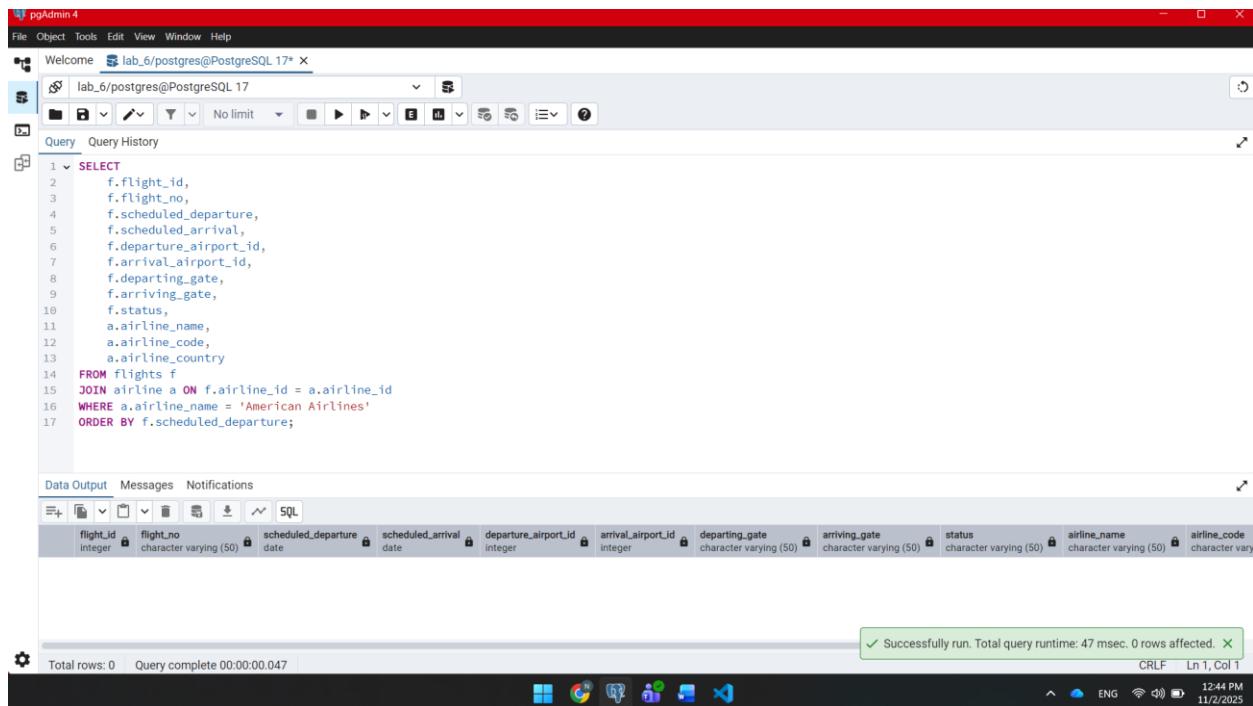


# Lab-6



The screenshot shows the pgAdmin 4 interface with a query editor window. The query is:

```
1 SELECT
2     f.flight_id,
3     f.flight_no,
4     f.scheduled_departure,
5     f.scheduled_arrival,
6     f.departure_airport_id,
7     f.arrival_airport_id,
8     f.departing_gate,
9     f.arriving_gate,
10    f.status,
11    a.airline_name,
12    a.airline_code,
13    a.airline_country
14 FROM flights f
15 JOIN airline a ON f.airline_id = a.airline_id
16 WHERE a.airline_name = 'American Airlines'
17 ORDER BY f.scheduled_departure;
```

The results pane shows the schema for the query:

flight_id	flight_no	scheduled_departure	scheduled_arrival	departure_airport_id	arrival_airport_id	departing_gate	arriving_gate	status	airline_name	airline_code
integer	character varying (50)	date	date	integer	integer	character varying (50)				

At the bottom, a message says "Successfully run. Total query runtime: 47 msec. 0 rows affected." and the status bar shows "CRLF Ln 1, Col 1".

