

AIRLINES Assignment

TABLES CREATIONS:

```
CREATE TABLE air_passenger_profile (
    profile_id INT IDENTITY(1,1) PRIMARY KEY,
    password VARCHAR(20),
    first_name VARCHAR(20),
    last_name VARCHAR(20),
    address VARCHAR(100),
    mobile_number BIGINT,
    email_id VARCHAR(50)
```

```
CREATE TABLE air_flight (
    flight_id INT IDENTITY(1,1) PRIMARY KEY,
    airline_id VARCHAR(10),
    airline_name VARCHAR(30),
    from_location VARCHAR(30),
    to_location VARCHAR(30),
    departure_time TIME,
    arrival_time TIME,
    duration TIME,
    total_seats INT
);
```

```
CREATE TABLE air_flight_details (
    flight_detail_id INT IDENTITY(1,1) PRIMARY KEY,
```

```
flight_id INT NOT NULL,  
flight_departure_date DATE NOT NULL,  
price DECIMAL(8,2),  
available_seats INT,  
FOREIGN KEY (flight_id) REFERENCES air_flight(flight_id)  
);
```

```
CREATE TABLE air_ticket_info (  
ticket_id INT IDENTITY(1,1) PRIMARY KEY,  
profile_id INT NOT NULL,  
flight_id INT NOT NULL,  
flight_departure_date DATE NOT NULL,  
status VARCHAR(15),  
FOREIGN KEY (profile_id) REFERENCES air_passenger_profile(profile_id),  
FOREIGN KEY (flight_id) REFERENCES air_flight(flight_id)  
);
```

```
CREATE TABLE air_credit_card_details (  
card_id INT IDENTITY(1,1) PRIMARY KEY,  
profile_id INT NOT NULL,  
card_number BIGINT UNIQUE,  
card_type VARCHAR(20),  
expiration_month INT,  
expiration_year INT,  
FOREIGN KEY (profile_id) REFERENCES air_passenger_profile(profile_id)  
);
```

INSERTION COMMANDS:

```
INSERT INTO air_passenger_profile  
(password, first_name, last_name, address, mobile_number, email_id)  
VALUES  
('pass123', 'Ravi', 'Kumar', 'Chennai', 9876543210, 'ravi@gmail.com'),  
('pass234', 'Anita', 'Sharma', 'Hyderabad', 9876543222, 'anita@gmail.com'),  
('pass345', 'Suresh', 'Rao', 'Bangalore', 9876543233, 'suresh@gmail.com'),  
('pass456', 'Meena', 'Iyer', 'Chennai', 9876543244, 'meena@gmail.com');
```

```
INSERT INTO air_flight  
(airline_id, airline_name, from_location, to_location, departure_time, arrival_time,  
duration, total_seats)  
VALUES  
('AI01', 'ABC Airlines', 'Chennai', 'Hyderabad', '09:00', '10:30', '01:30', 180),  
('AI01', 'ABC Airlines', 'Chennai', 'Bangalore', '12:00', '13:15', '01:15', 160),  
('AI01', 'ABC Airlines', 'Hyderabad', 'Delhi', '18:00', '20:30', '02:30', 200);
```

```
INSERT INTO air_flight_details  
(flight_id, flight_departure_date, price, available_seats)  
VALUES  
(1, '2025-01-10', 4500.00, 120),  
(1, '2025-02-10', 4800.00, 110),  
(1, '2025-04-15', 5200.00, 90),  
(2, '2025-01-12', 4000.00, 100),  
(2, '2025-04-18', 4300.00, 85),
```

(3, '2025-03-05', 6500.00, 150),

(3, '2025-04-20', 7000.00, 130);

INSERT INTO air_ticket_info

(profile_id, flight_id, flight_departure_date, status)

VALUES

(1, 1, '2025-01-10', 'Booked'),

(1, 1, '2025-02-10', 'Booked'),

(2, 1, '2025-04-15', 'Booked'),

(2, 2, '2025-01-12', 'Booked'),

(3, 3, '2025-03-05', 'Booked'),

(4, 1, '2025-01-10', 'Booked'),

(4, 2, '2025-04-18', 'Booked');

INSERT INTO air_credit_card_details

(profile_id, card_number, card_type, expiration_month, expiration_year)

VALUES

(1, 4111111111111111, 'VISA', 10, 2028),

(2, 5222222222222222, 'MASTERCARD', 8, 2027),

(3, 4333333333333333, 'VISA', 12, 2026),

(4, 5444444444444444, 'MASTERCARD', 6, 2029);

QUERIES:

1. select f.flight_id, f.from_location, f.to_location,
Dataname(month,fd.flight_departure_date) as month,avg(fd.price) as average_price
from air_flight f
join air_flight_details fd

```

on f.flight_id=fd.flight_id
where f.airline_name='ABC Airlines'
group by
f.flight_id,f.from_location,f.to_location,
Datename(month,fd.flight_departure_date),month(fd.flight_departure_date)
order by
f.flight_id asc, month(fd.flight_departure_date) asc

