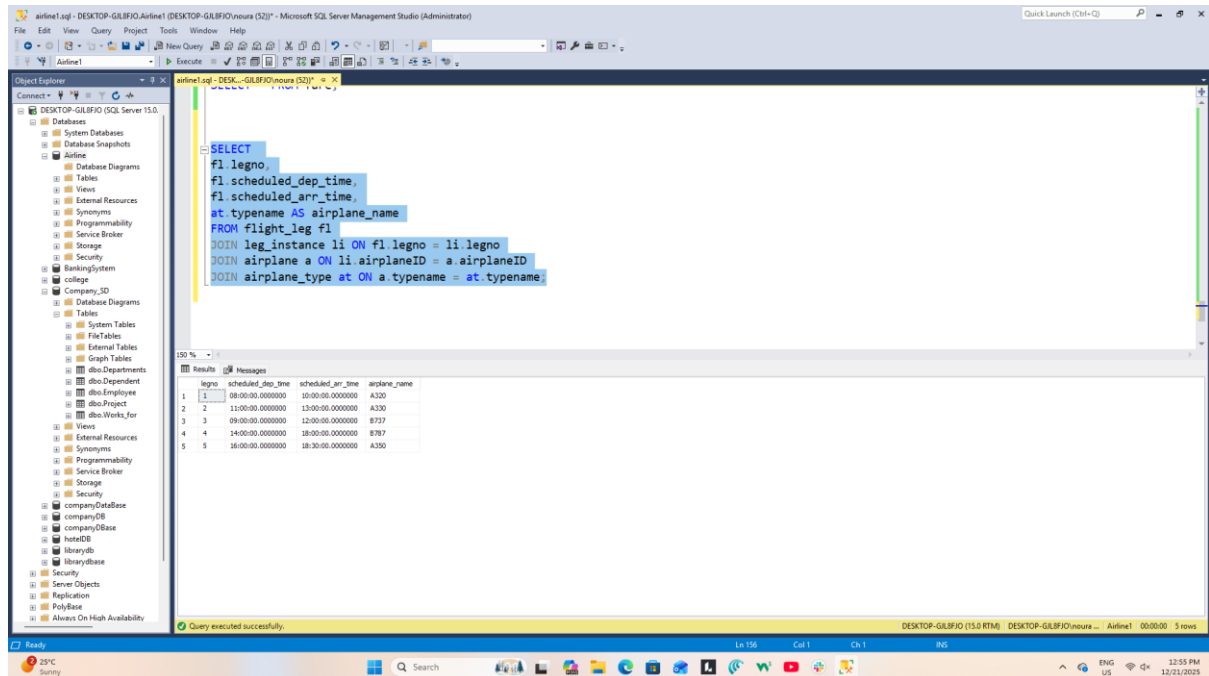


Airline Database – JOIN Queries

1. Display each flight leg's ID, schedule, and the name of the airplane assigned to it.



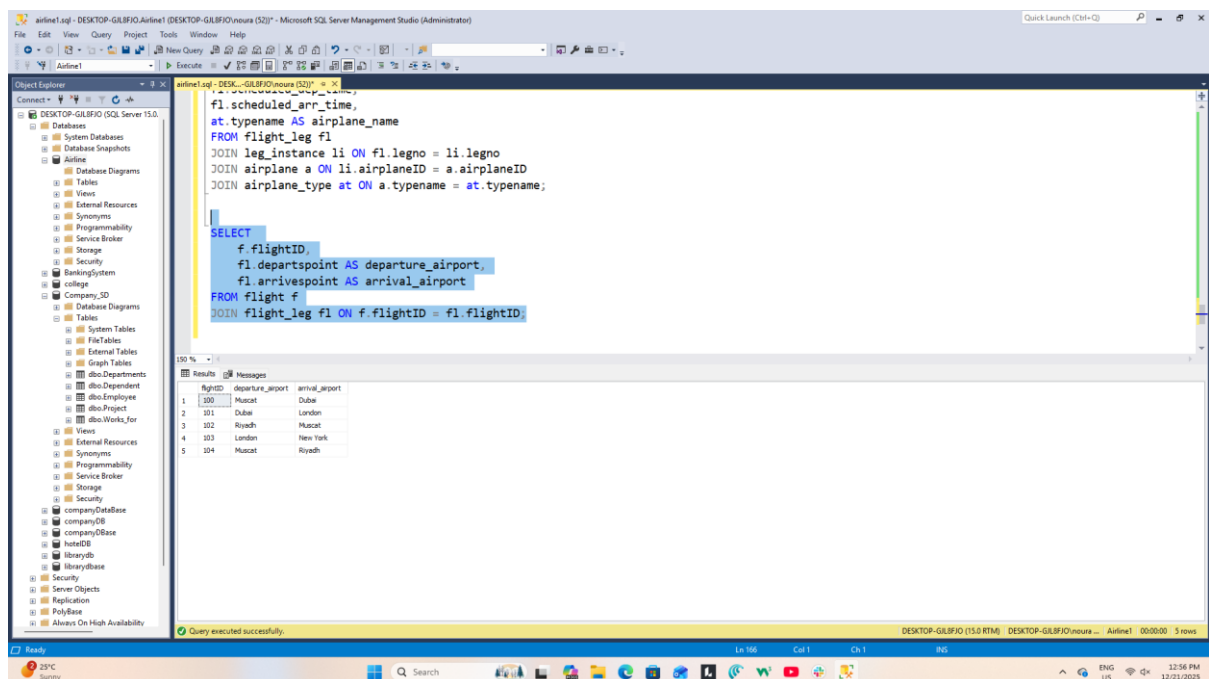
The screenshot shows the Microsoft SQL Server Enterprise Manager interface. The left pane displays the 'Object Explorer' with the 'Airline' database selected. The right pane shows a query window with the following SQL code:

```
SELECT  
    fl legno,  
    fl scheduled_dep_time,  
    fl scheduled_arr_time,  
    at.type AS airplane_name  
FROM flight_leg fl  
JOIN leg_instance li ON fl legno = li legno  
JOIN airplane a ON li airplaneID = a.airplaneID  
JOIN airplane_type at ON a.type = at.type
```

The query results are displayed in a table with the following columns: legno, scheduled_dep_time, scheduled_arr_time, and airplane_name. The results show 5 rows of data.

legno	scheduled_dep_time	scheduled_arr_time	airplane_name
1	08:00:00.0000000	10:00:00.0000000	A320
2	11:00:00.0000000	13:00:00.0000000	A320
3	09:00:00.0000000	12:00:00.0000000	B737
4	14:00:00.0000000	16:00:00.0000000	B767
5	16:00:00.0000000	18:30:00.0000000	A320

2. Display all flight numbers and the names of the departure and arrival airports.



The screenshot shows the Microsoft SQL Server Enterprise Manager interface. The left pane displays the 'Object Explorer' with the 'Airline' database selected. The right pane shows a query window with the following SQL code:

