

## DAY-3 ASSIGNMENT

### AirlineDB:

1. CREATE DATABASE AirlineDB;  
USE AirlineDB;
2. Create table commands for all the tables with constraints, relationships etc.

```
CREATE TABLE air_passenger_profile (  
    profile_id    VARCHAR(10) PRIMARY KEY,  
    password      VARCHAR(100) NOT NULL,  
    first_name    VARCHAR(50) NOT NULL,  
    last_name     VARCHAR(50) NOT NULL,  
    address       VARCHAR(255),  
    mobile_number BIGINT NOT NULL,  
    email_id      VARCHAR(100) NOT NULL UNIQUE  
);
```

```
CREATE TABLE air_flight (  
    flight_id      VARCHAR(10) PRIMARY KEY,  
    airline_id     VARCHAR(10) NOT NULL,  
    airline_name   VARCHAR(50) NOT NULL,  
    from_location  VARCHAR(30) NOT NULL,  
    to_location    VARCHAR(30) NOT NULL,  
    departure_time TIME NOT NULL,  
    arrival_time   TIME NOT NULL,  
    duration_time  VARCHAR(10),  
    total_seats    INT NOT NULL  
);
```

```
CREATE TABLE air_flight_details (  
    flight_id          VARCHAR(10) NOT NULL,  
    flight_departure_date DATE NOT NULL,  
    price              DECIMAL(10,2) NOT NULL,  
    available_seats    INT NOT NULL,  
  
    CONSTRAINT pk_flight_details  
        PRIMARY KEY (flight_id, flight_departure_date),  
  
    CONSTRAINT fk_flight_details_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) NOT NULL,  
    flight_id      VARCHAR(10) NOT NULL,  
    flight_departure_date DATE NOT NULL,  
    status         VARCHAR(20) NOT NULL,  
  
    CONSTRAINT fk_ticket_profile  
        FOREIGN KEY (profile_id)  
        REFERENCES air_passenger_profile(profile_id),
```

```

        CONSTRAINT fk_ticket_flight
        FOREIGN KEY (flight_id, flight_departure_date)
        REFERENCES air_flight_details(flight_id, flight_departure_date)
    );

CREATE TABLE air_credit_card_details (
    profile_id      VARCHAR(10) NOT NULL,
    card_number     BIGINT      NOT NULL,
    card_type       VARCHAR(20) NOT NULL,
    expiration_month TINYINT     NOT NULL CHECK (expiration_month BETWEEN 1
AND 12),
    expiration_year  SMALLINT    NOT NULL,

    CONSTRAINT pk_card
    PRIMARY KEY (profile_id, card_number),

    CONSTRAINT fk_card_profile
    FOREIGN KEY (profile_id)
    REFERENCES air_passenger_profile(profile_id)
);

```

3. Create table commands for all the tables with constraints, relationships etc.

```

INSERT INTO air_passenger_profile
(profile_id, password, first_name, last_name, address, mobile_number,
email_id)
VALUES
('P001', 'pass1', 'Ravi', 'Kumar', 'Chennai', 9876543210, 'ravi@gmail.com'),
('P002', 'pass2', 'Arun', 'Verma', 'Hyderabad', 9876543211, 'arun@gmail.com'),
('P003', 'pass3', 'Neha', 'Sharma', 'Bangalore', 9876543212, 'neha@gmail.com'),
('P004', 'pass4', 'Kiran', 'Rao', 'Chennai', 9876543213, 'kiran@gmail.com');

```

```

INSERT INTO air_flight
(flight_id, airline_id, airline_name, from_location, to_location,
departure_time, arrival_time, duration_time, total_seats)
VALUES
('F101', 'A001', 'ABC
Airlines', 'Chennai', 'Hyderabad', '08:00', '09:30', '1.5Hr', 180),
('F102', 'A001', 'ABC Airlines', 'Hyderabad', 'Delhi', '10:00', '12:00', '2Hr', 200),
('F103', 'A001', 'ABC
Airlines', 'Chennai', 'Hyderabad', '18:00', '19:30', '1.5Hr', 160);

```

```

INSERT INTO air_flight_details
(flight_id, flight_departure_date, price, available_seats)
VALUES
('F101', '2025-04-05', 5000, 150),
('F101', '2025-04-12', 5200, 140),
('F101', '2025-05-10', 5300, 130),
('F103', '2025-04-10', 4800, 120),
('F102', '2025-06-01', 7000, 180);

```

```

INSERT INTO air_ticket_info
(ticket_id, profile_id, flight_id, flight_departure_date, status)

