '2022-08-22', 'Katapadi', 'Chennai', '19:00:00', '20:30:00', 'USR_008', 'Superfast', 'I Class', 'F01'),
-> ('PNR012', 58451, '2022-08-11', 'Subramanyam', 'Mangaluru', '11:00:00', '14:00:00', 'USR_009', 'Fast', 'I Class', 'F03'),
-> ('PNR014', 25260, '2022-08-17', 'Kannur', 'Palakkad', '23:15:00', '04:30:00', 'USR_010', 'Mail', 'II Class', 'S01'),
-> ('PNR015', 25260, '2022-08-05', 'Palakkad', 'Chennai', '04:30:00', '08:00:00', 'USR_012', 'Mail', 'II Class', 'S01');
Query OK, 13 rows affected (0.004 sec)
Records: 13 Duplicates: 0 Warnings: 0
```

INSERT INTO TRAIN TABLE

```
MariaDB [PES1UG20CS484_RAILWAY_RESERVATION]> INSERT INTO TRAIN_484(Train_no, Train_name, Train_type, Source, Destination, Availability) VALUES
-> (25260, 'Chennai Mail', 'Mail', 'Mangaluru', 'Chennai', 'Yes'),
-> (25261, 'Mangaluru Mail', 'Mail', 'Chennai', 'Mangaluru', 'Yes'),
-> (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');
Query OK, 6 rows affected (0.001 sec)
Records: 6 Duplicates: 0 Warnings: 0
```

INSERT INTO COMPARTMENT TABLE

```
MariaDB [PES1UG20CS484_RAILWAY_RESERVATION]> INSERT INTO COMPARTMENT_484(Compartment_number, Compartment_type, Compartment_capacity, Compartment_availability, Train_no) VALUES
-> ('F01', 'I Class', 16, 25260),
-> ('F01', 'I Class', 16, 25261),
-> ('F01', 'I Class', 16, 4, 58450),
-> ('F01', 'I Class', 16, 5, 58451),
-> ('F01', 'I Class', 16, 15, 62620),
-> ('F01', 'I Class', 16, 6, 62621),
-> ('F02', 'I Class', 16, 6, 62620),
-> ('G01', 'III Class', 60, 33, 25261),
-> ('G01', 'III Class', 60, 2, 58450),
-> ('G01', 'III Class', 60, 40, 58451),
-> ('G01', 'III Class', 60, 10, 62621),
-> ('G02', 'III Class', 60, 45, 25261),
-> ('G02', 'III Class', 60, 12, 62621),
-> ('S01', 'II Class', 30, 15, 25260),
-> ('S01', 'II Class', 30, 15, 25261),
-> ('S01', 'II Class', 30, 5, 58450),
-> ('S01', 'II Class', 30, 4, 62621),
-> ('S02', 'II Class', 30, 17, 25260),
-> ('S02', 'II Class', 30, 3, 58450),
-> ('S02', 'II Class', 30, 6, 62621);
Query OK, 20 rows affected (0.002 sec)
Records: 20 Duplicates: 0 Warnings: 0
```

INSERT INTO PAYMENT INFO TABLE

```
MariaDB [PES1UG20CS484_RAILWAY_RESERVATION]> INSERT INTO PAYMENT_INFO_484(Transaction_id, Bank, Card_number, Price, Pnr) VALUES
-> (146445, 'HDFC', '1.23433E+15', NULL, 'PNR006'),
-> (243535, 'UNION BANK', '2.43647E+15', NULL, 'PNR012'),
-> (342344, 'IDBI', '5.62357E+15', NULL, 'PNR003'),
-> (354304, 'CANARA BANK', '5.76879E+15', NULL, 'PNR014'),
-> (531343, 'SBI', '6.95327E+15', NULL, 'PNR004'),
-> (576768, 'ICICI', '7.56356E+15', NULL, 'PNR007'),
-> (576765, 'CANARA BANK', '7.56255E+15', NULL, 'PNR002'),
-> (746745, 'KOTAK', '2.54564E+15', NULL, 'PNR008'),
-> (758900, 'UNION BANK', '2.43266E+15', NULL, 'PNR015'),
-> (807645, 'UNION BANK', '2.65709E+15', NULL, 'PNR010'),
-> (867547, 'SBI', '7.46635E+15', NULL, 'PNR011'),
-> (978098, 'INDIAN BANK', '9.88733E+15', NULL, 'PNR005'),
-> (978776, 'UNION BANK', '1164978597435874', NULL, 'PNR003');
Query OK, 13 rows affected (0.005 sec)
Records: 13 Duplicates: 0 Warnings: 0
```

INSERT INTO USER TABLE