```
fl.scheduled_arr_time,  
at.type AS airplane_name  
FROM flight_leg fl  
JOIN leg_instance li ON fl.legno = li.legno  
JOIN airplane a ON li.airplaneID = a.airplaneID  
JOIN airplane_type at ON a.type = at.type  
  
SELECT  
    f.flightID,  
    f.departpoint AS departure_airport,  
    f.arrivespoint AS arrival_airport  
FROM flight f  
JOIN flight_leg fl ON f.flightID = fl.flightID
```

The query results are displayed in a table with the following columns: flightID, departure_airport, and arrival_airport. The results show 5 rows of data.

flightID	departure_airport	arrival_airport
100	Muscat	Dubai
101	Dubai	London
102	Riyadh	Muscat
103	London	New York
104	Muscat	Riyadh

3. Display all reservation data with the name and phone of the customer who made each booking.

The screenshot shows the Microsoft SQL Server Enterprise Manager interface. The left pane displays the 'Object Explorer' with the 'Airline1' database selected. The right pane shows a query window with the following SQL code:

```
SELECT
    f.flightID,
    f1.departpoint AS departure_airport,
    f1.arrivespoint AS arrival_airport
FROM flight f
JOIN flight_leg f1 ON f.flightID = f1.flightID;

SELECT
    sr.reservationID,
    sr.customer_name,
    sr.customer_phone,
    sr.leg_instance_id
FROM seat_reservation sr;
```

