

JOIN operations tasks

1. Write a query that displays all flights of a specific airline.

The screenshot shows the pgAdmin 4 interface with a query window displaying the following SQL code:

```
1 SELECT
2     airline.airline_name,
3     flights.flight_id,
4     flights.flight_no,
5     flights.scheduled_departure,
6     flights.scheduled_arrival,
7     flights.status
8 FROM flights
9 JOIN airline ON airline.airline_id = flights.airline_id
10 WHERE airline.airline_name = 'SOZ'
11 ORDER BY flights.scheduled_departure;
```

The results table shows 19 rows of flight information for airline SOZ, ordered by scheduled departure date. The columns are: airline_name, flight_id, flight_no, scheduled_departure, scheduled_arrival, and status. The status column includes values like Delayed, Boarding, and Delayed.

2. Compose a query to obtain a list of all flights with the names of departure airports.

The screenshot shows the pgAdmin 4 interface with a query window displaying the following SQL code:

```
1 SELECT
2     flights.flight_id,
3     flights.flight_no,
4     airport.airport_name AS departure_airport,
5     airport.city AS departure_city,
6     airport.country AS departure_country,
7     flights.scheduled_departure,
8     flights.scheduled_arrival,
9     flights.status
10 FROM flights
11 JOIN airport ON airport.airport_id = flights.departure_airport_id
12 ORDER BY flights.scheduled_departure;
```

The results table shows 1000 rows of flight information with their corresponding departure airports. The columns are: flight_id, flight_no, departure_airport, departure_city, departure_country, scheduled_departure, scheduled_arrival, and status. The status column includes values like Boarding, Delayed, and Delayed.

3. Create a query that finds all airlines that have no flights scheduled for the next month.

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airport3/postgres@PostgreSQL 17

Query Query History Scratch Pad

```

6   SELECT
7     airline.airline_id,
8     airline.airline_name,
9     airline.airline_country
10    FROM airline
11   WHERE NOT EXISTS (
12     SELECT 1
13       FROM flights
14      CROSS JOIN date_bounds
15     WHERE flights.airline_id = airline.airline_id
16     AND flights.scheduled_departure >= date_bounds.start_next_month
17     AND flights.scheduled_departure < date_bounds.end_next_month
18   )
19  ORDER BY airline.airline_name;

```

Data Output Messages Notifications

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

airline_id [PK] Integer	airline_name character varying (50)	airline_country character varying (50)
1	7	Iran
2	33	BLD
3	45	BUO
4	50	BYH
5	40	CII
6	25	CLY
7	19	CSC
8	47	DNU
9	16	DUC

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4. Create a query to display a list of passengers on a specific flight.

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Query Query History Scratch Pad

```

1  SELECT
2    passengers.passenger_id,
3    passengers.first_name,
4    passengers.last_name,
5    passengers.passport_number,
6    flights.flight_no
7   FROM booking_flight
8   JOIN booking  ON booking.booking_id = booking_flight.booking_id
9   JOIN passengers ON passengers.passenger_id = booking.passenger_id
10  JOIN flights  ON flights.flight_id = booking_flight.flight_id
11 WHERE flights.flight_no = 'NP-SA'
12 ORDER BY passengers.last_name, passengers.first_name;

```

Data Output Messages Notifications

Showing rows: 1 to 5 | Page No: 1 of 1 | < << > >> | SQL

passenger_id integer	first_name character varying (50)	last_name character varying (50)	passport_number character varying (50)	flight_no character varying (50)
1	5	Wayne	Bangs	512588744-7
2	33	Fairlie	Ferraresi	862466049-1
3	45	Thatch	Iorizzo	374094308-4
4	163	Maryellen	MacGilmartin	041165703-8
5	76	Lorianna	Robbie	435354132-3

Successfully run. Total query runtime: 80 msec. 5 rows affected.

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5. Write a query that calculates the average, total, maximum and minimum price of tickets for each flight.

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Query Query History

```

1   SELECT
2     flights.flight_id,
3     flights.flight_no,
4     COUNT(*) AS tickets_count,
5     ROUND(AVG(booking.price), 2) AS avg_price,
6     ROUND(SUM(booking.price), 2) AS total_price,
7     ROUND(MAX(booking.price), 2) AS max_price,
8     ROUND(MIN(booking.price), 2) AS min_price
9   FROM booking_flight
10  JOIN booking ON booking.booking_id = booking_flight.booking_id
11  JOIN flights ON flights.flight_id = booking_flight.flight_id
12 GROUP BY flights.flight_id, flights.flight_no
13 ORDER BY flights.flight_id;