```
MariaDB [PES1UG20CS484_RAILWAY_RESERVATION]> INSERT INTO USER_484(User_id, User_type, Fname, Lname, Age, Date_of_birth, Pincode, Street_no) VALUES
-> ('ADM_001', 'ADMIN', 'Narendra', 'Modi', NULL, '1989-04-14', '600007', 'Old Jail Road'),
-> ('ADM_002', 'ADMIN', 'Droupadi', 'Murmug', NULL, '1990-04-14', '640012', 'High Street'),
-> ('ADM_003', 'ADMIN', 'Manmohan', 'Singh', NULL, '1991-04-08', '575003', 'Pumpwell Road'),
-> ('USR_001', 'PSGR', 'Ajit', 'Ullial', NULL, '1971-01-01', '560001', '10, Janpath'),
-> ('USR_002', 'PSGR', 'Mohammed', 'Ali', NULL, '2000-10-09', '560003', '10, Downing'),
-> ('USR_003', 'PSGR', 'Sai Deepak', 'Reddy', NULL, '1996-12-12', '600001', '14, Kalish Marg'),
-> ('USR_004', 'PSGR', 'Rudra', 'Agarwal', NULL, '1996-12-13', '600042', '5, Lohia Garden'),
-> ('USR_005', 'PSGR', 'Rahul', 'Khanna', NULL, '1997-12-14', '600067', '2, Pink Street'),
-> ('USR_006', 'PSGR', 'Nirala', 'Saturaman', NULL, '1998-12-15', '560105', '3, Blue Avenue'),
-> ('USR_007', 'PSGR', 'Smriti', 'Irani', NULL, '1999-12-16', '575014', '4, Banyan Avenue'),
-> ('USR_008', 'PSGR', 'Ajit', 'Sethi', NULL, '1966-04-14', '575001', '6, Poes Garden'),
-> ('USR_009', 'PSGR', 'Arjun', 'Aliu', NULL, '1967-04-08', '575020', '7, Dharmak street'),
-> ('USR_010', 'PSGR', 'Samanta', 'Prabhu', NULL, '1968-04-14', '600042', '8, Clone Colony'),
-> ('USR_011', 'PSGR', 'Kiran', 'Bedi', NULL, '1969-04-14', '560003', '56, Brigade Road'),
-> ('USR_012', 'PSGR', 'Rahul', 'Gandhi', NULL, '1970-04-08', '475001', 'Mirza road'),
-> ('USR_013', 'PSGR', 'Rashmi', 'Shetty', NULL, '1971-04-14', '560009', '2C Road'),
-> ('USR_014', 'PSGR', 'Rishi', 'Sunak', NULL, '1972-04-14', '600034', 'Anna Sali'),
-> ('USR_015', 'PSGR', 'Vedavalli', 'Srinath', NULL, '1973-04-14', '560054', 'Church Street, Bangalore'),
-> ('USR_016', 'PSGR', 'Subbu', 'Srivavana', NULL, '1974-04-14', '600043', 'American Street'),
-> ('USR_017', 'PSGR', 'Sheela', 'Ravi', NULL, '1975-04-08', '560040', 'Kasturba Road'),
-> ('USR_018', 'PSGR', 'Margaret', 'Alva', NULL, '1976-04-14', '560008', 'New BEL Road'),
-> ('USR_019', 'PSGR', 'Arun', 'Kumar', NULL, '1977-04-14', '600046', 'Mint Street'),
-> ('USR_020', 'PSGR', 'Anshu', 'Bhargava', NULL, '1978-04-14', '575001', 'KSR Road'),
-> ('USR_021', 'PSGR', 'Suna', 'Sampat', NULL, '1979-04-08', '560012', 'Old Airport Road, Bangalore'),
-> ('USR_022', 'PSGR', 'Srihari', 'Udupa', NULL, '1980-04-14', '560015', 'Suranjan Das Road'),
-> ('USR_023', 'PSGR', 'Satish', 'Kotian', NULL, '1981-04-14', '600044', 'T Nagar'),
-> ('USR_024', 'PSGR', 'Shradha', 'Nayar', NULL, '1982-04-08', '560004', 'W O Road, Bangalore'),
-> ('USR_025', 'PSGR', 'Manisha', 'Solanki', NULL, '1983-04-08', '575030', 'M G Road'),
-> ('USR_026', 'PSGR', 'Bharti', 'Devgan', NULL, '1984-04-14', '560059', 'NAL Wind Tunnel Road'),
-> ('USR_027', 'PSGR', 'Roopa', 'Ram', NULL, '1985-04-14', '575023', 'Bunder Road'),
-> ('USR_028', 'PSGR', 'Pallavi', 'Rao', NULL, '1986-04-08', '560044', 'Lavelle Road'),
-> ('USR_029', 'PSGR', 'Ravi', 'Naik', NULL, '1987-04-14', '600045', 'Thiru V ka Salai'),
-> ('USR_030', 'PSGR', 'Virat', 'Murthy', NULL, '1988-04-14', '575011', 'Bejai New Road');
Query OK, 33 rows affected (0.003 sec)
Records: 33 Duplicates: 0 Warnings: 0
```

LOAD DATA LOCAL INFILE FARE TABLE