```

VALUES

```
( 'T001' , 'P001' , 'F101' , '2025-04-05' , 'CONFIRMED' ) ,  
( 'T002' , 'P001' , 'F101' , '2025-04-12' , 'CONFIRMED' ) ,  
( 'T003' , 'P001' , 'F103' , '2025-04-10' , 'CONFIRMED' ) ,  
( 'T004' , 'P001' , 'F101' , '2025-05-10' , 'CONFIRMED' ) ,  
  
( 'T005' , 'P002' , 'F101' , '2025-04-05' , 'CONFIRMED' ) ,  
  
( 'T006' , 'P003' , 'F103' , '2025-04-10' , 'CONFIRMED' ) ,  
( 'T007' , 'P003' , 'F101' , '2025-05-10' , 'CONFIRMED' ) ,  
  
( 'T008' , 'P004' , 'F101' , '2025-04-12' , 'CONFIRMED' ) ,  
( 'T009' , 'P004' , 'F103' , '2025-04-10' , 'CONFIRMED' ) ;
```

INSERT INTO air\_credit\_card\_details

(profile\_id, card\_number, card\_type, expiration\_month, expiration\_year)

VALUES

```
( 'P001' , 4444333322221111 , 'VISA' , 10 , 2030 ) ,  
( 'P002' , 5555444433332222 , 'MASTER' , 12 , 2031 ) ,  
( 'P003' , 6666555544443333 , 'VISA' , 8 , 2030 ) ,  
( 'P004' , 7777666655554444 , 'AMEX' , 7 , 2032 ) ;
```

## QUESTIONS:

-- 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 a.flight_id,c.from_location,c.to_location,  
DATENAME(MONTH,b.flight_departure_date) as Month_Name,AVG(b.price) as Average_Price  
FROM air_ticket_info a JOIN air_flight_details b  
ON b.flight_id=a.flight_id  
JOIN air_flight c  
on c.flight_id=b.flight_id  
WHERE c.airline_name='ABC AIRLINES' and a.status='Confirmed'  
GROUP BY  
a.flight_id,c.from_location,c.to_location,DATENAME(MONTH,b.flight_departure_date)  
ORDER BY a.flight_id,Month_Name;
```

	flight_id	from_location	to_location	Month_Name	Average_Price
1	F101	Chennai	Hyderabad	April	5100.000000
2	F101	Chennai	Hyderabad	May	5300.000000
3	F103	Chennai	Hyderabad	April	4800.000000

-- 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.

```
WITH TicketCount AS(  
SELECT b.profile_id,b.first_name,b.address,COUNT(*) AS No_of_Tickets  
FROM air_ticket_info a JOIN air_passenger_profile b  
ON b.profile_id=a.profile_id  
JOIN air_flight c  
ON a.flight_id=c.flight_id  
WHERE c.airline_name='ABC Airlines'  
GROUP BY b.profile_id,b.first_name,b.address  
)
```

```
SELECT * FROM TicketCount  
WHERE No_of_Tickets=(SELECT MIN(No_of_Tickets) FROM TicketCount)  
ORDER BY first_name;
```

	profile_id	first_name	address	No_of_Tickets
1	P002	Arun	Hyderabad	1

```
-- 3. Write a query to display the number of flight services between locations in a month.
-- The Query should display From_Location, To_Location, 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.
-- Display the records in ascending order based on From_Location and then by To_Location and then by month name.
```

```
SELECT b.from_location,b.to_location,DATENAME(Month,a.flight_departure_date) AS
Month_Name,COUNT(*) AS No_of_Services
FROM air_flight_details a JOIN air_flight b
ON b.flight_id=a.flight_id
GROUP BY
from_location,to_location,DATENAME(Month,a.flight_departure_date),MONTH(a.flight_dep
arture_date)
ORDER BY b.from_location,b.to_location,MONTH(a.flight_departure_date);
```

	from_location	to_location	Month_Name	No_of_Services
1	Chennai	Hyderabad	April	3
2	Chennai	Hyderabad	May	1
3	Hyderabad	Delhi	June	1

```
-- 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.
```

```
WITH TicketCount AS(
SELECT b.profile_id,b.first_name,b.address,COUNT(*) AS No_of_Tickets
FROM air_ticket_info a JOIN air_passenger_profile b
ON b.profile_id=a.profile_id
JOIN air_flight c
ON a.flight_id=c.flight_id
WHERE c.airline_name='ABC Airlines'
GROUP BY b.profile_id,b.first_name,b.address
)
```

```
SELECT * FROM TicketCount
WHERE No_of_Tickets=(SELECT MAX(No_of_Tickets) FROM TicketCount)
ORDER BY first_name;
```

	profile_id	first_name	address	No_of_Tickets
1	P001	Ravi	Chennai	4