1

**SELECT**

**f.flight\_id,**  
**f.flight\_no,**  
**f.scheduled\_departure,**  
**f.scheduled\_arrival,**  
**f.departure\_airport\_id,**  
**f.arrival\_airport\_id,**  
**f.departing\_gate,**  
**f.arriving\_gate,**  
**f.status,**

```

a.airline_name,
a.airline_code,
a.airline_country

FROM flights f
JOIN airline a ON f.airline_id = a.airline_id
WHERE a.airline_name = 'American Airlines'
ORDER BY f.scheduled_departure;

```

The screenshot shows the pgAdmin 4 interface with a query editor and a results grid.

**Query Editor:**

```

1+ SELECT
2   f.flight_id,
3   f.flight_no,
4   f.scheduled_departure,
5   f.scheduled_arrival,
6   a.airport_name AS departure_airport_name,
7   a.city AS departure_city,
8   a.country AS departure_country
9  FROM flights f
10 JOIN airport a
11    ON f.departure_airport_id = a.airport_id;
12

```

**Data Output:**

flight_id	flight_no	scheduled_departure	scheduled_arrival	departure_airport_name	departure_city	departure_country
1	US-CT	2024-01-22	2023-09-08	Elorza Airport	Shutting	China
2	US-NM	2023-07-21	2023-09-17	Figari Sud-Corse Airport	Itapetinga	Brazil
3	FI-OL	2023-03-29	2023-08-01	Darchula Airport	Hilotongan	Philippines
4	RJ-KR	2024-01-02	2023-03-18	Lime Acres Finsch Mine Airport	Tielu	China
5	RO-DJ	2023-07-03	2023-11-28	Hana Airport	Wilmington	United States

Total rows: 1000    Query complete 00:00:00.509

Showing rows: 1 to 1000    Page No: 1    of 1    14 <> >>

Successfully run. Total query runtime: 509 msec. 1000 rows affected.

2

```

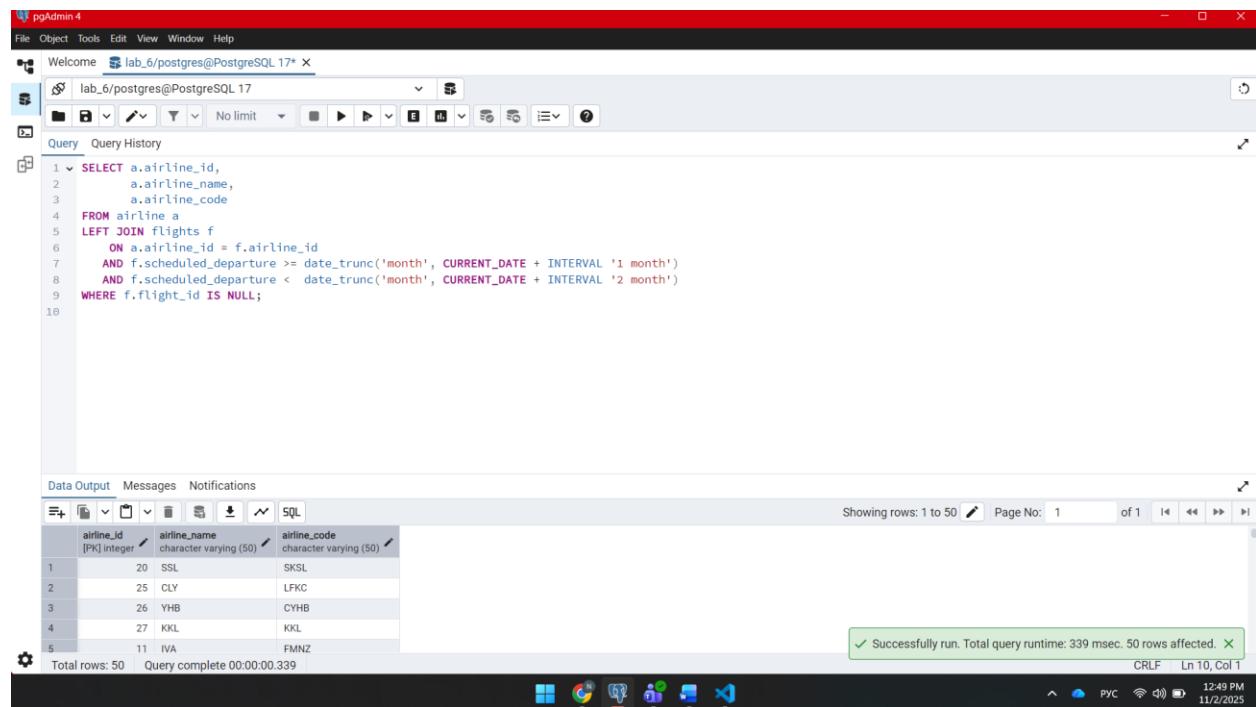
SELECT
f.flight_id,
f.flight_no,
f.scheduled_departure,
f.scheduled_arrival,
a.airport_name AS departure_airport_name,

