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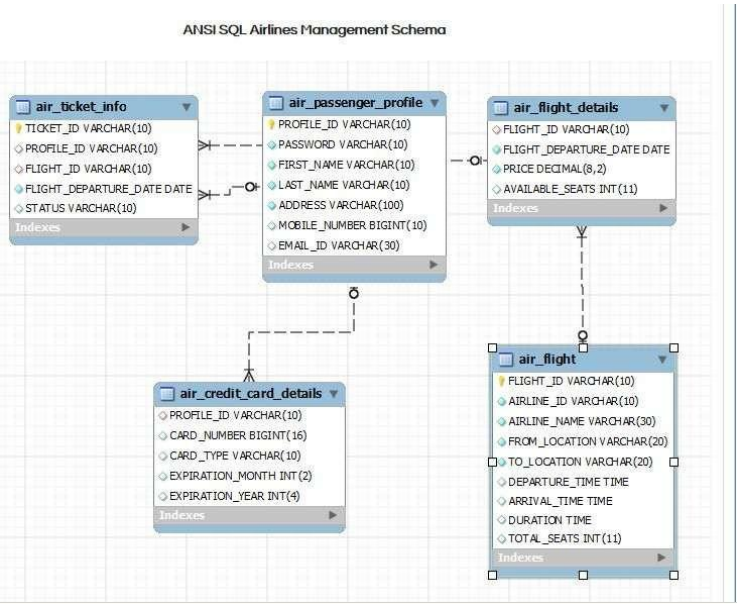
Day 3 - Daily Exercises – SQL Server

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



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.

   Query:

```
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_id like 'ABC%'
group by f.flight_id, f.from_location, f.to_location, datename(month, fd.flight_departure_date)
order by f.flight_id, Month_Name;
```

   Output:

Results | Messages

	flight_id	from_location	to_location	Month_Name	Average_Price
1	F001	Chennai	Hyderabad	April	13200.000000
2	F001	Chennai	Hyderabad	February	13000.000000
3	F001	Chennai	Hyderabad	January	12500.000000
4	F001	Chennai	Hyderabad	March	12800.000000
5	F002	Mumbai	Delhi	April	19000.000000
6	F002	Mumbai	Delhi	January	18500.000000
7	F003	Bangalore	Chennai	February	8500.000000
8	F004	Hyderabad	Chennai	March	9200.000000

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.

Query:

```
select p.profile_id, p.first_name, p.address, count(t.ticket_id) as No_of_Tickets
from air_passenger_profile p left join air_ticket_info t on p.profile_id = t.profile_id
group by p.profile_id, p.first_name, p.address
having count(t.ticket_id) = (select min(cnt) from (select count(ticket_id) cnt from air_ticket_info group by profile_id) min_tix)
order by p.first_name;
```

Output:

Results | Messages

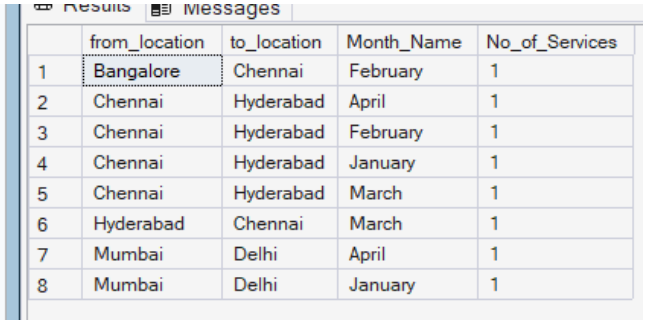
	profile_id	first_name	address	No_of_Tickets
1	P005	Abhijeet	Delhi	1
2	P006	Madhumitha	Chennai	1
3	P008	Pabitha	Bangalore	1
4	P004	Rikhil	Mumbai	1
5	P007	Tejaswini	Hyderabad	1

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. The records should be displayed in ascending order based on From_Location and then by To_Location and then by month name.

