

```

1 -- Active: 1678946907415@@127.0.0.1@3306@dbms_lab
2 use dbms_lab;
3
4 show tables;
5
6 create table airline(name varchar(50) primary key);
7
8 create table airplane(reg_no int primary key, model_no int, capacity int, name
    varchar(50), foreign key(name) references airline(name));
9 create table flights(flight_no int primary key, place_from varchar(50), place_to
    varchar(50), departure_date date, departure_time time, arrival_date date,
    arrival_time time, reg_no int, foreign key(reg_no) references airplane(reg_no))
    ;
0
1 create table passenger(email varchar(50) primary key, first_name varchar(50),
    surname varchar(50));
2 create table flight_booking(email varchar(50), flight_no int, no_seats int,
    foreign key(email) references passenger(email), foreign key(flight_no)
    references flights(flight_no), primary key(email, flight_no));
3
4 describe airplane;
5
6 insert into airline values("Qatar Airways");
7 insert into airline values("Emirates");
8 insert into airline values("Air India");
9
0 insert into airplane values(111,007,180,"Qatar Airways");
1 insert into airplane values(112,007,169,"Qatar Airways");
2 insert into airplane values(113,008,200,"Qatar Airways");
3 insert into airplane values(221,017,150,"Emirates");
4 insert into airplane values(222,017,140,"Emirates");
5 insert into airplane values(223,018,175,"Emirates");
6 insert into airplane values(333,027,200,"Air India");
7 insert into airplane values(334,027,150,"Air India");
8 insert into airplane values(335,028,175,"Air India");
9
0 select * from airplane;
1
2 describe flights;
3 insert into flights values(12345,"Mumbai","London","2021-07-27","12:12:12","
    2021-07-28","23:59:56",111);
4 insert into flights values(67890,"Pune","Bangalore","2021-07-27","12:12:12","
    2021-07-27","16:59:56",221);

```

```

insert into flights values(23456,"London","Pune","2021-07-27","12:12:12","
2021-07-28","22:59:56",333);

select * from flights;

describe passenger;

insert into passenger values("love@gmail.com","Love","Quinn");
insert into passenger values("joe@gmail.com","Joe","Goldberg");
insert into passenger values("beck@gmail.com","Gwen","Beck");

describe flight_booking;

insert into flight_booking values("love@gmail.com",12345,6);
insert into flight_booking values("joe@gmail.com",23456,2);
insert into flight_booking values("beck@gmail.com",67890,6);

select * from flight_booking;
select * from flights;

-- QUERIES

-- 1. Display the Passenger email ,Flight_no,Source and Destination Airport Names
   for all flights
-- booked

select b.email, b.flight_no, f.place_from, f.place_to from flight_booking as b
   inner join flights as f where b.flight_no = f.flight_no;

-- 2.
-- Display the flight and passenger details for the flights booked having
   Departure Date between
-- 23-08-2021 and 25-08-2021

select * from flights as f, passenger as p, flight_booking as b where b.email = p.
   email and b.flight_no = f.flight_no and departure_date between "2021-07-27" and
   "2021-07-28";

-- 3.
-- Display the top 5 airplanes that participated in Flights from Mumbai to London
   based on the
-- airplane capacity

select * from airplane as a, flights as f where a.reg_no = f.reg_no and f.
   place_from = "Mumbai" and f.place_to = "London" order by a.capacity desc limit
   5;

-- 4.Display the passenger first names who have booked the no_of seats smaller
   than the average
-- number of seats booked by all passengers for the arrival airport:New Delhi

select * from passenger as p, flight_booking as b, flights as f where p.email = b.
   email and f.flight_no = b.flight_no and f.place_to = "New Delhi" and b.no_seats
   < all(select avg(no_seats) from flight_booking);

/*5.Display the surnames of passengers who have not booked a flight from Pune to
   Bangalore*/
select surname