```

```

a.city AS departure_city,
a.country AS departure_country
FROM flights f
JOIN airport a
ON f.departure_airport_id = a.airport_id;

```



The screenshot shows the pgAdmin 4 interface with a query editor and a results grid.

**Query Editor:**

```

1 SELECT a.airline_id,
2      a.airline_name,
3      a.airline_code
4 FROM airline a
5 LEFT JOIN flights f
6      ON a.airline_id = f.airline_id
7      AND f.scheduled_departure >= date_trunc('month', CURRENT_DATE + INTERVAL '1 month')
8      AND f.scheduled_departure < date_trunc('month', CURRENT_DATE + INTERVAL '2 month')
9 WHERE f.flight_id IS NULL;
10

```

**Data Output:**

airline_id	airline_name	airline_code
20	SSL	SKSL
25	CLY	LFKC
26	YHB	CYHB
27	KKL	KKL
11	IVA	FMNZ

Showing rows: 1 to 50 | Page No: 1 of 1 | 14 << >> >>

Successfully run. Total query runtime: 339 msec. 50 rows affected.

3

```

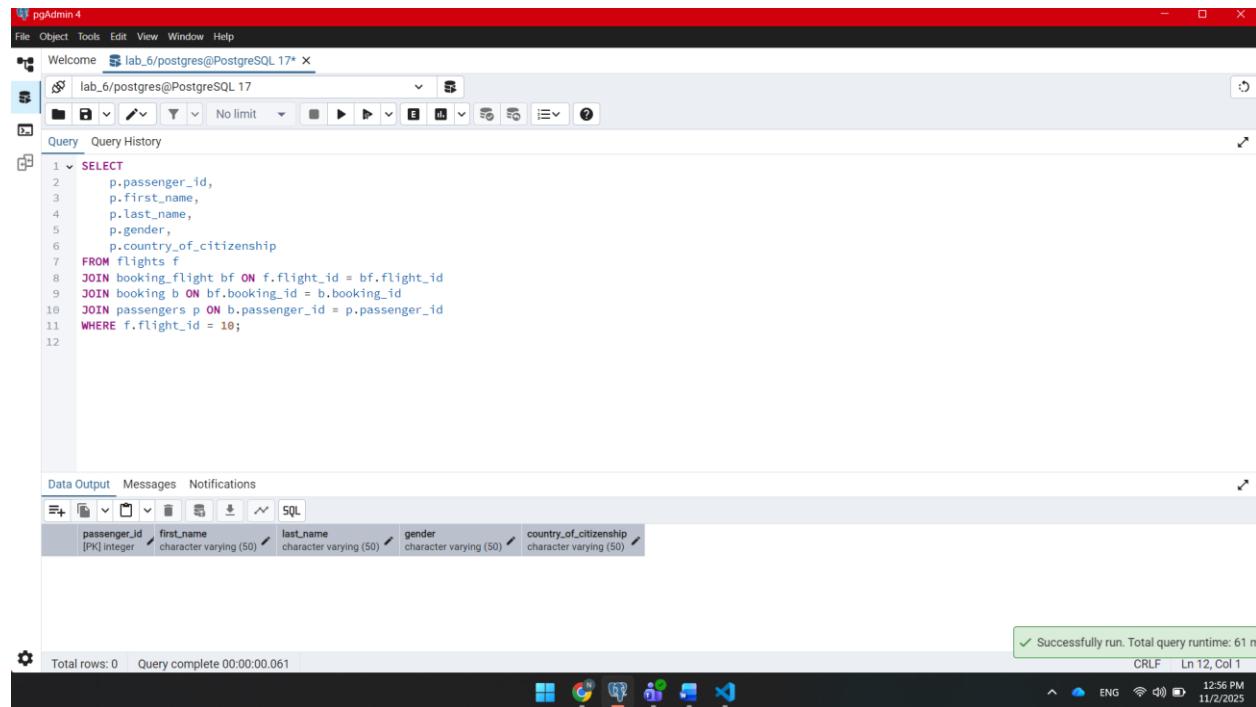
SELECT a.airline_id,
a.airline_name,
a.airline_code
FROM airline a
LEFT JOIN flights f
ON a.airline_id = f.airline_id