```

Data Output Messages Notifications

Showing rows: 1 to 614 | Page No: 1 of 1 | < << >> >

flight_id [PK] integer	flight_no character varying (50)	tickets_count bigint	avg_price numeric	total_price numeric	max_price numeric	min_price numeric
1	US-CT	1	7368.73	7368.73	7368.73	7368.73
2	US-NM	1	2520.04	2520.04	2520.04	2520.04
3	FI-OL	1	1638.75	1638.75	1638.75	1638.75
4	RU-KR	1	4044.13	4044.13	4044.13	4044.13
5	RO-DJ	3	6872.57	20617.70	9609.91	1925.47
6	CA-SK	1	5924.03	5924.03	5924.03	5924.03
7	AU-TAS	1	693.15	693.15	693.15	693.15
8	IN-OR	1	917.99	917.99	917.99	917.99
9	TH-57	3	7672.65	23017.95	9977.57	5217.69

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6. Create a query that shows all flights flying to a specific country by combining flights, airports and airline, and using the condition on the country name.

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airport3/postgres@PostgreSQL 17

Query Query History

```

3   flights.flight_no,
4   airline.airline_name,
5   airport_departure.airport_name AS departure_airport,
6   airport_departure.country AS departure_country,
7   airport_arrival.airport_name AS arrival_airport,
8   airport_arrival.country AS arrival_country,
9   flights.scheduled_departure,
10  flights.scheduled_arrival,
11  flights.status
12 FROM flights
13 JOIN airline ON airline.airline_id = flights.airline_id
14 JOIN airport AS airport_departure ON airport_departure.airport_id = flights.departure_airport_id
15 JOIN airport AS airport_arrival ON airport_arrival.airport_id = flights.arrival_airport_id
16 WHERE airport_arrival.country = 'China'
17 ORDER BY flights.scheduled_departure;

```

Data Output Messages Notifications

Showing rows: 1 to 238 | Page No: 1 of 1 | < << >> >

flight_id integer	flight_no character varying (50)	airline_name character varying (50)	departure_airport character varying (50)	departure_country character varying (50)	arrival_airport character varying (50)	arrival_country character varying (50)	scheduled_departure date	scheduled_arrival date	status character varying
1	640	FR-V	NGL	Ocean Falls Seaplane Base	Philippines	Bermuda Dunes Airport	2023-03-19	2024-02-15	Boarding
2	793	CN-44	GYA	Zephyrhills Municipal Airport	Slovenia	Pitalito Airport	2023-03-20	2024-02-20	Delayed
3	698	US-MS	KKG	Henri Coanda International Airport	Indonesia	Pitalito Airport	2023-03-21	2024-01-26	Delayed
4	23	CN-65	YLP	Alert Bay Airport	Croatia	Lime Acres Finsch Mine Airport	2023-03-21	2024-01-08	Boarding
5	711	CA-NU	BLD	Elorza Airport	China	Lime Acres Finsch Mine Airport	2023-03-23	2023-12-12	Boarding
6	530	CW-U-A	KGF	Lime Acres Finsch Mine Airport	China	Elorza Airport	2023-03-24	2023-04-06	Delayed
7	934	US-AK	KMA	Mellila Airport	China	Elorza Airport	2023-03-25	2023-09-04	Delayed
8	3	FI-OL	SMM	Darchula Airport	Philippines	Elorza Airport	2023-03-29	2023-08-01	Boarding

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7. Display a list of minor passengers and their arrival destination.

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airport3/postgres@PostgreSQL 17

Query History

```

4   passengers.last_name,
5   passengers.date_of_birth,
6   airport.airport_name AS arrival_airport,
7   airport.city      AS arrival_city,
8   airport.country   AS arrival_country,
9   flights.flight_no,
10  flights.scheduled_arrival
11 FROM passengers
12 JOIN booking    ON booking.passenger_id = passengers.passenger_id
13 JOIN booking_flight ON booking_flight.booking_id = booking.booking_id
14 JOIN flights     ON flights.flight_id = booking_flight.flight_id
15 JOIN airport     ON airport.airport_id = flights.arrival_airport_id
16 WHERE EXTRACT(YEAR FROM age(CURRENT_DATE, passengers.date_of_birth)) < 18
17 ORDER BY passengers.last_name, passengers.first_name;
18