Query:

```
select f.from_location, f.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)
order by f.from_location, f.to_location, Month_Name;
```

Output:



Results | Messages

	from_location	to_location	Month_Name	No_of_Services
1	Bangalore	Chennai	February	1
2	Chennai	Hyderabad	April	1
3	Chennai	Hyderabad	February	1
4	Chennai	Hyderabad	January	1
5	Chennai	Hyderabad	March	1
6	Hyderabad	Chennai	March	1
7	Mumbai	Delhi	April	1
8	Mumbai	Delhi	January	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.

Query:

```
select p.profile_id, p.first_name, p.address, count(t.ticket_id) as No_of_Tickets
from air_passenger_profile p left join air_ticket_info t on p.profile_id = t.profile_id
group by p.profile_id, p.first_name, p.address
having count(t.ticket_id) = (select max(cnt) from (select count(ticket_id) cnt from air_ticket_info group by profile_id) max_tix)
order by p.first_name;
```

Output:

Results | Messages

	profile_id	first_name	address	No_of_Tickets
1	P001	Koushik	Chennai	3

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 and then by flight id and then by departure date.

Query:

```
select p.profile_id, p.first_name, p.last_name, t.flight_id, t.flight_departure_date, 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.from_location = 'Chennai' and f.to_location = 'Hyderabad'
group by p.profile_id, p.first_name, p.last_name, t.flight_id, t.flight_departure_date
order by p.profile_id, t.flight_id, t.flight_departure_date;
```

Output:

100 % 23 0

Results | Messages

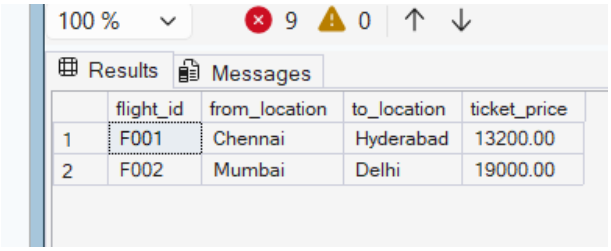
	profile_id	first_name	last_name	flight_id	flight_departure_date	No_of_Tickets
1	P001	Koushik	Kumar	F001	2024-01-15	1
2	P001	Koushik	Kumar	F001	2024-04-22	1
3	P002	Rishik	Reddy	F001	2024-02-20	1
4	P003	Navaneeth	Nair	F001	2024-03-18	1
5	P004	Rikhil	Rao	F001	2024-04-22	1

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.

Query:

```
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;
```

Output:



100 % 9 0

Results Messages

	flight_id	from_location	to_location	ticket_price
1	F001	Chennai	Hyderabad	13200.00
2	F002	Mumbai	Delhi	19000.00

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.

Query:

```
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, f.from_location, f.to_location;
```

Output:

Results Messages

	flight_id	from_location	to_location	Price
1	F001	Chennai	Hyderabad	12875.000000
2	F002	Mumbai	Delhi	18750.000000
3	F003	Bangalore	Chennai	8500.000000
4	F004	Hyderabad	Chennai	9200.000000

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 b/w), 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.

Query:

```
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;
```

Output:

Results Messages

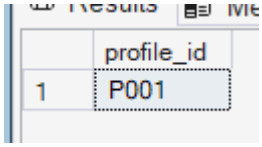
	profile_id	customer_name	address
1	P001	Koushik, Kumar	Chennai
2	P002	Rishik, Reddy	Hyderabad
3	P003	Navaneeth, Nair	Bangalore
4	P004	Rikhil, Rao	Mumbai

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.

Query:

```
select profile_id from air_ticket_info
group by profile_id
having count(ticket_id) = (select max(cnt) from (select count(ticket_id) cnt from air_ticket_info group by profile_id) x)
order by profile_id;
```

Output:



	profile_id
1	P001

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 atleast 1 ticket is booked. Display the records sorted in ascending order based on flight id.

Query:

```
select t.flight_id, f.from_location, f.to_location, count(t.ticket_id) as No_of_Tickets
from air_ticket_info t join air_flight f on t.flight_id = f.flight_id
where f.airline_name like 'ABC%'
group by t.flight_id, f.from_location, f.to_location
having count(t.ticket_id) >= 1
order by t.flight_id;
```

Output:

Results Messages

	flight_id	from_location	to_location	No_of_Tickets
1	F001	Chennai	Hyderabad	5
2	F003	Bangalore	Chennai	2