

JOIN operations tasks

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

The screenshot shows a database console with a SQL query and its results. The query is as follows:

```
select
  f.flight_id,
  f.sch_departure_time,
  f.sch_arrival_time,
  f.departing_airport_id,
  f.arriving_airport_id,
  a.airline_name,
  a.airline_country
from flights f
join airline a
  1.n<->1: on f.airline_id = a.airline_id
where a.airline_name = 'Emirates';
```

The results table shows the following columns: sch_departure_time, sch_arrival_time, departing_airport_id, arriving_airport_id, airline_name, and airline_country. The results are filtered for Emirates flights.

sch_departure_time	sch_arrival_time	departing_airport_id	arriving_airport_id	airline_name	airline_country
2014-12-29 06:06:41.000000	2005-11-26 17:49:53.000000	26	165	Emirates	Ukraine
2003-10-11 15:16:38.000000	2016-06-22 13:42:17.000000	124	84	Emirates	Bulgaria
2012-05-24 04:54:26.000000	2015-07-10 19:07:23.000000	151	92	Emirates	South Africa
2022-07-07 23:33:38.000000	2005-09-01 19:02:17.000000	17	39	Emirates	China
2010-09-19 16:25:24.000000	2024-07-15 22:58:58.000000	65	4	Emirates	Venezuela
2009-06-02 00:26:58.000000	2013-10-05 00:43:46.000000	93	89	Emirates	Nicaragua
2024-02-11 01:19:59.000000	2025-02-01 19:23:44.000000	171	81	Emirates	South Africa
2017-04-01 21:07:51.000000	2020-11-10 23:00:11.000000	21	6	Emirates	China
2018-08-21 17:05:33.000000	2020-02-01 07:10:09.000000	141	94	Emirates	Bulgaria
2024-10-03 03:49:58.000000	2025-06-06 04:32:45.000000	341	1	Emirates	China
2025-09-03 17:03:38.000000	2025-01-07 07:08:28.000000	22	60	Emirates	Bulgaria
2024-10-19 08:39:31.000000	2024-10-21 11:02:16.000000	15 rows	228	Emirates	China

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

The screenshot shows a database console with a SQL query and its results. The query is as follows:

```
select
  f.flight_id,
  a.airport_name as departure_airport,
  a.city as departure_city,
  f.sch_departure_time,
  f.sch_arrival_time
from flights f
join airport a
  1.n<->1: on f.departing_airport_id = a.airport_id;
```

The results table shows the following columns: flight_id, departure_airport, departure_city, sch_departure_time, and sch_arrival_time. The results are filtered for all flights.

flight_id	departure_airport	departure_city	sch_departure_time	sch_arrival_time
1	3 Blue Canyon Wyack Airport	Huolu	2007-05-07 19:10:38.000000	2025-05-21 13:22:47.000000
2	4 Viru Viru International Airport	Longos	2016-07-26 03:27:54.000000	2002-03-30 22:46:52.000000
3	5 Lauro Kurtz Airport	Vänernsberg	2011-12-15 18:50:20.000000	2019-09-19 20:20:51.000000
4	6 Solano Airport	Umeå	2006-08-01 00:29:29.000000	2024-03-28 09:04:20.000000
5	7 Douglas Lake Airport	Riebiñi	2014-04-12 05:27:46.000000	2003-04-12 18:50:18.000000
6	8 Wantoot Airport	Yanhe	2012-01-25 03:52:31.000000	2014-11-02 01:10:35.000000
7	9 Semonkong Airport	Rokycany	2002-12-23 15:19:38.000000	2012-03-23 17:59:28.000000
8	10 Manners Creek Airport	Azara	2014-03-31 08:30:51.000000	2014-05-06 21:05:45.000000
9	11 Sisimiut Airport	Lepaterique	2009-09-03 13:50:00.000000	2012-06-08 04:32:02.000000
10	12 Azaza Airport	EL Guamo	2014-03-25 05:09:23.000000	2019-05-07 15:39:15.000000
11	13 Lefkoniko Airport	Uberaba	2012-06-18 00:43:59.000000	2005-12-21 12:07:13.000000
12	14 LTS Pulau Redang Airport	Y	2020-06-07 05:02:50.000000	2015-12-05 02:42:04.000000