```
MariaDB [PES1UG28CS484_RAILWAY_RESERVATION]> LOAD DATA LOCAL INFILE
-> '/Users/vanshikagoal/Desktop/DBMS/Lab/Lab4/data/FareTable.csv'
-> INTO TABLE FARE_TABLE_484
-> COLUMNS TERMINATED BY ","
-> OPTIONALLY ENCLOSED BY ""
-> ESCAPED BY ""
-> LINES TERMINATED BY "\n"
-> IGNORE 1 LINES;
Query OK, 9 rows affected, 8 warnings (0.002 sec)
Records: 9 Deleted: 0 Skipped: 0 Warnings: 8
```

LOAD DATA LOCAL INFILE ROUTE INFO TABLE

```
MariaDB [PES1UG28CS484_RAILWAY_RESERVATION]> LOAD DATA LOCAL INFILE
-> '/Users/vanshikagoal/Desktop/DBMS/Lab/Lab4/data/RouteInfo.csv'
-> INTO TABLE ROUTE_INFO_484
-> COLUMNS TERMINATED BY ","
-> OPTIONALLY ENCLOSED BY ""
-> ESCAPED BY ""
-> LINES TERMINATED BY "\n"
-> IGNORE 1 LINES;
Query OK, 44 rows affected, 43 warnings (0.007 sec)
Records: 44 Deleted: 0 Skipped: 0 Warnings: 43
```

LOAD DATA LOCAL INFILE TICKET PASSENGER TABLE

```
MariaDB [PES1UG28CS484_RAILWAY_RESERVATION]> LOAD DATA LOCAL INFILE
-> '/Users/vanshikagoal/Desktop/DBMS/Lab/Lab4/data/Ticket-Passenger.csv'
-> INTO TABLE TICKET_PASSENGER_484
-> COLUMNS TERMINATED BY ","
-> OPTIONALLY ENCLOSED BY ""
-> ESCAPED BY ""
-> LINES TERMINATED BY "\n"
-> IGNORE 1 LINES;
Query OK, 21 rows affected, 21 warnings (0.003 sec)
Records: 21 Deleted: 0 Skipped: 0 Warnings: 21
```

LOAD DATA LOCAL INFILE USER PHONE TABLE

```
MariaDB [PES1UG28CS484_RAILWAY_RESERVATION]> LOAD DATA LOCAL INFILE
-> '/Users/vanshikagoal/Desktop/DBMS/Lab/Lab4/data/User-Phone.csv'
-> INTO TABLE USER_PHONE_484
-> COLUMNS TERMINATED BY ","
-> OPTIONALLY ENCLOSED BY ""
-> ESCAPED BY ""
-> LINES TERMINATED BY "\n"
-> IGNORE 1 LINES;
Query OK, 66 rows affected (0.003 sec)
Records: 66 Deleted: 0 Skipped: 0 Warnings: 0
```

LOAD DATA LOCAL INFILE USER TRAIN TABLE

```
MariaDB [PES1UG28CS484_RAILWAY_RESERVATION]> LOAD DATA LOCAL INFILE
-> '/Users/vanshikagoal/Desktop/DBMS/Lab/Lab4/data/User-Train.csv'
-> INTO TABLE USER_TRAIN_484
-> COLUMNS TERMINATED BY ","
-> OPTIONALLY ENCLOSED BY ""
-> ESCAPED BY ""
-> LINES TERMINATED BY "\n"
-> IGNORE 1 LINES;
Query OK, 103 rows affected (0.004 sec)
Records: 103 Deleted: 0 Skipped: 0 Warnings: 0
```

2. Calculate and update age attribute in User Table.