The query results are displayed in a table with 5 rows and 4 columns:

reservationID	customer_name	customer_phone	leg_instance_id
1	Ali Al	91234567	1
2	Fatma Saad	912345678	2
3	Saleh Khan	91456789	3
4	Asha Noor	94567890	4
5	John Smith	95678901	5

4. Display IDs and locations of flights departing from ' ('Dubai', 'Muscat')

The screenshot shows the Microsoft SQL Server Enterprise Manager interface. The left pane displays the 'Object Explorer' with the 'Airline1' database selected. The right pane shows a query window with the following SQL code:

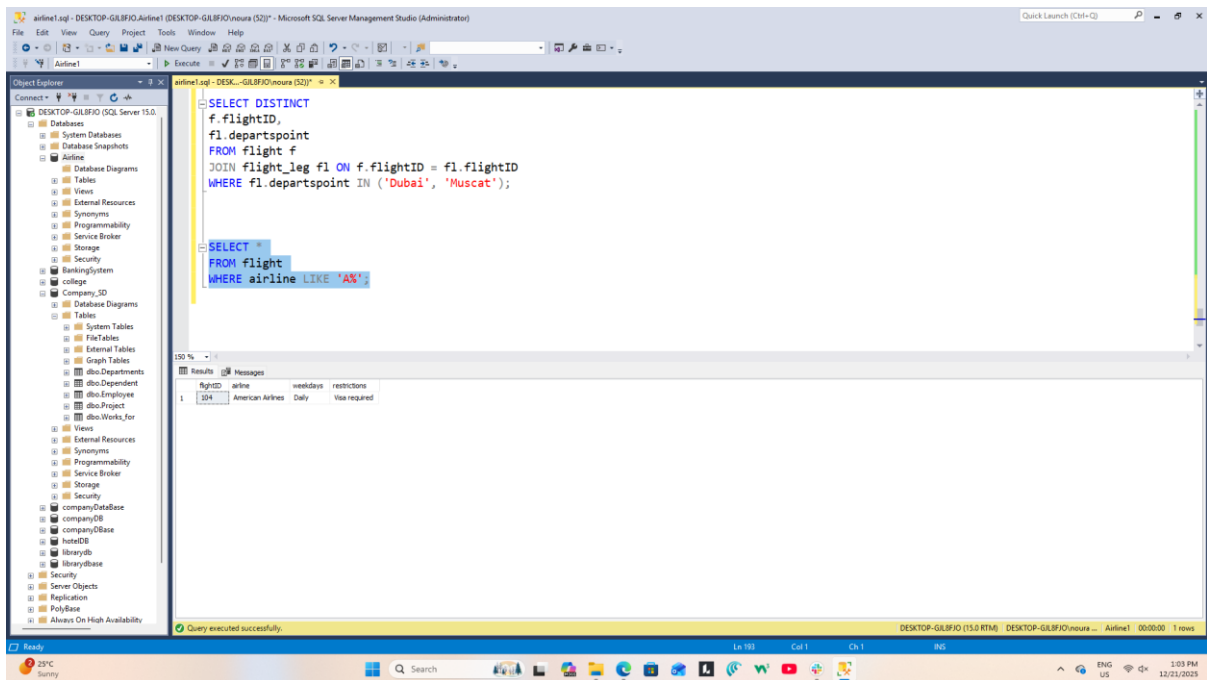
```
SELECT
    sr.reservationID,
    sr.customer_name,
    sr.customer_phone,
    sr.leg_instance_id
FROM seat_reservation sr;

SELECT DISTINCT
    f.flightID,
    f1.departpoint
FROM flight f
JOIN flight_leg f1 ON f.flightID = f1.flightID
WHERE f1.departpoint IN ('Dubai', 'Muscat');
```