```

Data Output Messages Notifications

Showing rows: 1 to 37 | Page No: 1 of 1 | L 1 < << > >> B

passenger_id	first_name	last_name	date_of_birth	arrival_airport	arrival_city	arrival_country	flight_no	scheduled_arrival	
1	70	Lester	Blades	2008-07-04	Figari Sud-Corse Airport	Itapetinga	Brazil	US-MI	2023-12-02
2	70	Lester	Blades	2008-07-04	Fort Worth Alliance Airport	Rogózno	Poland	US-MA	2023-10-14
3	70	Lester	Blades	2008-07-04	Armidale Airport	Sirari	Tanzania	PG-CPM	2024-03-02
4	70	Lester	Blades	2008-07-04	Longana Airport	Paghmān	Afghanistan	US-KY	2023-12-02
5	70	Lester	Blades	2008-07-04	Lime Acres Finch Mine Airport	Tielu	China	US-MI	2023-07-01
6	170	Ynez	Bortoloni	2009-10-01	Delta County Airport	Polykári	Greece	JP-47	2023-06-04
7	34	Gwennie	Chinnery	2008-06-30	Eloiza Airport	Shutting	China	US-TX	2024-03-04
8	34	Gwennie	Chinnery	2008-06-30	Zephyrhills Municipal Airport	Cankova	Slovenia	IN-GA	2023-05-25
9	34	Gwennie	Chinnery	2008-06-30	Akunao Heliport	Stuino	Russia	CN-53	2024-01-31

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8. Display the passenger's full name, passport number, and the passenger's current time of arrival at the destination.

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airport3/postgres@PostgreSQL 17

Query History

```

1 SELECT
2   passengers.first_name || ' ' || passengers.last_name AS full_name,
3   passengers.passport_number,
4   flights.flight_no,
5   COALESCE(flights.actual_arrival, flights.scheduled_arrival) AS arrival_time,
6   NOW() AS queried_at
7 FROM passengers
8 JOIN booking    ON booking.passenger_id = passengers.passenger_id
9 JOIN booking_flight ON booking_flight.booking_id = booking.booking_id
10 JOIN flights     ON flights.flight_id = booking_flight.flight_id
11 ORDER BY full_name;

```

Data Output Messages Notifications

Showing rows: 1 to 1000 | Page No: 1 of 1 | L 1 < << > >> B

full_name	passport_number	flight_no	arrival_time	queried_at
Adriano Sussans	276474543-5	AU-NSW	2024-03-02	2025-11-04 22:57:33.142547+05
Adriano Sussans	276474543-5	AU-NT	2023-11-05	2025-11-04 22:57:33.142547+05
Adriano Sussans	276474543-5	TH-50	2023-10-31	2025-11-04 22:57:33.142547+05
Adriano Sussans	276474543-5	BR-BA	2023-09-08	2025-11-04 22:57:33.142547+05
Aggi Dunning	179283390-3	US-FL	2023-11-06	2025-11-04 22:57:33.142547+05
Aimee Iglesias	638795237-9	TC-PN	2023-12-27	2025-11-04 22:57:33.142547+05
Aimee Iglesias	638795237-9	CN-41	2024-01-07	2025-11-04 22:57:33.142547+05
Aimee Iglesias	638795237-9	US-NM	2024-01-23	2025-11-04 22:57:33.142547+05
Aimee Iglesias	638795237-9	AU-VIC	2023-05-09	2025-11-04 22:57:33.142547+05

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9. Print a list of flights where the airline's home country and origin country are the same. Group them by the airport country.

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No limit ▾

Query History

Scratch Pad

```
1 v SELECT
2   airport.country AS departure_country,
3   COUNT(DISTINCT flights.flight_id) AS flights_count,
4   STRING_AGG(flights.flight_no, ', ' ORDER BY flights.flight_no) AS flight_nos
5 FROM flights
6 JOIN airline ON airline.airline_id = flights.airline_id
7 JOIN airport ON airport.airport_id = flights.departure_airport_id
8 WHERE airline.airline_country = airport.country
9 GROUP BY airport.country
10 ORDER BY airport.country;
```

Data Output Messages Notifications

Showing rows: 1 to 8 | Page No: 1 of 1 | < << > >> |

	departure_country	flights_count	flight_nos
1	Brazil	5	CL-AR, IT-45, PG-WPD, SB-WE, US-WA
2	China	50	AU-NSW, AU-NT, AU-WA, AU-WA, BR-AM, BR-BA, BR-MG, BR-PE, BS-NP, CA-BC, CA-ON, CA-ON, CH-NE, CN-32, CN-32, CO-AMA, CR-A, DE-RP, ES-CN, GA-6, GL-U-A, GY-DE, ID-MU, ID-PA, IN-MP, IT-34, KE-500, MY-12, OM
3	Greece	1	AU-NT
4	Indonesia	6	CL-AN, CN-23, NZ-CAN, UG-212, US-AK, US-AK
5	Philippines	3	BR-PR, US-ML, US-MN
6	Poland	2	AU-QLD, VN-U-A
7	Russia	5	EE-39, IL-D, JP-12, MY-14, US-FL
8	Slovenia	2	CA-QC, PG-SAN

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