DAY 3 - ASSIGNMENT

```
--CREATING TABLES
CREATE TABLE air_passenger_profile (
    profile_id VARCHAR(10) PRIMARY KEY,
    password VARCHAR(10),
    first_name VARCHAR(10),
    last_name VARCHAR(10),
    address VARCHAR(100),
    mobile_number BIGINT,
    email_id VARCHAR(30)
);

CREATE TABLE air_flight (
    flight_id VARCHAR(10) PRIMARY KEY,
    airline_id VARCHAR(10),
    airline_name VARCHAR(30),
    from_location VARCHAR(20),
    to_location VARCHAR(20),
    departure_time TIME,
    arrival_time TIME,
    duration TIME,
    total_seats INT
);

CREATE TABLE air_flight_details (
    flight_id VARCHAR(10),
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    flight_departure_date DATE,
    price DECIMAL(8,2),
    available_seats INT,
    CONSTRAINT pk_air_flight_details
        PRIMARY KEY (flight_id, flight_departure_date),
    CONSTRAINT fk_afd_flight
        FOREIGN KEY (flight_id)
        REFERENCES air_flight(flight_id)
);

CREATE TABLE air_ticket_info (
    ticket_id VARCHAR(10) PRIMARY KEY,
    profile_id VARCHAR(10),
    flight_id VARCHAR(10),
    flight_departure_date DATE,
    status VARCHAR(10),
    CONSTRAINT fk_ticket_profile
        FOREIGN KEY (profile_id)
        REFERENCES air_passenger_profile(profile_id),
    CONSTRAINT fk_ticket_flight
        FOREIGN KEY (flight_id)
        REFERENCES air_flight(flight_id)
);

CREATE TABLE air_credit_card_details (
    profile_id VARCHAR(10),
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    card_number BIGINT,
    card_type VARCHAR(10),
    expiration_month INT,
    expiration_year INT,
    CONSTRAINT pk_credit_card
      PRIMARY KEY (profile_id, card_number),
    CONSTRAINT fk_cc_profile
      FOREIGN KEY (profile_id)
      REFERENCES air_passenger_profile(profile_id)
);
```

1. **Write a query to display the average monthly ticket cost for each flight in ABC Airlines. The query should display the Flight_Id, From_location, To_Location, Month Name as "Month_Name" and average price as "Average_Price". Display the records sorted in ascending order based on flight id and then by Month Name.**

```
SELECT a1.flight_id,a1.from_location,a1.to_location,avg(a2.price) as
"average_price",DATENAME(MONTH,a2.flight_departure_date) from air_flight a1 join
air_flight_details a2 on a1.flight_id=a2.flight_id group by
a1.flight_id,a1.from_location,a1.to_location,DATENAME(MONTH,a2.flight_departure_date)
order by a1.flight_id, DATENAME(MONTH,a2.flight_departure_date);
```

	flight_id	from_location	to_location	average_price	MONTH_NAME
1	F101	Chennai	Hyderabad	4650.000000	April
2	F102	Chennai	Bangalore	3500.000000	March
3	F103	Hyderabad	Mumbai	6500.000000	February
4	F104	Bangalore	Delhi	7200.000000	April

2. Write a query to display the customer(s) who has/have booked least number of tickets in ABC Airlines. The Query should display profile_id, customer's first_name, Address and Number of tickets booked as "No_of_Tickets". Display the records sorted in ascending order based on customer's first name.

SELECT TOP 1 P.PROFILE_ID,P.FIRST_NAME,COUNT(*) AS " No_of_Tickets " FROM AIR_PASSENGER_PROFILE P JOIN AIR_TICKET_INFO T ON P.PROFILE_ID=T.PROFILE_ID GROUP BY (T.PROFILE_ID),P.PROFILE_ID,P.FIRST_NAME ORDER BY COUNT(*);

	PROFILE_ID	FIRST_NAME	No_of_Tickets
1	P002	Bhavya	1

3. Write a query to display the number of flight services between locaϴons in a month. The Query should display From_LocaϴOn, To_LocaϴOn, Month as “Month_Name” and number of flight services as “No_of_Services”. Hint: The Number of Services can be calculated from the number of scheduled departure dates of a flight. The records should be displayed in ascending order based on From_LocaϴOn and then by To_LocaϴOn and then by month name.

Select a1.from_location,a1.to_location,COUNT(*) AS "MONTHLY FLIGHTS",DATENAME(MONTH,a2.flight_departure_date) "MONTH" from air_flight a1 join air_flight_details a2 on a1.flight_id=a2.flight_id group by a1.from_location,a1.to_location,DATENAME(MONTH,a2.flight_departure_date) order by a1.from_location,a1.to_location;

	from_location	to_location	MONTHLY FLIGHTS	MONTH
1	Bangalore	Delhi	1	April
2	Chennai	Bangalore	1	March
3	Chennai	Hyderabad	2	April
4	Hyderabad	Mumbai	1	Febru...