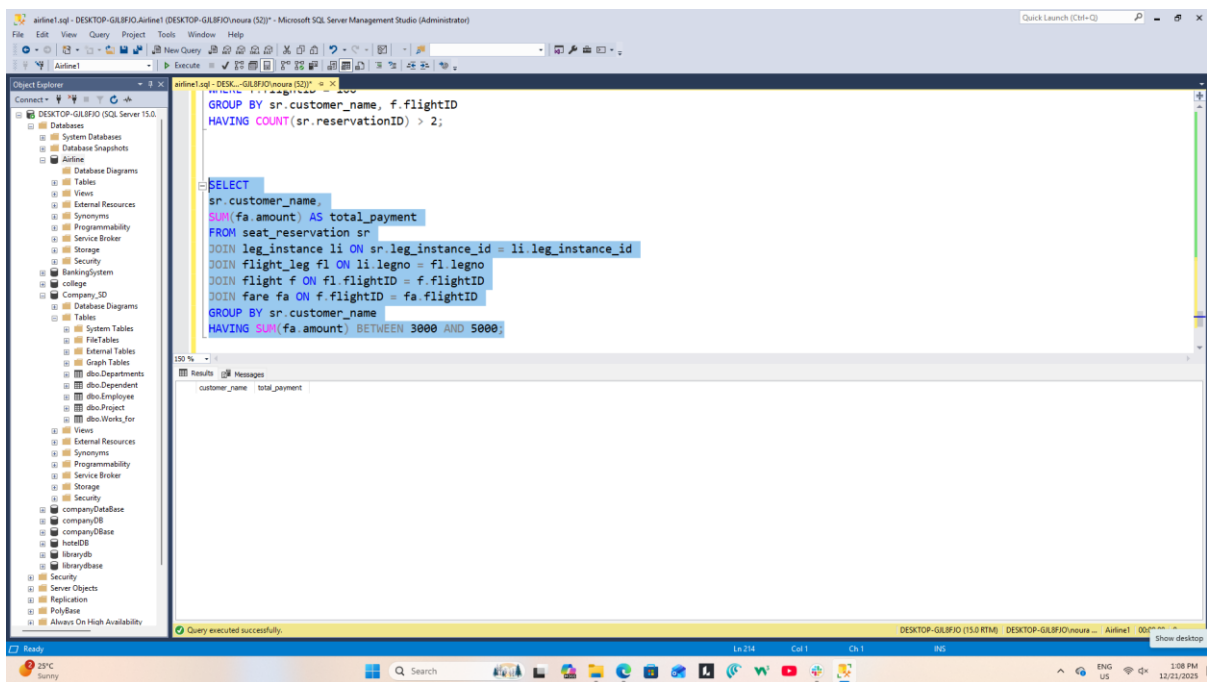
The query results are displayed in a table with 3 rows and 2 columns:

flightID	departpoint
100	Muscat
101	Dubai
104	Muscat

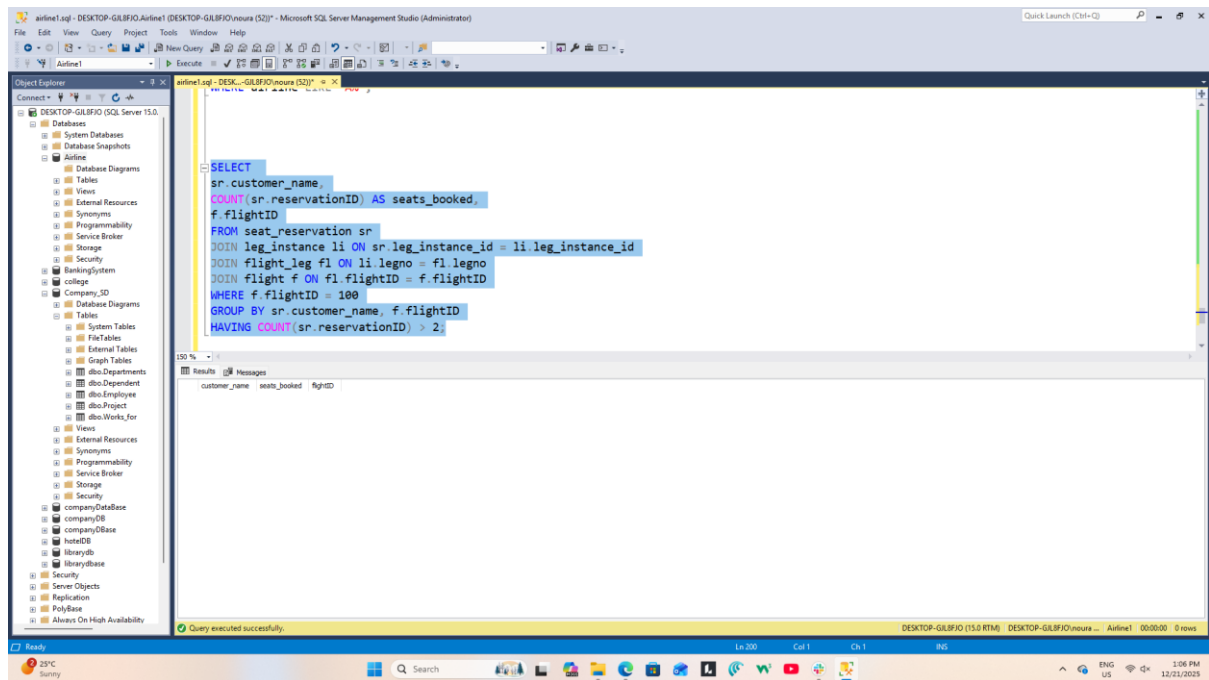
5. Display full data of flights whose names start with 'A'.