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

The screenshot shows a database console interface with a query editor and a results table. The query is as follows:

```
select a.airline_id, a.airline_name
from airline a
where a.airline_id not in (
  select f.airline_id
  from flights f
  where f.sch_departure_time >= date_trunc('month', current_date) + interval '1 month'
  and f.sch_departure_time < date_trunc('month', current_date) + interval '2 month'
);
```

The results table displays the following data:

airline_id	airline_name
1	Alitalia
2	Aero New Zealand
3	Qantas
4	Southwest Airlines
5	Aero India
6	All Nippon Airways
7	Emirates
8	LATAM Airlines
9	Thai Airways
10	Aero India
11	Southwest Airlines
12	Southwest Airlines
13	Iberia
14	Aero France
15	American Airlines

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

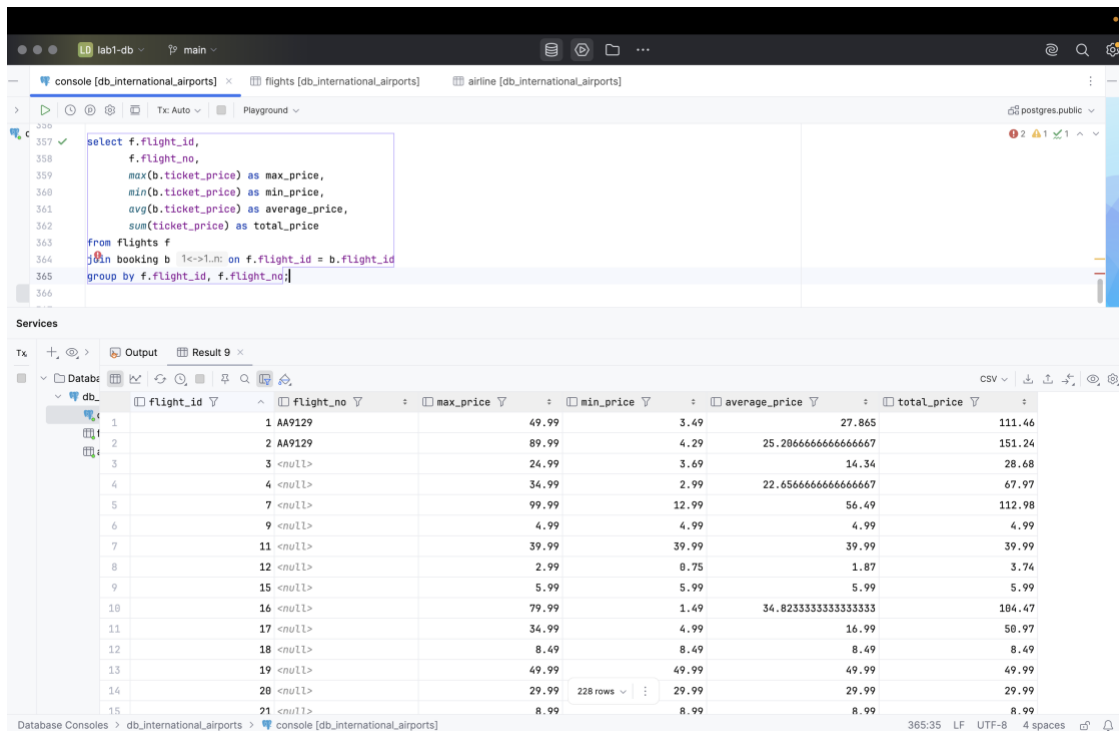
The screenshot shows a database console interface with a query editor and a results table. The query is as follows:

```
select
  p.passenger_id,
  p.first_name,
  p.last_name,
  p.passport_number,
  f.flight_no,
  b.flight_id
from passengers p
join booking b
  on p.passenger_id = b.passenger_id
join flights f
  on f.flight_id = b.flight_id
where f.flight_no = 'AA9129';
```

