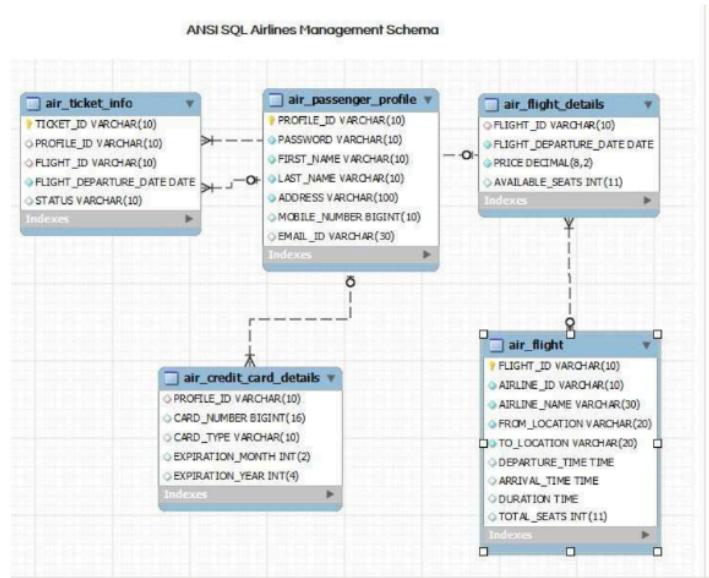


Day 3 - Daily Exercises – SQL Server

Date: 30-12-2025 → Day 3 – Subqueries, Set Operators & CTEs



Creation of database and creation of tables

```
create database aldb;
```

```
use aldb;
```

```
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),
    flight_departure_date DATE,
    price DECIMAL(8,2),
    available_seats INT,
    PRIMARY KEY (flight_id, flight_departure_date),
    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),
    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 (
    profile_id VARCHAR(10),
    card_number BIGINT,
    card_type VARCHAR(10),
    expiration_month INT,
    expiration_year INT,
    PRIMARY KEY (card_number),
    FOREIGN KEY (profile_id) REFERENCES air_passenger_profile(profile_id)
);

```

QUERIES

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,
month(fd.flight_departure_date);

```

	flight_id	from_location	to_location	month_name	average_price
1	F101	Chennai	Hyderabad	January	3500.000000
2	F101	Chennai	Hyderabad	February	3700.000000
3	F101	Chennai	Hyderabad	March	3600.000000
4	F101	Chennai	Hyderabad	April	3800.000000
5	F102	Chennai	Delhi	January	5500.000000
6	F102	Chennai	Delhi	February	5700.000000
7	F102	Chennai	Delhi	April	6000.000000
8	F103	Hyderabad	Mumbai	March	4200.000000
9	F103	Hyderabad	Mumbai	April	4500.000000

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(ticket_count)
         from (
           select count(t2.ticket_id) as ticket_count
             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
         ) x
)
order by p.first_name;

```

	profile_id	first_name	address	no_of_tickets
1	P002	Bhanu	Hyderabad	1

3.

```

select
f.flight_id,
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
where f.airline_name = 'abc airlines'
group by f.flight_id
order by f.flight_id;

```

	flight_id	no_of_services
1	F101	4
2	F102	3
3	F103	2

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(ticket_count)
from (
    select count(t2.ticket_id) as ticket_count
    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
) x
)
order by p.first_name;

```

	profile_id	first_name	address	no_of_tickets
1	P001	Amit	Chennai	4

5.

```

select p.profile_id, p.first_name, p.last_name, t.flight_id, t.flight_departure_date
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'
  and f.from_location = 'chennai'
  and f.to_location = 'hyderabad'
order by p.first_name;

```

	profile_id	first_name	last_name	flight_id	flight_departure_date
1	P001	Amit	Sharma	F101	2025-01-10
2	P001	Amit	Sharma	F101	2025-02-10
3	P002	Bhanu	Reddy	F101	2025-03-10
4	P003	Charan	Kumar	F101	2025-04-15
5	P004	Divya	Patel	F101	2025-02-10

6.

```

select f.flight_id, f.airline_name, f.from_location, f.to_location, fd.flight_departure_date,
fd.price
from air_flight f
join air_flight_details fd
on f.flight_id = fd.flight_id
where f.airline_name = 'abc airlines' and month(fd.flight_departure_date) = 4
order by f.flight_id;

```

	flight_id	airline_name	from_location	to_location	flight_departure_date	price
1	F101	ABC Airlines	Chennai	Hyderabad	2025-04-15	3800.00
2	F102	ABC Airlines	Chennai	Delhi	2025-04-18	6000.00
3	F103	ABC Airlines	Hyderabad	Mumbai	2025-04-20	4500.00

7.

```

select f.flight_id, f.from_location, f.to_location, avg(fd.price) as avg_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
order by f.flight_id;

```

	flight_id	from_location	to_location	avg_price
1	F101	Chennai	Hyderabad	3650.000000
2	F102	Chennai	Delhi	5733.333333
3	F103	Hyderabad	Mumbai	4350.000000

8.

```

select distinct p.profile_id, p.first_name, p.email_id
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'
order by p.first_name;

```

	profile_id	first_name	email_id
1	P001	Amit	amit@gmail.com
2	P002	Bhanu	bhanu@gmail.com
3	P003	Charan	charan@gmail.com
4	P004	Divya	divya@gmail.com

9.

```

select t.profile_id
from air_ticket_info t
join air_flight f
on t.flight_id = f.flight_id
where f.airline_name = 'abc airlines'
group by t.profile_id
having count(t.ticket_id) = (
    select max(ticket_count)
    from (
        select count(t2.ticket_id) as ticket_count
        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
    ) x
);

```

	profile_id
1	P001

10.

```

select f.flight_id, count(t.ticket_id) as no_of_tickets
from air_flight f
left join air_ticket_info t
on f.flight_id = t.flight_id
where f.airline_name = 'abc airlines'
group by f.flight_id
order by f.flight_id;

```

	flight_id	no_of_tickets
1	F101	5
2	F102	2
3	F103	2