6. List customers who have bookings with total payment between 3000 and 5000



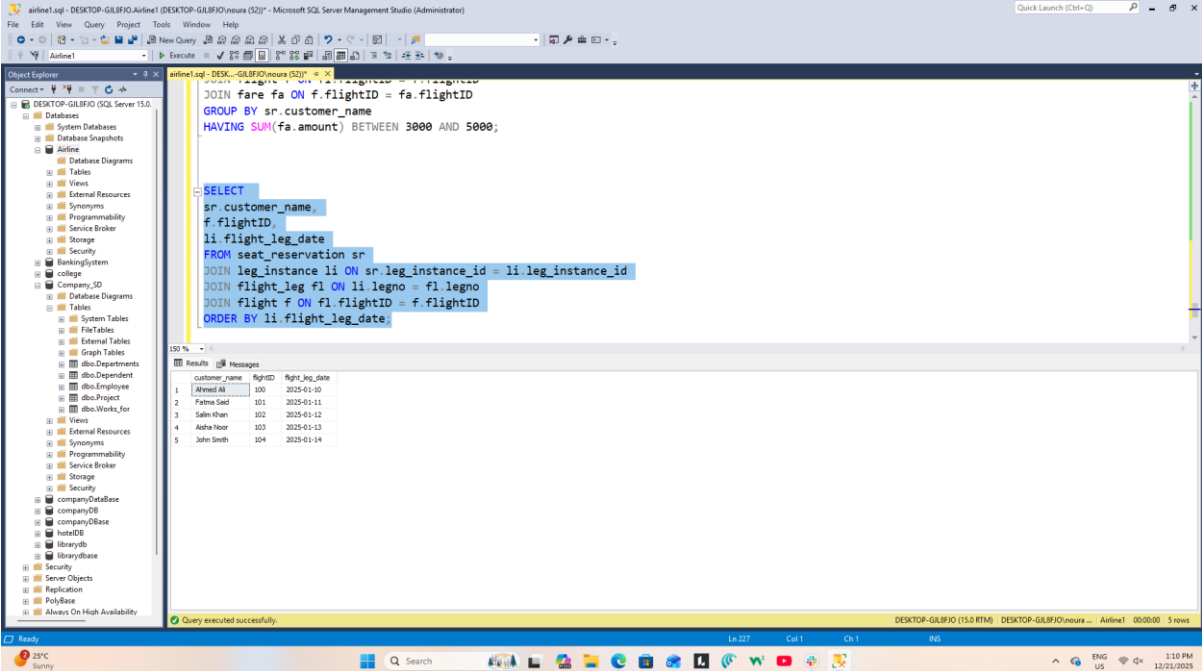
7. Retrieve all passengers on 'Flight 110' who booked more than 2 seats.



8. Find names of passengers whose booking was handled by agent "Youssef Hamed".

This query cannot be implemented using the current database schema, because there is no table or column containing agent information.