```

**AND f.scheduled\_departure >= date\_trunc('month', CURRENT\_DATE + INTERVAL '1 month')**

**AND f.scheduled\_departure < date\_trunc('month', CURRENT\_DATE + INTERVAL '2 month')**

**WHERE f.flight\_id IS NULL;**



The screenshot shows the pgAdmin 4 interface. The top menu bar includes File, Object, Tools, Edit, View, Window, and Help. A toolbar below has icons for New, Open, Save, Copy, Paste, and Execute. The main window has tabs for Query and Query History. The Query tab contains the following SQL code:

```
1 SELECT
2     p.passenger_id,
3     p.first_name,
4     p.last_name,
5     p.gender,
6     p.country_of_citizenship
7 FROM flights f
8 JOIN booking_flight bf ON f.flight_id = bf.flight_id
9 JOIN booking b ON bf.booking_id = b.booking_id
10 JOIN passengers p ON b.passenger_id = p.passenger_id
11 WHERE f.flight_id = 10;
12
```

Below the code, the Data Output tab shows the schema for the result:

passenger_id	[PK] integer	first_name	character varying (50)	last_name	character varying (50)	gender	character varying (50)	country_of_citizenship	character varying (50)
--------------	--------------	------------	------------------------	-----------	------------------------	--------	------------------------	------------------------	------------------------

At the bottom of the interface, status information includes "Total rows: 0" and "Query complete 00:00:00.061". A green success message says "Successfully run. Total query runtime: 61 ms". The system tray shows icons for Windows, Google Chrome, Task View, and others.