```
MariaDB [PES1UG28CS484_RAILWAY_RESERVATION]> update USER_484
-> set Age = DATE_FORMAT(FROM_DAYS(DATEDIFF(NOW(),Date_of_birth)), 'KY') + 0;
Query OK, 33 rows affected (0.010 sec)
Rows matched: 33 Changed: 33 Warnings: 0
```

```
MariaDB [PES1UG28CS484_RAILWAY_RESERVATION]> select * from USER_484;
```

User_id	User_type	Fname	Lname	Age	Date_of_birth	Pincode	Street_no
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	Mamohan	Singh	31	1991-04-08	675003	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, Kalish Marg
USR_004	PSGR	Rudra	Agarwal	25	1996-12-13	600042	5, Lohia Garden
USR_005	PSGR	Rahul	Khanna	24	1997-12-14	600007	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	675014	4, Banyan Avenue
USR_008	PSGR	Ajit	Sethi	56	1946-04-14	675001	6, Posa Garden
USR_009	PSGR	Arjun	Allu	55	1947-04-08	675020	7, Dharmaka street
USR_010	PSGR	Samanta	Prabhu	54	1948-04-14	600042	8, Clone Colony
USR_011	PSGR	Kiran	Bedi	53	1949-04-14	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 Sal
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	560000	New BEL Road
USR_019	PSGR	Arun	Amar	45	1977-04-14	600046	Mint Street
USR_020	PSGR	Anshu	Bhardwaj	44	1978-04-14	675001	KSR Road
USR_021	PSGR	Suma	Sampat	43	1979-04-08	560012	Old Airport Road, Bangalore
USR_022	PSGR	Szilhari	Udapa	42	1980-04-14	560015	Suranjyan Das Road
USR_023	PSGR	Satish	Kotian	41	1981-04-14	600044	T Nagar
USR_024	PSGR	Shradha	Nayer	40	1982-04-08	560006	M G Road, Bangalore
USR_025	PSGR	Manisha	Solanki	39	1983-04-08	675030	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	675023	Bunder Road
USR_028	PSGR	Pallavi	Ram	36	1986-04-08	560044	Lavelle Road
USR_029	PSGR	Ravi	Nalik	35	1987-04-14	600045	Thiru V ka Salai
USR_030	PSGR	Virat	Murthy	34	1988-04-14	675011	Bejai New Road

33 rows in set (0.001 sec)

3. Display all the route information whose distance falls in a range from 70 to 150 km.

```
MariaDB [PES1UG28CS484_RAILWAY_RESERVATION]> select * from ROUTE_INFO_484
-> 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	Chennai	Palakkad	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
4	3	Chennai	Katpadi	129	62620
1	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 (0.009 sec)

4. Display the train route information which are run between Chennai and Sholingur

```
MariaDB [PES1UG20CS484_RAILWAY_RESERVATION]> select * from ROUTE_INFO_484
-> 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 (0.004 sec)
```

5. Display the train details whose type is not mail.

```
MariaDB [PES1UG20CS484_RAILWAY_RESERVATION]> select * from TRAIN_484
-> where Train_type <> 'Mail';
+-----+-----+-----+-----+-----+-----+
| Train_no | Train_name | Train_type | Source | Destination | Availability |
+-----+-----+-----+-----+-----+-----+
| 58459    | 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 (0.003 sec)
```

6. Display the train name which goes to Chennai from Bangalore.

```
MariaDB [PES1UG20CS484_RAILWAY_RESERVATION]> select Train_name from TRAIN_484
-> where (Source='Bengaluru' and Destination='Chennai');
+-----+
| Train_name |
+-----+
| BEN-CHE Shatabdi |
+-----+
1 row in set (0.002 sec)
```

7. Display the list of trains starting from Chennai after 8:00.

```
MariaDB [PES1UG20CS484_RAILWAY_RESERVATION]> select * from TICKET_484
-> where (Departure='Chennai' and Departure_time>'08:00:00');
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Pnr | Train_no | Travel_date | Departure | Arrival | Departure_time | Arrival_time | User_id | Train_type | Compartment_type | Compartment_number |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| PNR003 | 25261 | 2022-08-01 | Chennai | Mangaluru | 18:00:00 | 07:30:00 | ADM_003 | Mail | III Class | 082 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.004 sec)
```