9. Display each passenger's name and the flights they booked, ordered by flight date.



The screenshot shows the Microsoft SQL Server Management Studio interface. The query editor contains the following SQL code:

```

JOIN fare fa ON f.flightID = fa.flightID
GROUP BY sr.customer_name
HAVING SUM(fa.amount) BETWEEN 3000 AND 5000;

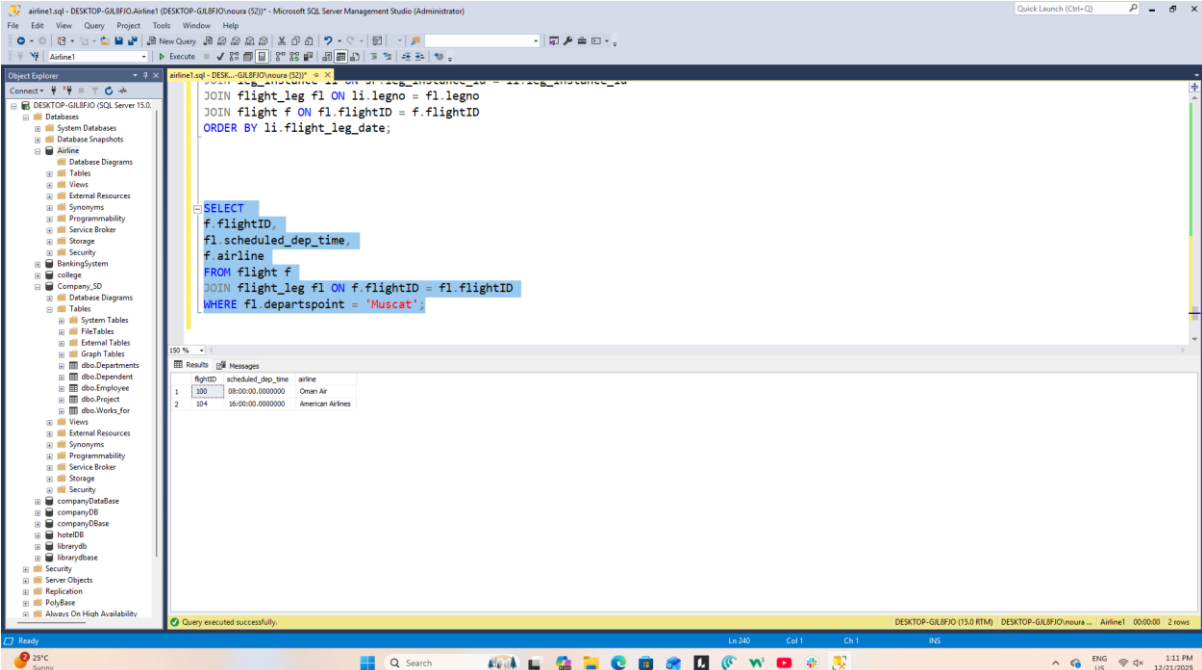
SELECT
    sr.customer_name,
    f.flightID,
    li.flight_leg_date
FROM seat_reservation sr
JOIN leg_instance li ON sr.leg_instance_id = li.leg_instance_id
JOIN flight_leg fl ON li.legno = fl.legno
JOIN flight f ON fl.flightID = f.flightID
ORDER BY li.flight_leg_date;

```

The Results pane shows the following data:

customer_name	flightID	flight_leg_date
Ahmed Ali	100	2025-01-10
Fatma Said	101	2025-01-11
Salem Khan	102	2025-01-12
Azha Noor	103	2025-01-13
John Smith	104	2025-01-14

10. For each flight departing from ' Muscat ', display the flight number, departure time, and airline name.



The screenshot shows the Microsoft SQL Server Management Studio interface. The query editor contains the following SQL code:

```

JOIN flight_leg fl ON li.legno = fl.legno
JOIN flight f ON fl.flightID = f.flightID
ORDER BY li.flight_leg_date;

SELECT
    f.flightID,
    fl.scheduled_dep_time,
    f.airline
FROM flight f
JOIN flight_leg fl ON f.flightID = fl.flightID
WHERE fl.departspoint = 'Muscat';

```

The Results pane shows the following data:

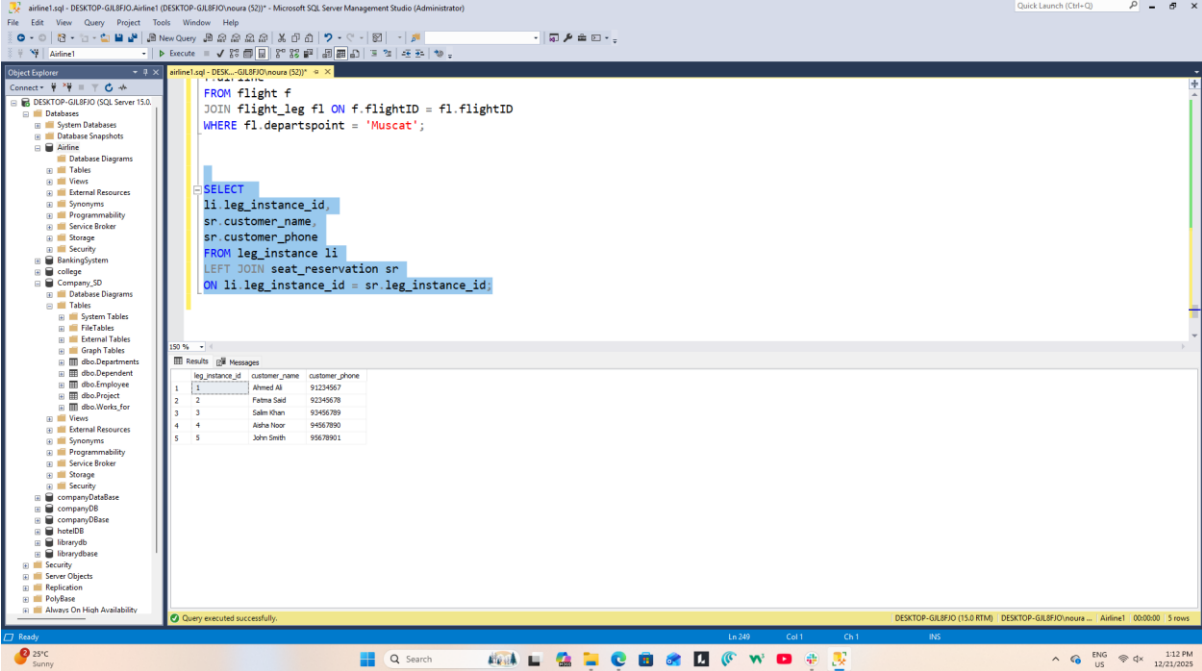
flightID	scheduled_dep_time	airline
100	08:00:00.0000000	Oman Air
104	16:00:00.0000000	American Airlines

11. Display all staff members who are assigned as supervisors for flights.

This query cannot be implemented using the current database schema,

because there is no table or column containing staff or supervisor information.

12. Display all bookings and their related passengers, even if some bookings are unpaid.



The screenshot shows the Microsoft SQL Server Management Studio (SSMS) interface. The left pane displays the 'Object Explorer' with a tree view of the database structure, including 'Databases', 'Tables', 'Views', 'External Resources', 'Programability', 'Service Broker', 'Storage', 'Security', 'BankingSystem', 'College', 'Company', 'Database Diagrams', 'Tables', 'System Tables', 'FactTables', 'External Tables', 'Graph Tables', 'dbo.Departments', 'dbo.Employee', 'dbo.Project', 'dbo.Works_for', 'Views', 'External Resources', 'Synonyms', 'Programability', 'Service Broker', 'Storage', 'Security', 'CompanyDatabase', 'CompanyDB', 'CompanyDBase', 'HotelDB', 'Librarydb', 'Librarybase', 'Security', 'Server Objects', 'Replication', 'PolyBase', and 'Always On High Availability'.

The central pane shows a SQL query in the 'Query Editor' window, titled 'airlineLog - DESK-GILBFO\mouss (52)'.

```
FROM flight f
JOIN flight_leg fl ON f.flightID = fl.flightID
WHERE fl.departspoint = 'Muscat';

SELECT
    li.leg_instance_id,
    sr.customer_name,
    sr.customer_phone
FROM leg_instance li
LEFT JOIN seat_reservation sr
ON li.leg_instance_id = sr.leg_instance_id;
```

The bottom pane displays the 'Results' window, showing the output of the query. The results are as follows:

leg_instance_id	customer_name	customer_phone
1	Ahmed Ali	91234567
2	Patma Sad	912345678
3	Salm Khan	91456789
4	Ahna Hour	94567890
5	John Smith	95678901

The status bar at the bottom indicates 'Query executed successfully' and 'DESKTOP-GILBFO (15.0 RTM) | DESKTOP-GILBFO\mouss ... | Airline1 | 00:00:00 | 5 rows'.