```

```

from passenger
where email not in(
    select email
    from flight_booking
    where flight_no in (
        select flight_no
        from flights
        where place_from = 'Pune'
        and place_to = 'Bangalore'
    )
);

/*6. Display the Passenger details only if they have booked flights on 21st July
2021. (Use Exists)*/
select *
from passenger
where exists (
    select email
    from flight_booking
    where flight_no in(
        select flight_no
        from flights
        where departure_date = '2021-07-27'
    )
);

/*--7.Display the Flight-wise total time duration of flights if the duration is
more than 8 hours (Hint : Date function,Aggregation,Grouping)*/

select flight_no, timediff(f.arrival_time, f.departure_time ) from flights as f
where timediff(f.arrival_time, f.departure_time ) > "8:00:00" group by
flight_no;

/*8.Display the Airplane-wise average seating capacity for any airline*/
select name,
    avg(capacity)
from airplane
group by name;

/*9.Display the total number of flights which are booked and travelling to London
airport.*/
select count(b.flight_no) as total
from flight_booking b,
    flights f
where f.place_to = 'London';

/*10. Create a view having information about flight_no,airplane_no,capacity.*/
create view flightinfo as
select f.flight_no,
    a.reg_no,
    a.capacity
from flights f,
    airplane a
where a.reg_no = f.reg_no;

select * from flightinfo;

```

```
MariaDB [dbms_lab]> select * from passenger;
```

```
+-----+-----+-----+
| email          | first_name | surname |
+-----+-----+-----+
| beck@gmail.com | Gwen      | Beck    |
| joe@gmail.com  | Joe       | Goldberg|
| love@gmail.com | Love      | Quinn   |
+-----+-----+-----+
```

```
3 rows in set (0.001 sec)
```

```
MariaDB [dbms_lab]> select * from airplane;
```

```
+-----+-----+-----+-----+
| reg_no | model_no | capacity | name          |
+-----+-----+-----+-----+
| 111    | 7        | 180      | Qatar Airways |
| 112    | 7        | 169      | Qatar Airways |
| 113    | 8        | 200      | Qatar Airways |
| 221    | 17       | 150      | Emirates      |
| 222    | 17       | 140      | Emirates      |
| 223    | 18       | 175      | Emirates      |
| 333    | 27       | 200      | Air India     |
| 334    | 27       | 150      | Air India     |
| 335    | 28       | 175      | Air India     |
+-----+-----+-----+-----+
```

```
9 rows in set (0.001 sec)
```

```
MariaDB [dbms_lab]> select * from airline;
```

```
+-----+
| name          |
+-----+
| Air India     |
| Emirates      |
| Qatar Airways |
+-----+
```

```
3 rows in set (0.001 sec)
```

```
MariaDB [dbms_lab]> select * from flights;
```

```
+--
+-----+-----+-----+-----+-----+
| flight_no | place_from | place_to | departure_date | departure_time |
| arrival_date | arrival_time | reg_no |
+--
+-----+-----+-----+-----+-----+
| 12345 | Mumbai | London | 2021-07-27 | 12:12:12 |
| 2021-07-28 | 23:59:56 | 111 |
| 23456 | London | Pune | 2021-07-27 | 12:12:12 |
| 2021-07-28 | 22:59:56 | 333 |
| 67890 | Pune | Bangalore | 2021-07-27 | 12:12:12 |
| 2021-07-27 | 16:59:56 | 221 |
+--
+-----+-----+-----+-----+-----+
```

```
3 rows in set (0.001 sec)
```

```
MariaDB [dbms_lab]> select * from flight_booking;
```

```
+-----+-----+-----+
| email          | flight_no | no_seats |
+-----+-----+-----+
```

```

+-----+-----+-----+
| beck@gmail.com |      67890 |      6 |
| joe@gmail.com  |      23456 |      2 |
| love@gmail.com |      12345 |      6 |
+-----+-----+-----+
3 rows in set (0.001 sec)