```

	flight_id	from_location	to_location	month	average_price
1	1	Chennai	Hyderabad	January	4500.000000
2	1	Chennai	Hyderabad	February	4800.000000
3	1	Chennai	Hyderabad	April	5200.000000
4	2	Chennai	Bangalore	January	4000.000000
5	2	Chennai	Bangalore	April	4300.000000
6	3	Hyderabad	Delhi	March	6500.000000
7	3	Hyderabad	Delhi	April	7000.000000

2. SELECT

```

p.profile_id,
p.first_name,
p.address,
COUNT(t.ticket_id) AS No_of_Tickets
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.airline_name = 'ABC Airlines'
GROUP BY
p.profile_id, p.first_name, p.address
HAVING COUNT(t.ticket_id) =
SELECT MIN(COUNT(ticket_id))
FROM air_ticket_info t2
JOIN air_flight f2
    ON t2.flight_id = f2.flight_id
WHERE f2.airline_name = 'ABC Airlines'

```

```

        GROUP BY t2.profile_id)
        ORDER BY p.first_name;
    
```

	profile_id	first_name	address	No_of_Tickets
1	3	Suresh	Bangalore	1

3. SELECT

```

        f.from_location AS From_Location,
        f.to_location AS To_Location,
        DATENAME(MONTH, fd.flight_departure_date) AS Month_Name,
        COUNT(fd.flight_departure_date) AS No_of_Services
    FROM air_flight f
    JOIN air_flight_details fd
        ON f.flight_id = fd.flight_id
    GROUP BY
        f.from_location,
        f.to_location,
        DATENAME(MONTH, fd.flight_departure_date),
        MONTH(fd.flight_departure_date)
    ORDER BY
        f.from_location,
        f.to_location,
        MONTH(fd.flight_departure_date);
    
```

	From_Location	To_Location	Month_Name	No_of_Services
1	Chennai	Bangalore	January	1
2	Chennai	Bangalore	April	1
3	Chennai	Hyderabad	January	1
4	Chennai	Hyderabad	February	1
5	Chennai	Hyderabad	April	1
6	Hyderabad	Delhi	March	1
7	Hyderabad	Delhi	April	1

4. SELECT

```

        p.profile_id,
        p.first_name,
        p.address,
    
```

```

COUNT(t.ticket_id) AS No_of_Tickets
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.airline_name = 'ABC Airlines'
GROUP BY
    p.profile_id, p.first_name, p.address
HAVING COUNT(t.ticket_id) = (
    SELECT MAX(COUNT(ticket_id))
    FROM air_ticket_info t2
    JOIN air_flight f2
        ON t2.flight_id = f2.flight_id
    WHERE f2.airline_name = 'ABC Airlines'
    GROUP BY t2.profile_id
)
ORDER BY p.first_name;

```

Results		Messages		
	profile_id	first_name	address	No_of_Tickets
1	2	Anita	Hyderabad	2
2	4	Meena	Chennai	2
3	1	Ravi	Chennai	2

5. 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 ASC,
    f.flight_id ASC,
    t.flight_departure_date ASC;

```

	profile_id	first_name	last_name	flight_id	Departure_Date	No_of_Tickets
1	1	Ravi	Kumar	1	2025-01-10	1
2	1	Ravi	Kumar	1	2025-02-10	1
3	2	Anita	Sharma	1	2025-04-15	1
4	4	Meena	Iyer	1	2025-01-10	1

6. SELECT

```

f.flight_id,
f.from_location,
f.to_location,
fd.price AS ticket_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	ticket_price
1	1	Chennai	Hyderabad	5200.00
2	2	Chennai	Bangalore	4300.00
3	3	Hyderabad	Delhi	7000.00

7. 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 ASC,
    f.from_location ASC,
    f.to_location ASC;

```

	flight_id	from_location	to_location	Price
1	1	Chennai	Hyderabad	4833.333333
2	2	Chennai	Bangalore	4150.000000
3	3	Hyderabad	Delhi	6750.000000

8. SELECT DISTINCT

```

p.profile_id,
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 ASC;

```

Results Messages

	profile_id	customer_name	address
1	1	Ravi,Kumar	Chennai
2	2	Anita,Sharma	Hyderabad
3	4	Meena,Iyer	Chennai

9. SELECT

```

profile_id
FROM air_ticket_info
GROUP BY profile_id
HAVING COUNT(ticket_id) = (
    SELECT MAX(ticket_count)
    FROM (
        SELECT COUNT(ticket_id) AS ticket_count
        FROM air_ticket_info
        GROUP BY profile_id
    )x
)
ORDER BY profile_id ASC;

```

Results Messages

	profile_id
1	1
2	2
3	4

10. SELECT

```

f.flight_id,
f.from_location,
f.to_location,
COUNT(t.ticket_id) AS No_of_Tickets
FROM air_flight f
JOIN air_ticket_info t
    ON f.flight_id = t.flight_id
WHERE f.airline_name = 'ABC Airlines'
GROUP BY
    f.flight_id,

```

```
f.from_location,  
f.to_location  
HAVING COUNT(t.ticket_id) >= 1  
ORDER BY  
f.flight_id ASC;
```

Results Messages

	flight_id	from_location	to_location	No_of_Tickets
1	1	Chennai	Hyderabad	4
2	2	Chennai	Bangalore	2
3	3	Hyderabad	Delhi	1