**4**

**SELECT**

**p.passenger\_id,**  
**p.first\_name,**  
**p.last\_name,**  
**p.gender,**  
**p.country\_of\_citizenship**

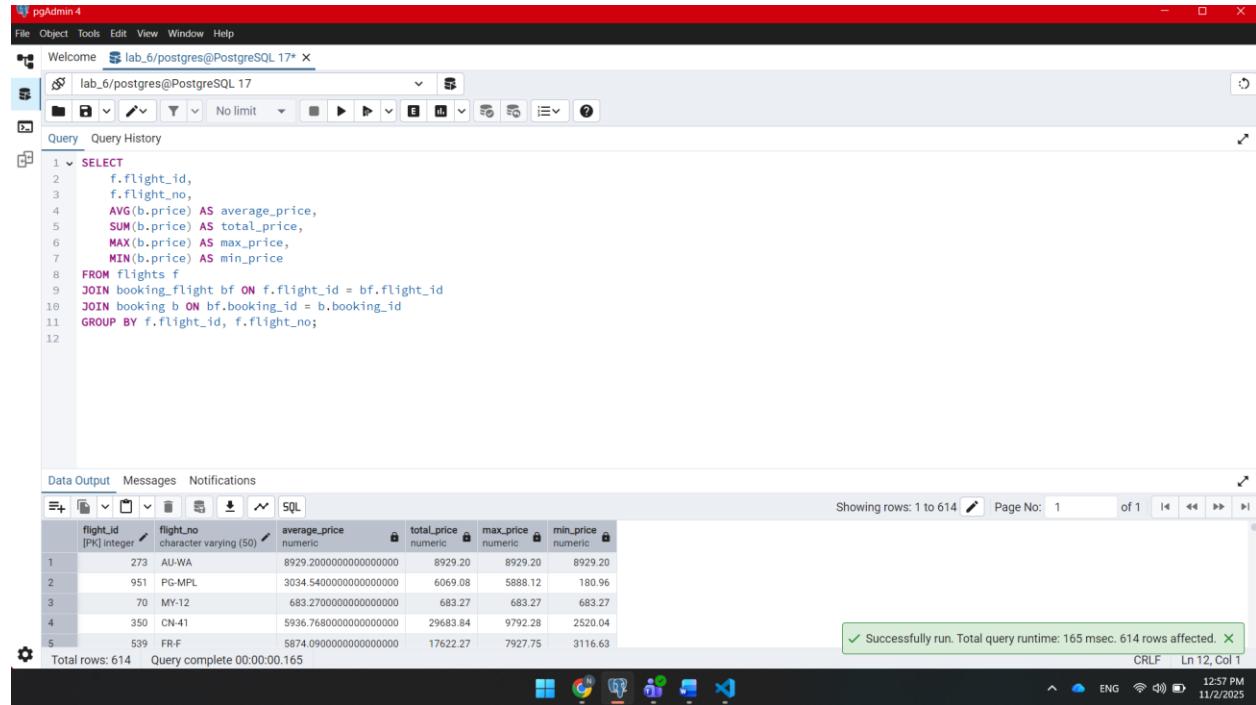
**FROM flights f**

**JOIN booking\_flight bf ON f.flight\_id = bf.flight\_id**

**JOIN booking b ON bf.booking\_id = b.booking\_id**

**JOIN passengers p ON b.passenger\_id = p.passenger\_id**

**WHERE f.flight\_id = 10;**



The screenshot shows the pgAdmin 4 interface with a red header bar. Below it, a toolbar with various icons like file, object, edit, and view. The main window has a title bar "Welcome lab\_6/postgres@PostgreSQL 17\*" and a toolbar with buttons for connection, refresh, and help. A "Query" tab is selected, showing a SQL query. The query is:

```
1 SELECT
2     f.flight_id,
3     f.flight_no,
4     AVG(b.price) AS average_price,
5     SUM(b.price) AS total_price,
6     MAX(b.price) AS max_price,
7     MIN(b.price) AS min_price
8 FROM flights f
9 JOIN booking_flight bf ON f.flight_id = bf.flight_id
10 JOIN booking b ON bf.booking_id = b.booking_id
11 GROUP BY f.flight_id, f.flight_no;
12
```

Below the query is a "Data Output" section with tabs for Data, Output, Messages, and Notifications. The Data tab shows a table with 614 rows. The columns are:

	flight_id	flight_no	average_price	total_price	max_price	min_price
1	273	AU-WA	8929.20	8929.20	8929.20	8929.20
2	951	PG-MPL	3034.540000000000000000	6069.08	5888.12	180.96
3	70	MY-12	683.270000000000000000	683.27	683.27	683.27
4	350	CH-41	5936.768000000000000000	29683.84	9792.28	2520.04
5	539	FR-F	5874.090000000000000000	17622.27	7927.75	3116.63

At the bottom of the Data Output section, a green message box says "Successfully run. Total query runtime: 165 msec. 614 rows affected." and "CRLF Ln 12, Col 1".