```

## 9 Queries

```

MariaDB [dbms_lab]> -- QUERIES
MariaDB [dbms_lab]>
MariaDB [dbms_lab]> -- 1. Display the Passenger email ,Flight_no,Source and
      Destination Airport Names for all flights
MariaDB [dbms_lab]> -- booked
MariaDB [dbms_lab]>
MariaDB [dbms_lab]> select b.email, b.flight_no, f.place_from, f.place_to from
      flight_booking as b inner join flights as f where b.flight_no = f.flight_no;
+-----+-----+-----+-----+
| email          | flight_no | place_from | place_to |
+-----+-----+-----+-----+
| love@gmail.com |      12345 | Mumbai    | London   |
| joe@gmail.com  |      23456 | London    | Pune     |
| beck@gmail.com |      67890 | Pune      | Bangalore|
+-----+-----+-----+-----+
3 rows in set (0.001 sec)

MariaDB [dbms_lab]>
MariaDB [dbms_lab]> -- 2.
MariaDB [dbms_lab]> -- Display the flight and passenger details for the flights
      booked having Departure Date between
MariaDB [dbms_lab]> -- 23-08-2021 and 25-08-2021
MariaDB [dbms_lab]>
MariaDB [dbms_lab]> select * from flights as f, passenger as p, flight_booking as
      b where b.email = p.email and b.flight_no = f.flight_no and departure_date
      between "2021-07-27" and "2021-07-28";
+--
+-----+-----+-----+-----+-----+-----+-----+
| flight_no | place_from | place_to | departure_date | departure_time | |
| arrival_date | arrival_time | reg_no | email          | first_name | surname |
| email      | flight_no | no_seats |
+--
+-----+-----+-----+-----+-----+-----+-----+
|      67890 | Pune      | Bangalore | 2021-07-27      | 12:12:12      | |
| 2021-07-27 | 16:59:56 |      221 | beck@gmail.com | Gwen        | Beck    |
| beck@gmail.com |      67890 |      6 |
|      23456 | London    | Pune      | 2021-07-27      | 12:12:12      |
| 2021-07-28 | 22:59:56 |      333 | joe@gmail.com  | Joe         | Goldberg|
| joe@gmail.com |      23456 |      2 |
|      12345 | Mumbai    | London    | 2021-07-27      | 12:12:12      |
| 2021-07-28 | 23:59:56 |      111 | love@gmail.com | Love        | Quinn   |
| love@gmail.com |      12345 |      6 |
+--
+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.004 sec)

```

---

```

MariaDB [dbms_lab]>
MariaDB [dbms_lab]> -- 3.
MariaDB [dbms_lab]> -- Display the top 5 airplanes that participated in Flights
    from Mumbai to London based on the
MariaDB [dbms_lab]> -- airplane capacity
MariaDB [dbms_lab]>
MariaDB [dbms_lab]> select * from airplane as a, flights as f where a.reg_no = f.
    reg_no and f.place_from = "Mumbai" and f.place_to = "London" order by a.
    capacity desc limit 5;

```

```

+--
+-----+-----+-----+-----+-----+-----+-----+
| reg_no | model_no | capacity | name           | flight_no | place_from | place_to |
| departure_date | departure_time | arrival_date | arrival_time | reg_no |
+--
+-----+-----+-----+-----+-----+-----+-----+
|      111 |          7 |      180 | Qatar Airways |      12345 | Mumbai     | London    |
| 2021-07-27 | 12:12:12 | 2021-07-28 | 23:59:56 |      111 |
+--
+-----+-----+-----+-----+-----+-----+-----+

```

1 row in set (0.002 sec)

```

MariaDB [dbms_lab]>
MariaDB [dbms_lab]> -- 4.Display the passenger first names who have booked the
    no_of seats smaller than the average
MariaDB [dbms_lab]> -- number of seats booked by all passengers for the arrival
    airport:New Delhi
MariaDB [dbms_lab]>
MariaDB [dbms_lab]> select * from passenger as p, flight_booking as b, flights as
    f where p.email = b.email and f.flight_no = b.flight_no and f.place_to = "New
    Delhi" and b.no_seats < all(select avg(no_seats) from flight_booking);
Empty set (0.002 sec)

