

# 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,  
Datename(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;

Results		Messages		
	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);

Results		Messages		
	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;

```

	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;

```

Results		Messages		
	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