```
-- 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,
-- then by flight id and then by departure date.
```

```
SELECT
b.profile_id,b.first_name,b.last_name,a.flight_id,a.flight_departure_date,COUNT(*)
AS No_of_Tickets
FROM air_ticket_info a JOIN air_passenger_profile b
ON b.profile_id=a.profile_id
JOIN air_flight c
ON a.flight_id=c.flight_id
WHERE c.from_location='Chennai' AND c.to_location='Hyderabad'
GROUP BY b.profile_id,b.first_name,b.last_name,a.flight_id,a.flight_departure_date
ORDER BY b.profile_id,a.flight_id,a.flight_departure_date;
```

	profile_id	first_name	last_name	flight_id	flight_departure_date	No_of_Tickets
1	P001	Ravi	Kumar	F101	2025-04-05	1
2	P001	Ravi	Kumar	F101	2025-04-12	1
3	P001	Ravi	Kumar	F101	2025-05-10	1
4	P001	Ravi	Kumar	F103	2025-04-10	1
5	P002	Arun	Verma	F101	2025-04-05	1
6	P003	Neha	Sharma	F101	2025-05-10	1
7	P003	Neha	Sharma	F103	2025-04-10	1
8	P004	Kiran	Rao	F101	2025-04-12	1
9	P004	Kiran	Rao	F103	2025-04-10	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 b.flight_id,b.from_location,b.to_location,a.price
FROM air_flight_details a JOIN air_flight b
ON a.flight_id=b.flight_id
WHERE DATENAME(MONTH,a.flight_departure_date)='April';
```

	flight_id	from_location	to_location	price
1	F101	Chennai	Hyderabad	5000.00
2	F101	Chennai	Hyderabad	5200.00
3	F103	Chennai	Hyderabad	4800.00

```
-- 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 b.flight_id,b.from_location,b.to_location,AVG(a.price) AS Price
FROM air_flight_details a JOIN air_flight b
ON a.flight_id=b.flight_id
GROUP BY b.flight_id,b.from_location,b.to_location
ORDER BY b.flight_id,b.from_location,b.to_location
```

	flight_id	from_location	to_location	Price
1	F101	Chennai	Hyderabad	5166.666666
2	F102	Hyderabad	Delhi	7000.000000
3	F103	Chennai	Hyderabad	4800.000000

```
-- 8. Write a query to display the customers who have booked tickets from Chennai to
Hyderabad.
-- The query should display profile_id, customer_name (combine first_name &
last_name with comma in between),
-- 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(b.profile_id),b.first_name+' '+b.last_name as
customer_name,b.address
FROM air_ticket_info a JOIN air_passenger_profile b
ON b.profile_id=a.profile_id
JOIN air_flight c
ON a.flight_id=c.flight_id
WHERE c.from_location='Chennai' AND c.to_location='Hyderabad'
ORDER BY b.profile_id;
```

	profile_id	customer_name	address
1	P001	Ravi Kumar	Chennai
2	P002	Arun Verma	Hyderabad
3	P003	Neha Sharma	Bangalore
4	P004	Kiran Rao	Chennai

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

```
WITH TicketCount AS(
SELECT b.profile_id,b.first_name,b.address,COUNT(*) AS No_of_Tickets
FROM air_ticket_info a JOIN air_passenger_profile b
ON b.profile_id=a.profile_id
JOIN air_flight c
ON a.flight_id=c.flight_id
GROUP BY b.profile_id,b.first_name,b.address
)
```

```
SELECT * FROM TicketCount
WHERE No_of_Tickets=(SELECT MAX(No_of_Tickets) FROM TicketCount)
ORDER BY profile_id;
```

	profile_id	first_name	address	No_of_Tickets
1	P001	Ravi	Chennai	4

```
-- 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 tickets.
--      Display only the flights in which at least 1 ticket is booked.
--      Display the records sorted in ascending order based on flight id.
```

```
SELECT a.flight_id,c.from_location,c.to_location,COUNT(*) AS No_of_Tickets
FROM air_ticket_info a JOIN air_passenger_profile b
ON b.profile_id=a.profile_id
JOIN air_flight c
ON a.flight_id=c.flight_id
WHERE c.airline_name='ABC Airlines'
GROUP BY a.flight_id,c.from_location,c.to_location
ORDER BY a.flight_id;
```

	flight_id	from_location	to_location	No_of_Tickets
1	F101	Chennai	Hyderabad	6
2	F103	Chennai	Hyderabad	3