```

```

MariaDB [dbms_lab]>
MariaDB [dbms_lab]>
MariaDB [dbms_lab]> /*5.Display the surnames of passengers who have not booked a
    flight from Pune to Bangalore*/
MariaDB [dbms_lab]> select surname
    -> from passenger
    -> where email not in(
    ->     select email
    ->     from flight_booking
    ->     where flight_no in (
    ->         select flight_no
    ->         from flights
    ->         where place_from = 'Pune'
    ->         and place_to = 'Bangalore'
    ->     )
    -> );

```

```

+-----+
| surname |
+-----+
| Goldberg |
| Quinn   |
+-----+
2 rows in set (0.003 sec)

```

```

MariaDB [dbms_lab]>
MariaDB [dbms_lab]> /*6. Display the Passenger details only if they have booked
    flights on 21st July 2021. (Use Exists)*/
MariaDB [dbms_lab]> select *
    -> from passenger
    -> where exists (
    ->         select email
    ->         from flight_booking
    ->         where flight_no in(
    ->             select flight_no
    ->             from flights
    ->             where departure_date = '2021-07-27'
    ->         )
    -> );
+-----+-----+-----+
| email          | first_name | surname |
+-----+-----+-----+
| beck@gmail.com | Gwen      | Beck    |
| joe@gmail.com  | Joe       | Goldberg|
| love@gmail.com | Love      | Quinn   |
+-----+-----+-----+
3 rows in set (0.001 sec)

MariaDB [dbms_lab]> /*--7.Display the Flight-wise total time duration of flights
    if the duration is more than 8 hours (Hint : Date function,Aggregation,Grouping
    )*/
MariaDB [dbms_lab]>
MariaDB [dbms_lab]> select flight_no, timediff(f.arrival_time, f.departure_time )
    from flights as f where timediff(f.arrival_time, f.departure_time ) > "8:00:00"
    group by flight_no;
+-----+-----+-----+
| flight_no | timediff(f.arrival_time, f.departure_time ) |
+-----+-----+-----+
| 12345     | 11:47:44                                     |
| 23456     | 10:47:44                                     |
+-----+-----+-----+
2 rows in set (0.001 sec)

MariaDB [dbms_lab]>
MariaDB [dbms_lab]> /*8.Display the Airplane-wise average seating capacity for any
    airline*/
MariaDB [dbms_lab]> select name,
    ->         avg(capacity)
    -> from airplane
    -> group by name;
+-----+-----+-----+
| name          | avg(capacity) |
+-----+-----+-----+
| Air India     | 175.0000      |
| Emirates      | 155.0000      |
| Qatar Airways | 183.0000      |
+-----+-----+-----+
3 rows in set (0.001 sec)

MariaDB [dbms_lab]>
MariaDB [dbms_lab]> /*9.Display the total number of flights which are booked and
    travelling to London airport.*/
MariaDB [dbms_lab]> select count(b.flight_no) as total

```

```

-> from flight_booking b,
->     flights f
-> where f.place_to = 'London';
+-----+
| total |
+-----+
|      3 |
+-----+
1 row in set (0.000 sec)

MariaDB [dbms_lab]>
MariaDB [dbms_lab]> /*10. Create a view having information about flight_no,
airplane_no,capacity.*/
MariaDB [dbms_lab]> create view flightinfo as
-> select f.flight_no,
->        a.reg_no,
->        a.capacity
-> from flights f,
->        airplane a
-> where a.reg_no = f.reg_no;
ERROR 1050 (42S01): Table 'flightinfo' already exists
MariaDB [dbms_lab]>
MariaDB [dbms_lab]> select * from flightinfo;
+-----+-----+-----+
| flight_no | reg_no | capacity |
+-----+-----+-----+
|    12345 |    111 |    180 |
|    67890 |    221 |    150 |
|    23456 |    333 |    200 |
+-----+-----+-----+
3 rows in set (0.001 sec)

```