

DAY -3 ASSIGNMENT
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-- Creating DataBases

```
CREATE DATABASE Air_Ticket_DB;
USE Air_Ticket_DB;
```

-- creating tables

```
CREATE TABLE air_passenger_profile (
    PROFILE_ID INT IDENTITY(1,1) 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 INT IDENTITY(1,1) 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 INT,
    FLIGHT_DEPARTURE_DATE DATE,
    PRICE DECIMAL(8,2),
    AVAILABLE_SEATS INT,
    CONSTRAINT FK_flight_details_flight
        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,
    FLIGHT_ID INT,
    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 INT,
    CARD_NUMBER BIGINT,
    CARD_TYPE VARCHAR(10),
    EXPIRATION_MONTH INT,
    EXPIRATION_YEAR INT,
    CONSTRAINT FK_card_profile
        FOREIGN KEY (PROFILE_ID)
        REFERENCES air_passenger_profile(PROFILE_ID)
);

-- inserting values into tables

INSERT INTO air_passenger_profile
(PASSWORD, FIRST_NAME, LAST_NAME, ADDRESS, MOBILE_NUMBER, EMAIL_ID)
VALUES
('pwd1', 'Amit', 'Sharma', 'Chennai', 9876543210, 'amit@gmail.com'),
('pwd2', 'Bhavya', 'Reddy', 'Hyderabad', 9876543211, 'bhavya@gmail.com'),
('pwd3', 'Charan', 'Kumar', 'Bangalore', 9876543212, 'charan@gmail.com'),
('pwd4', 'Divya', 'Singh', 'Chennai', 9876543213, 'divya@gmail.com'),
('pwd5', 'Esha', 'Mehta', 'Pune', 9876543214, 'esha@gmail.com');

INSERT INTO air_flight
(AIRLINE_ID, AIRLINE_NAME, FROM_LOCATION, TO_LOCATION,
DEPARTURE_TIME, ARRIVAL_TIME, DURATION, TOTAL_SEATS)
VALUES
('ABC', 'ABC Airlines', 'Chennai', 'Hyderabad', '06:00', '07:30',
'01:30', 180),
('ABC', 'ABC Airlines', 'Hyderabad', 'Chennai', '09:00', '10:30',
'01:30', 180),
('ABC', 'ABC Airlines', 'Chennai', 'Bangalore', '11:00', '12:15',
'01:15', 150),
('XYZ', 'XYZ Airlines', 'Delhi', 'Mumbai', '14:00', '16:00',
'02:00', 200),
('ABC', 'ABC Airlines', 'Mumbai', 'Pune', '18:00', '19:00',
'01:00', 120);

INSERT INTO air_flight_details
(FLIGHT_ID, FLIGHT_DEPARTURE_DATE, PRICE, AVAILABLE_SEATS)
VALUES
(1, '2025-03-10', 4500.00, 50),
(1, '2025-04-15', 4800.00, 40),
(2, '2025-04-20', 4700.00, 45),
(3, '2025-05-05', 3200.00, 60),
(4, '2025-04-18', 6500.00, 30),
(5, '2025-03-25', 2200.00, 70);

INSERT INTO air_ticket_info
(PROFILE_ID, FLIGHT_ID, FLIGHT_DEPARTURE_DATE, STATUS)
VALUES
(1, 1, '2025-04-15', 'BOOKED'),
(1, 1, '2025-04-15', 'BOOKED'),
(2, 1, '2025-03-10', 'BOOKED'),
(3, 2, '2025-04-20', 'BOOKED'),
(3, 2, '2025-04-20', 'BOOKED'),

```

```

(3, 2, '2025-04-20', 'BOOKED'),
(4, 3, '2025-05-05', 'BOOKED'),
(5, 5, '2025-03-25', 'BOOKED');

INSERT INTO air_credit_card_details
(PROFILE_ID, CARD_NUMBER, CARD_TYPE, EXPIRATION_MONTH, EXPIRATION_YEAR)
VALUES
(1, 4111111111111111, 'VISA', 12, 2027),
(2, 5111111111111111, 'MASTER', 11, 2026),
(3, 4222222222222222, 'VISA', 10, 2028),
(4, 5333333333333333, 'MASTER', 9, 2027),
(5, 4444444444444444, 'VISA', 8, 2026);