**5**

**SELECT**

```
f.flight_id,  
f.flight_no,  
AVG(b.price) AS average_price,  
SUM(b.price) AS total_price,  
MAX(b.price) AS max_price,  
MIN(b.price) AS min_price
```

**FROM flights f**

**JOIN booking\_flight bf ON f.flight\_id = bf.flight\_id**

**JOIN booking b ON bf.booking\_id = b.booking\_id**

**GROUP BY f.flight\_id, f.flight\_no;**

The screenshot shows the pgAdmin 4 interface. In the top-left corner, the title bar says "pgAdmin 4". Below it, the main window has a toolbar with various icons. The left sidebar shows a tree view with a node expanded, revealing a list of 11 SQL statements. The main area contains the SQL code:

```
1 SELECT
2     al.airline_name,
3     al.airline_country,
4     COUNT(f.flight_id) AS number_of_flights,
5     arr_airport.country AS destination_country
6 FROM flights f
7 JOIN airport arr_airport ON f.arrival_airport_id = arr_airport.airport_id
8 JOIN airline al ON f.airline_id = al.airline_id
9 WHERE arr_airport.country = 'Spain'
10 GROUP BY al.airline_name, al.airline_country, arr_airport.country
11 ORDER BY number_of_flights DESC;
```

Below the code, there are tabs for "Data Output", "Messages", and "Notifications". The "Data Output" tab is selected and displays the schema of the result set:

airline_name	airline_country	number_of_flights	destination_country
character varying (50)	character varying (50)	bigint	character varying (50)

At the bottom of the pgAdmin window, there is a status bar with the message "Successfully run. Total query runtime: 60 msec. 0 rows affected.", along with other system information like "CRLF", "Ln 9, Col 37", and the date/time "11/2/2025 12:58 PM".

6

## SELECT

```
al.airline_name,  
al.airline_country,  
COUNT(f.flight_id) AS number_of_flights,  
arr_airport.country AS destination_country  
FROM flights f  
JOIN airport arr_airport ON f.arrival_airport_id = arr_airport.airport_id  
JOIN airline al ON f.airline_id = al.airline_id  
WHERE arr_airport.country = 'Spain'  
GROUP BY al.airline_name, al.airline_country, arr_airport.country  
ORDER BY number_of_flights DESC;
```

The screenshot shows the pgAdmin 4 interface with a red header bar. The main window displays a SQL query in the 'Query' tab:

```

1 SELECT
2     p.passenger_id,
3     p.first_name,
4     p.last_name,
5     p.date_of_birth,
6     a.airport_name AS arrival_airport,
7     a.city AS arrival_city,
8     a.country AS arrival_country
9 FROM passengers p
10 JOIN booking b
11     ON p.passenger_id = b.passenger_id
12 JOIN booking_flight bf
13     ON b.booking_id = bf.booking_id
14 JOIN flights f
15     ON bf.flight_id = f.flight_id
16 JOIN airport a
17     ON f.arrival_airport_id = a.airport_id
18 WHERE AGE(CURRENT_DATE, p.date_of_birth) < INTERVAL '18 years';

```

The results are shown in a table titled 'Data Output' with the following columns:

	passenger_id	first_name	last_name	date_of_birth	arrival_airport	arrival_city	arrival_country
1	159	Vivyan	Mallabone	2009-11-01	Alert Bay Airport	Dubrava	Croatia
2	70	Lester	Blades	2008-07-04	Armidale Airport	Sirari	Tanzania
3	70	Lester	Blades	2008-07-04	Figari Sud-Corse Airport	Itapetinga	Brazil
4	41	Cleve	Edgeler	2009-04-20	Industrial Airpark	Guuhulgān	Philippines
5	80	Bradlev	Grolle	2008-01-02	Armidale Airoort	Sirari	Tanzania

A green message bar at the bottom right indicates: "Successfully run. Total query runtime: 64 msec. 37 rows affected." The status bar at the bottom right shows: CRLF, ENG, 12:59 PM, 11/2/2025.