8. Display the list of users who are born between 1980 to 1990.

```
MariaDB [PES1UG20CS484_RAILWAY_RESERVATION]> select * from USER_484
-> where YEAR(Date_of_birth) between '1980' and '1990';
+-----+-----+-----+-----+-----+-----+-----+
| User_id | User_type | Fname | Lname | Age | Date_of_birth | Pincode | Street_no |
+-----+-----+-----+-----+-----+-----+-----+
| ADM_001 | ADMIN | Narendra | Modi | NULL | 1989-04-14 | 600047 | Old Jail Road |
| ADM_002 | ADMIN | Droupadi | Murmu | NULL | 1990-04-14 | 640012 | High Street |
| USR_022 | PSGR | Srihari | Udupa | NULL | 1980-04-14 | 560015 | Suranjan Das Road |
| USR_023 | PSGR | Satish | Kotian | NULL | 1981-04-14 | 600044 | T Nagar |
| USR_024 | PSGR | Shradha | Nayar | NULL | 1982-04-08 | 560006 | M G Road, Bangalore |
| USR_025 | PSGR | Manisha | Solanki | NULL | 1983-04-08 | 575030 | M G Road |
| USR_026 | PSGR | Bharti | Davgan | NULL | 1984-04-14 | 560059 | NAL Wind Tunnel Road |
| USR_027 | PSGR | Roopa | Ram | NULL | 1985-04-14 | 575023 | Bunder Road |
| USR_028 | PSGR | Pallavi | Ram | NULL | 1986-04-08 | 560044 | Levelle Road |
| USR_029 | PSGR | Ravi | Naik | NULL | 1987-04-14 | 600045 | Thiru V ka Salai |
| USR_030 | PSGR | Virat | Murthy | NULL | 1988-04-14 | 575011 | Bejai New Road |
+-----+-----+-----+-----+-----+-----+-----+
11 rows in set (0.004 sec)
```

9. Display the train users whose name starts with the letter "S"

```
MariaDB [PES1UG20CS484_RAILWAY_RESERVATION]> select * from USER_484
-> where Fname like "S%";
+-----+-----+-----+-----+-----+-----+-----+
| User_id | User_type | Fname | Lname | Age | Date_of_birth | Pincode | Street_no |
+-----+-----+-----+-----+-----+-----+-----+
| USR_003 | PSGR | Sai Deepak | Reddy | NULL | 1996-12-12 | 600001 | 14, Kailash Marg |
| USR_007 | PSGR | Smriti | Irani | NULL | 1999-12-16 | 575014 | 4, Banyan Avenue |
| USR_018 | PSGR | Samanta | Prabhu | NULL | 1968-04-14 | 600042 | 8, Clone Colony |
| USR_016 | PSGR | Subbu | Saravana | NULL | 1974-04-14 | 600043 | American Street |
| USR_017 | PSGR | Shesha | Dixit | NULL | 1975-04-08 | 560048 | Kasturba Road |
| USR_021 | PSGR | Sume | Sampat | NULL | 1979-04-08 | 560012 | Old Airport Road, Bangalore |
| USR_022 | PSGR | Srihari | Udupa | NULL | 1980-04-14 | 560015 | Suranjan Das Road |
| USR_023 | PSGR | Satish | Kotian | NULL | 1981-04-14 | 600044 | T Nagar |
| USR_024 | PSGR | Shradha | Nayar | NULL | 1982-04-08 | 560006 | M G Road, Bangalore |
+-----+-----+-----+-----+-----+-----+-----+
9 rows in set (0.003 sec)
```

10. Find the availability of I Class compartment of the train number 62621

```
MariaDB [PES1UG20CS484_RAILWAY_RESERVATION]> select Compartment_availability from COMPARTMENT_484
-> where Compartment_type = 'I Class' and Train_no=62621;
+-----+
| Compartment_availability |
+-----+
| 0 |
+-----+
1 row in set (0.007 sec)
```

11. Find the PNR and Transaction ID of the users who made payment via Union Bank.

```
MariaDB [PES1UG20CS484_RAILWAY_RESERVATION]> select Pnr, Transaction_id from PAYMENT_INFO_484
-> where Banks='Union Bank';
+-----+-----+
| Pnr | Transaction_id |
+-----+-----+
| PNR012 | 243535 |
| PNR015 | 758900 |
| PNR010 | 867546 |
| PNR003 | 978776 |
+-----+-----+
4 rows in set (0.001 sec)
```

Task-II: Use DCL and TCL statements for the following:

1. Grant privileges on different tables to users and observe the effect.

```
MariaDB [(none)]> grant all privileges on PESIUG20CS484_RAILWAY_RESERVATION.USER_484 to 'user1'@'localhost';
Query OK, 0 rows affected (0.000 sec)

MariaDB [(none)]> grant select, update, insert, delete on PESIUG20CS484_RAILWAY_RESERVATION.TRAIN_484 to 'user1'@'localhost';
Query OK, 0 rows affected (0.000 sec)

MariaDB [(none)]> grant all privileges on PESIUG20CS484_RAILWAY_RESERVATION.TICKET_484 to 'user1'@'localhost';
Query OK, 0 rows affected (0.002 sec)

MariaDB [(none)]> show grants for 'user1'@'localhost';
+-----+
| Grants for user1@localhost |
+-----+
| GRANT USAGE ON *.* TO 'user1'@'localhost' IDENTIFIED BY PASSWORD '*3403887A652E7F801D571C3DBF28E291705468C4' |
| GRANT ALL PRIVILEGES ON 'pesiug20cs484_railway_reservation'. 'user_484' TO 'user1'@'localhost' |
| GRANT SELECT, INSERT, UPDATE, DELETE ON 'pesiug20cs484_railway_reservation'. 'train_484' TO 'user1'@'localhost' |
| GRANT ALL PRIVILEGES ON 'pesiug20cs484_railway_reservation'. 'ticket_484' TO 'user1'@'localhost' |
+-----+
4 rows in set (0.002 sec)
```

2. Revoke UPDATE & DELETE privileges on any tables and observe the effect if any deletion/update is performed.

```
MariaDB [(none)]> revoke select, update, insert, delete on PESIUG20CS484_RAILWAY_RESERVATION.TICKET_484 from 'user1'@'localhost';
Query OK, 0 rows affected (0.001 sec)
```

```
MariaDB [PESIUG20CS484_RAILWAY_RESERVATION]> select * from TICKET_484;
ERROR 1142 (42000): SELECT command denied to user 'user1'@'localhost' for table 'ticket_484'
MariaDB [PESIUG20CS484_RAILWAY_RESERVATION]> █
```

```
MariaDB [PESIUG20CS484_RAILWAY_RESERVATION]> delete from TICKET_484 where Departure='Bengaluru';
ERROR 1142 (42000): DELETE command denied to user 'user1'@'localhost' for table 'ticket_484'
```

3. Create different save points and perform some insert/update/delete operations. Observe the effect of commit & rollback operations and release any created savepoints.

```
MariaDB [PESIUG20CS484_RAILWAY_RESERVATION]> set autocommit=1;
Query OK, 0 rows affected (0.003 sec)

MariaDB [PESIUG20CS484_RAILWAY_RESERVATION]> start transaction;
Query OK, 0 rows affected (0.001 sec)

MariaDB [PESIUG20CS484_RAILWAY_RESERVATION]> insert into USER_PHONE_484(User_id,Phone_no) values('ADM004','9981291212');
Query OK, 1 row affected (0.003 sec)

MariaDB [PESIUG20CS484_RAILWAY_RESERVATION]> commit;
Query OK, 0 rows affected (0.001 sec)
```

```
MariaDB [PESIUG20CS484_RAILWAY_RESERVATION]> set autocommit=0;
Query OK, 0 rows affected (0.000 sec)

MariaDB [PESIUG20CS484_RAILWAY_RESERVATION]> savepoint sp1;
Query OK, 0 rows affected (0.000 sec)

MariaDB [PESIUG20CS484_RAILWAY_RESERVATION]> insert into FARE_TABLE_484 values('Mail','IV Class',3);
Query OK, 1 row affected (0.001 sec)

MariaDB [PESIUG20CS484_RAILWAY_RESERVATION]> select * from FARE_TABLE_484 where Compartment_type='IV Class';
+-----+
| Train_type | Compartment_type | Far_per_km |
+-----+
| Mail       | IV Class         | 3          |
+-----+
1 row in set (0.001 sec)

MariaDB [PESIUG20CS484_RAILWAY_RESERVATION]> savepoint sp2;
Query OK, 0 rows affected (0.000 sec)

MariaDB [PESIUG20CS484_RAILWAY_RESERVATION]> rollback to savepoint sp1;
Query OK, 0 rows affected (0.000 sec)

MariaDB [PESIUG20CS484_RAILWAY_RESERVATION]> select * from FARE_TABLE_484 where Compartment_type='IV Class';
Empty set (0.001 sec)

MariaDB [PESIUG20CS484_RAILWAY_RESERVATION]> █
```