```

--1

```

SELECT
    f.FLIGHT_ID,
    f.FROM_LOCATION,
    f.TO_LOCATION,
    DATENAME(MONTH, fd.FLIGHT_DEPARTURE_DATE) AS Month_Name,
    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,
    DATENAME(MONTH, fd.FLIGHT_DEPARTURE_DATE);

```

	FLIGHT_ID	FROM_LOCATION	TO_LOCATION	Month_Name	Average_Price
1	1	Chennai	Hyderabad	April	4800.000000
2	1	Chennai	Hyderabad	March	4500.000000
3	2	Hyderabad	Chennai	April	4700.000000
4	3	Chennai	Bangalore	May	3200.000000
5	5	Mumbai	Pune	March	2200.000000

--2

```

SELECT
    P.PROFILE_ID,
    P.FIRST_NAME,
    P.ADDRESS,
    COUNT(A.PROFILE_ID) AS No_of_Tickets
FROM air_passenger_profile P
JOIN air_ticket_info A
    ON P.PROFILE_ID = A.PROFILE_ID
JOIN air_flight F
    ON F.FLIGHT_ID = A.FLIGHT_ID
WHERE F.AIRLINE_NAME = 'ABC Airlines'

```

```

GROUP BY
    P.PROFILE_ID,
    P.FIRST_NAME,
    P.ADDRESS
HAVING COUNT(A.PROFILE_ID) = (
    SELECT TOP 1 COUNT(*)
    FROM air_ticket_info A2
    JOIN air_flight F2
        ON F2.FLIGHT_ID = A2.FLIGHT_ID
    WHERE F2.AIRLINE_NAME = 'ABC Airlines'
    GROUP BY A2.PROFILE_ID
    ORDER BY COUNT(*)
)
ORDER BY
    P.FIRST_NAME;

```

	PROFILE_ID	FIRST_NAME	ADDRESS	No_of_Tickets
1	2	Bhavya	Hyderabad	1
2	4	Divya	Chennai	1
3	5	Esha	Pune	1

--3

```

SELECT
    f.FROM_LOCATION,
    f.TO_LOCATION,
    DATENAME(MONTH, fd.FLIGHT_DEPARTURE_DATE) AS Month_Name,
    count(*) as tot_ser
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,
    DATENAME(MONTH, fd.FLIGHT_DEPARTURE_DATE);

```

	FROM_LOCATION	TO_LOCATION	Month_Name	tot_ser
1	Chennai	Bangalore	May	1
2	Chennai	Hyderabad	April	1
3	Chennai	Hyderabad	March	1
4	Delhi	Mumbai	April	1
5	Hyderabad	Chennai	April	1
6	Mumbai	Pune	March	1

```
--4
SELECT
    P.PROFILE_ID,
    P.FIRST_NAME,
    P.ADDRESS,
    COUNT(A.PROFILE_ID) AS No_of_Tickets
FROM air_passenger_profile P
JOIN air_ticket_info A
    ON P.PROFILE_ID = A.PROFILE_ID
JOIN air_flight F
    ON F.FLIGHT_ID = A.FLIGHT_ID
WHERE F.AIRLINE_NAME = 'ABC Airlines'
GROUP BY
    P.PROFILE_ID,
    P.FIRST_NAME,
    P.ADDRESS
HAVING COUNT(A.PROFILE_ID) = (
    SELECT TOP 1 COUNT(*)
    FROM air_ticket_info A2
    JOIN air_flight F2
        ON F2.FLIGHT_ID = A2.FLIGHT_ID
    WHERE F2.AIRLINE_NAME = 'ABC Airlines'
    GROUP BY A2.PROFILE_ID
    ORDER BY COUNT(*) desc
)
ORDER BY
    P.FIRST_NAME;
```

	PROFILE_ID	FIRST_NAME	ADDRESS	No_of_Tickets
1	3	Charan	Bangalore	3

```
--5
SELECT
    P.PROFILE_ID,
    P.FIRST_NAME,
    P.Last_Name,
    a.flight_id,
    f.FROM_LOCATION,
    f.TO_LOCATION,
    a.FLIGHT_DEPARTURE_DATE,
    P.ADDRESS,
    COUNT(A.PROFILE_ID) AS No_of_Tickets
FROM air_passenger_profile P
JOIN air_ticket_info A
    ON P.PROFILE_ID = A.PROFILE_ID
JOIN air_flight F
    ON F.FLIGHT_ID = A.FLIGHT_ID
where f.FROM_LOCATION='Chennai' and f.TO_LOCATION='Hyderabad'
GROUP BY
    P.PROFILE_ID,
    P.FIRST_NAME,
    P.Last_Name,
    f.FROM_LOCATION,
    f.TO_LOCATION,
    a.flight_id,
    a.FLIGHT_DEPARTURE_DATE,
```

```

P.ADDRESS
ORDER BY
P.PROFILE_ID,
    a.flight_id,
    a.FLIGHT_DEPARTURE_DATE;