7

**SELECT**

```

p.passenger_id,
p.first_name,
p.last_name,
p.date_of_birth,
a.airport_name AS arrival_airport,
a.city AS arrival_city,
a.country AS arrival_country

```

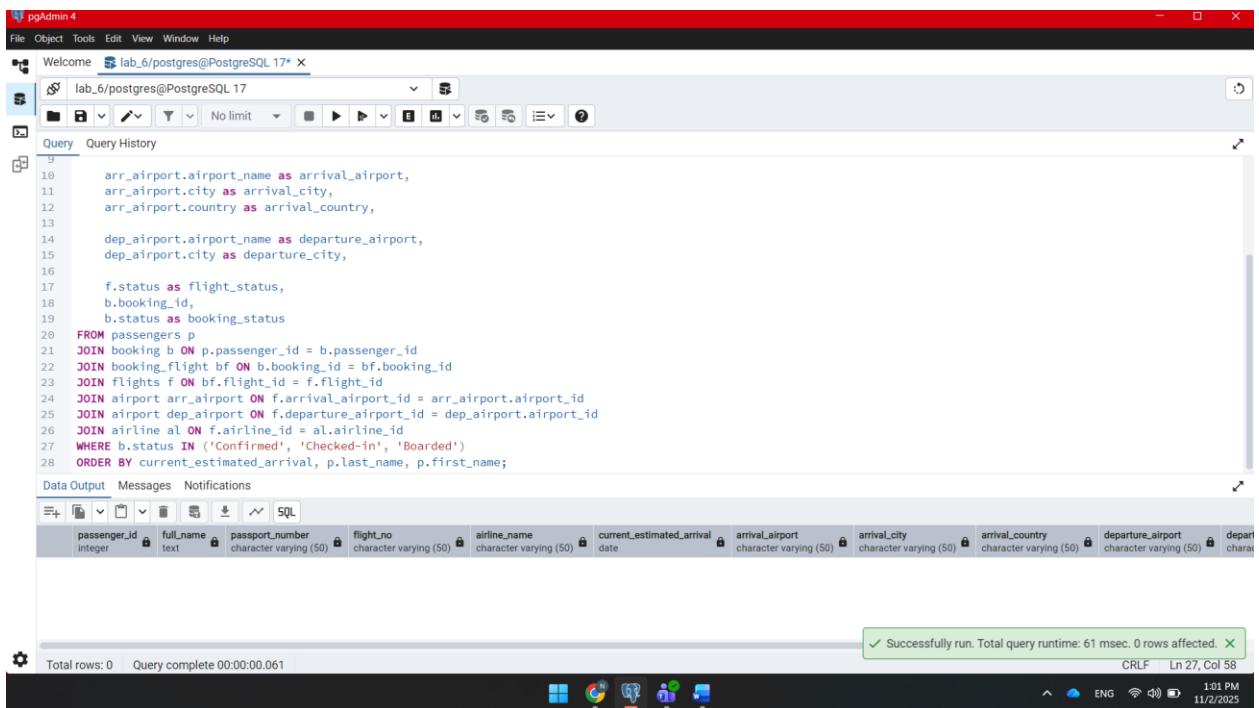
**FROM passengers p**

**JOIN booking b**

**ON p.passenger\_id = b.passenger\_id**

**JOIN booking\_flight bf**

**ON b.booking\_id = bf.booking\_id**  
**JOIN flights f**  
**ON bf.flight\_id = f.flight\_id**  
**JOIN airport a**  
**ON f.arrival\_airport\_id = a.airport\_id**  
**WHERE AGE(CURRENT\_DATE, p.date\_of\_birth) < INTERVAL '18 years';**