4. Write a query to display the customer(s) who has/have booked maximum number of tickets in ABC Airlines. The Query should display profile_id, customer’s first_name, Address and Number of tickets booked as “No_of_Tickets”. Display the records in ascending order based on customer's first name
   SELECT TOP 1 P.PROFILE_ID,P.FIRST_NAME,P.ADDRESS,COUNT(*) AS " No_of_Tickets " FROM AIR_PASSENGER_PROFILE P JOIN AIR_TICKET_INFO T ON P.PROFILE_ID=T.PROFILE_ID GROUP BY (T.PROFILE_ID),P.PROFILE_ID,P.FIRST_NAME ORDER BY COUNT(*) DESC;

	PROFILE_ID	FIRST_NAME	No_of_Tickets
1	P001	Arjun	2

5. Write a query to display the number of tickets booked from Chennai to Hyderabad. The Query should display passenger profile_id,first_name,last_name, Flight_Id ,

Departure_Date and number of tickets booked as “No_of_Tickets”. Display the records sorted in ascending order based on profile id and then by flight id and then by departure date.

SELECT p.profile_id, p.first_name, p.last_name, f.flight_id, t.flight_departure_date AS Departure_Date, COUNT(t.ticket_id) AS No_of_Tickets FROM air_ticket_info t JOIN air_passenger_profile p ON t.profile_id = p.profile_id JOIN air_flight f ON t.flight_id = f.flight_id WHERE f.from_location = 'Chennai' AND f.to_location = 'Hyderabad' GROUP BY p.profile_id, p.first_name, p.last_name, f.flight_id, t.flight_departure_date ORDER BY p.profile_id, f.flight_id, t.flight_departure_date;

	profile_id	first_name	last_name	flight_id	Departure_Date	No_of_Tickets
1	P001	Arjun	Reddy	F101	2025-04-05	1
2	P002	Bhavya	Sharma	F101	2025-04-15	1
3	P004	Divya	Iyer	F101	2025-04-05	1

6. Write a query to display flight id,from location, to location and ticket price of flights whose departure is in the month of april.

SELECT f.flight_id, f.from_location, f.to_location, fd.price FROM air_flight f JOIN air_flight_details fd ON f.flight_id = fd.flight_id WHERE MONTH(fd.flight_departure_date) =4;

	flight_id	from_location	to_location	price
1	F101	Chennai	Hyderabad	4500.00
2	F101	Chennai	Hyderabad	4800.00
3	F104	Bangalore	Delhi	7200.00

7. Write a query to display the average cost of the tickets in each flight on all scheduled dates. The query should display flight_id, from_location, to_location and Average price as “Price”. Display the records sorted in ascending order based on flight id and then by from_location and then by to_location

SELECT f.flight_id, f.from_location, f.to_location, AVG(fd.price) AS Price FROM air_flight f JOIN air_flight_details fd ON f.flight_id = fd.flight_id GROUP BY f.flight_id, f.from_location, f.to_location ORDER BY f.flight_id, f.from_location, f.to_location;

	flight_id	from_location	to_location	Price
1	F101	Chennai	Hyderabad	4650.000000
2	F102	Chennai	Bangalore	3500.000000
3	F103	Hyderabad	Mumbai	6500.000000
4	F104	Bangalore	Delhi	7200.000000

8. Write a query to display the customers who have booked Θckets from Chennai to Hyderabad. The query should display profile_id, customer_name (combine first_name &

last_name with comma in b/w), address of the customer. Give an alias to the name as customer_name. Hint: Query should fetch unique customers irrespective of multiple tickets booked. Display the records sorted in ascending order based on profile id.

```
SELECT DISTINCT p.profile_id, CONCAT(p.first_name, ',', p.last_name) AS customer_name, p.address FROM air_passenger_profile p JOIN air_ticket_info t ON p.profile_id = t.profile_id JOIN air_flight f ON t.flight_id = f.flight_id WHERE f.from_location = 'Chennai' AND f.to_location = 'Hyderabad' ORDER BY p.profile_id;
```

	profile_id	customer_name	address
1	P001	Arjun,Reddy	Chennai
2	P002	Bhavya,Sharma	Hyderabad
3	P004	Divya,Iyer	Chennai

9. Write a query to display profile id of the passenger(s) who has/have booked maximum number of Θckets. In case of mulΘple records, display the records sorted in ascending order based on profile id.

   ```
   SELECT f.flight_id, f.from_location, f.to_location, AVG(fd.price) AS Price FROM air_flight f JOIN air_flight_details fd ON f.flight_id = fd.flight_id GROUP BY f.flight_id, f.from_location, f.to_location ORDER BY f.flight_id, f.from_location, f.to_location;
   ```

10. Write a query to display the total number of tickets as “No_of_Tickets” booked in each flight in ABC Airlines. The Query should display the flight_id, from_location, to_location and the number of Θckets. Display only the flights in which atleast 1 ticket is booked. Display the records sorted in ascending order based on flight id.

    ```
    SELECT DISTINCT p.profile_id, CONCAT(p.first_name, ',', p.last_name) AS customer_name, p.address FROM air_passenger_profile p JOIN air_ticket_info t ON p.profile_id = t.profile_id JOIN air_flight f ON t.flight_id = f.flight_id WHERE f.from_location = 'Chennai' AND f.to_location = 'Hyderabad' ORDER BY p.profile_id;
    ```