```

	PROFILE_ID	FIRST_NAME	Last_Name	flight_id	FROM_LOCATION	TO_LOCATION	FLIGHT_DEPARTURE_DATE	ADDRESS	No_of_Tickets
1	1	Amit	Sharma	1	Chennai	Hyderabad	2025-04-15	Chennai	2
2	2	Bhavya	Reddy	1	Chennai	Hyderabad	2025-03-10	Hyderabad	1

```

--6
select
    f.flight_id,
    f.from_location,
    f.to_location,
    a.price
from air_flight f
join air_flight_details a
    on a.flight_id = f.flight_id
where month(a.flight_departure_date)=4;

```

	flight_id	from_location	to_location	price
1	1	Chennai	Hyderabad	4800.00
2	2	Hyderabad	Chennai	4700.00
3	4	Delhi	Mumbai	6500.00

--7

```

SELECT
    f.FLIGHT_ID,
    f.FROM_LOCATION,
    f.TO_LOCATION,
    AVG(fd.PRICE) AS Average_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	Average_Price
1	1	Chennai	Hyderabad	4650.000000
2	2	Hyderabad	Chennai	4700.000000
3	3	Chennai	Bangalore	3200.000000
4	4	Delhi	Mumbai	6500.000000
5	5	Mumbai	Pune	2200.000000

```
--8
SELECT
    P.PROFILE_ID,
    concat(P.FIRST_NAME,
    P.Last_Name) as full_name,
    P.ADDRESS
FROM air_passenger_profile P
JOIN air_ticket_info A
    ON P.PROFILE_ID = A.PROFILE_ID
JOIN air_flight F
    ON F.FLIGHT_ID = A.FLIGHT_ID
where f.FROM_LOCATION='Chennai' and f.TO_LOCATION='Hyderabad'
GROUP BY
    P.PROFILE_ID,
    concat(P.FIRST_NAME,
    P.Last_Name),
    P.ADDRESS
ORDER BY
    P.PROFILE_ID;
```

	PROFILE_ID	full_name	ADDRESS
1	1	AmitSharma	Chennai
2	2	BhavyaReddy	Hyderabad

```
--9
SELECT
    P.PROFILE_ID,
    P.FIRST_NAME,
    COUNT(A.TICKET_ID) AS No_of_Tickets
FROM air_passenger_profile P
JOIN air_ticket_info A
    ON P.PROFILE_ID = A.PROFILE_ID
GROUP BY
    P.PROFILE_ID,
    P.FIRST_NAME
HAVING COUNT(A.ticket_id) = (
    SELECT TOP 1 COUNT(*)
    FROM air_ticket_info
    group by profile_id
    ORDER BY COUNT(*) desc
)
ORDER BY
    P.Profile_id;
```

	PROFILE_ID	FIRST_NAME	No_of_Tickets
1	3	Charan	3

--10

```
SELECT
    F.FLIGHT_ID,
    F.FROM_LOCATION,
    F.TO_LOCATION,
    COUNT(A.TICKET_ID) AS No_of_Tickets
FROM air_ticket_info A
JOIN air_flight F
    ON F.FLIGHT_ID = A.FLIGHT_ID
WHERE F.AIRLINE_NAME = 'ABC Airlines'
GROUP BY
    F.FLIGHT_ID,
    F.FROM_LOCATION,
    F.TO_LOCATION
HAVING COUNT(A.TICKET_ID) >= 1
ORDER BY
    F.FLIGHT_ID;
```

	FLIGHT_ID	FROM_LOCATION	TO_LOCATION	No_of_Tickets
1	1	Chennai	Hyderabad	3
2	2	Hyderabad	Chennai	3
3	3	Chennai	Bangalore	1
4	5	Mumbai	Pune	1