The screenshot shows the pgAdmin 4 interface with a red header bar. The main window displays a SQL query in the 'Query' tab:

```

9
10 arr_airport.airport_name as arrival_airport,
11 arr_airport.city as arrival_city,
12 arr_airport.country as arrival_country,
13
14 dep_airport.airport_name as departure_airport,
15 dep_airport.city as departure_city,
16
17 f.status as flight_status,
18 b.booking_id,
19 b.status as booking_status
20
21 FROM passengers p
22 JOIN booking b ON p.passenger_id = b.passenger_id
23 JOIN booking_flight bf ON b.booking_id = bf.booking_id
24 JOIN flights f ON bf.flight_id = f.flight_id
25 JOIN airport arr_airport ON f.arrival_airport_id = arr_airport.airport_id
26 JOIN airport dep_airport ON f.departure_airport_id = dep_airport.airport_id
27 JOIN airline al ON f.airline_id = al.airline_id
28 WHERE b.status IN ('Confirmed', 'Checked-in', 'Boarded')
29 ORDER BY current_estimated_arrival, p.last_name, p.first_name;

```

The results pane shows a table with columns: passenger\_id, full\_name, passport\_number, flight\_no, airline\_name, current\_estimated\_arrival, arrival\_airport, arrival\_city, arrival\_country, departure\_airport, and departure\_city. A message at the bottom indicates "Successfully run. Total query runtime: 61 msec. 0 rows affected.".

8

**SELECT**

```

p.passenger_id,
CONCAT(p.first_name, ' ', p.last_name) as full_name,
p.passport_number,
f.flight_no,
al.airline_name,

```

```
COALESCE(f.actual_arrival, f.scheduled_arrival) as
current_estimated_arrival,
arr_airport.airport_name as arrival_airport,
arr_airport.city as arrival_city,
arr_airport.country as arrival_country,
dep_airport.airport_name as departure_airport,
dep_airport.city as departure_city,
f.status as flight_status,
b.booking_id,
b.status as booking_status
FROM passengers p
JOIN booking b ON p.passenger_id = b.passenger_id
JOIN booking_flight bf ON b.booking_id = bf.booking_id
JOIN flights f ON bf.flight_id = f.flight_id
JOIN airport arr_airport ON f.arrival_airport_id = arr_airport.airport_id
JOIN airport dep_airport ON f.departure_airport_id =
dep_airport.airport_id
JOIN airline al ON f.airline_id = al.airline_id
WHERE b.status IN ('Confirmed', 'Checked-in', 'Boarded')
ORDER BY current_estimated_arrival, p.last_name, p.first_name;
```

```

pgAdmin 4
File Object Tools Edit View Window Help
Welcome lab_6/postgres@PostgreSQL 17* 
lab_6/postgres@PostgreSQL 17* 
Query History
Query
SELECT
    ap.country AS airport_country,
    f.flight_id,
    f.flight_no,
    al.airline_name,
    al.airline_country
FROM flights f
JOIN airport ap
    ON f.departure_airport_id = ap.airport_id
JOIN airline al
    ON f.airline_id = al.airline_id
WHERE al.airline_country = ap.country
GROUP BY ap.country, f.flight_id, f.flight_no, al.airline_name, al.airline_country
ORDER BY ap.country;

```

Data Output Messages Notifications

Showing rows: 1 to 74 Page No: 1 of 1 14 <> >> <<

airport_country	flight_id	flight_no	airline_name	airline_country
Brazil	141	SB-WE	PDN	Brazil
Brazil	333	IT-45	RBR	Brazil
Brazil	579	CL-AR	YLP	Brazil
Brazil	783	PG-WPD	YLP	Brazil
Brazil	948	US-WA	YLP	Brazil

Successfully run. Total query runtime: 80 msec. 74 rows affected.

Total rows: 74 Query complete 00:00:00.080

9

**SELECT**

**ap.country AS airport\_country,**

**f.flight\_id,**

**f.flight\_no,**

**al.airline\_name,**

**al.airline\_country**

**FROM flights f**

**JOIN airport ap**

**ON f.departure\_airport\_id = ap.airport\_id**

**JOIN airline al**

**ON f.airline\_id = al.airline\_id**

**WHERE al.airline\_country = ap.country**

**GROUP BY ap.country, f.flight\_id, f.flight\_no, al.airline\_name, al.airline\_country**

**ORDER BY ap.country;**