The results table displays the following data:

passenger_id	first_name	last_name	passport_number	flight_no	flight_id
50	Sam	Morten	872-605-22-31	AA9129	2
110	Korella	Safont	337-864-29-38	AA9129	2
174	Windham	Rehn	651-634-33-73	AA9129	2
34	Lurleen	Arzu	214-137-98-26	AA9129	1
45	Court	Portman	893-940-15-82	AA9129	2
141	Maighdiln	Abbatini	022-753-31-01	AA9129	2
128	Rickey	Calderon	478-396-96-34	AA9129	1
123	Emmalee	Carling	106-267-54-38	AA9129	1
319	Beatrix	Rudram	22-526-5580	AA9129	2
12	Denni	Liston	273-947-95-15	AA9129	1

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



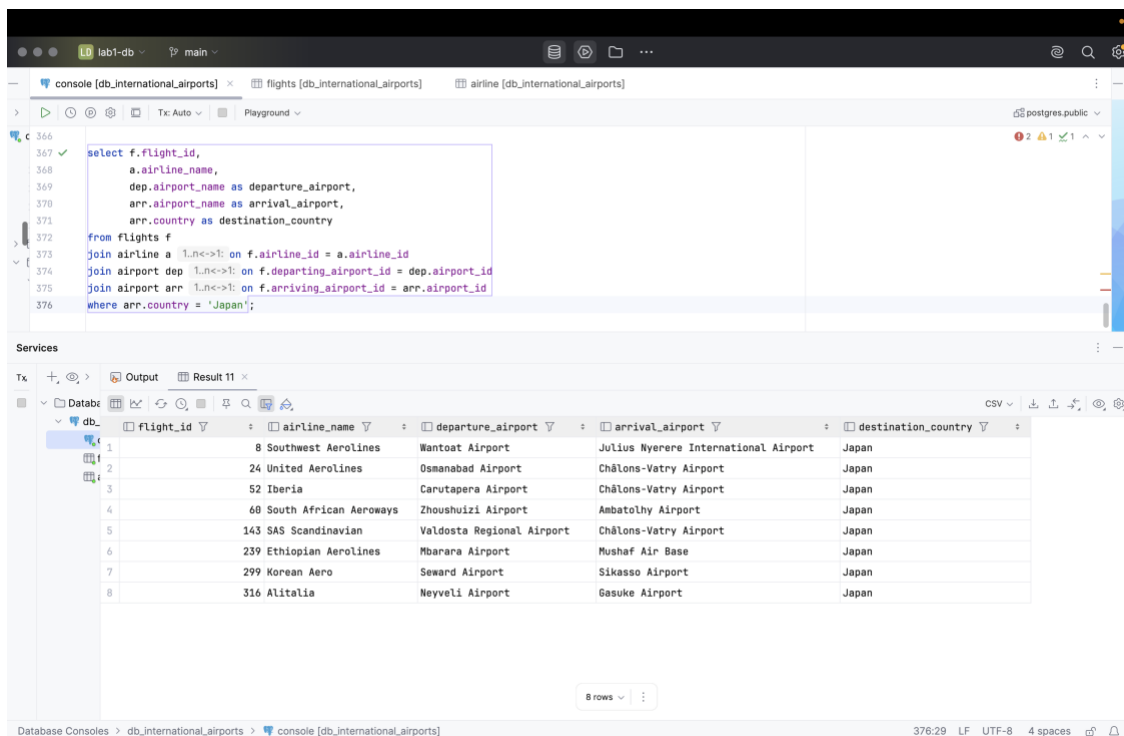
The screenshot shows a database console interface with a SQL query and its results. The query is as follows:

```
select f.flight_id,
       f.flight_no,
       max(b.ticket_price) as max_price,
       min(b.ticket_price) as min_price,
       avg(b.ticket_price) as average_price,
       sum(ticket_price) as total_price
from flights f
join booking b 1<=>1: on f.flight_id = b.flight_id
group by f.flight_id, f.flight_no;
```

The results are displayed in a table with the following columns: flight_id, flight_no, max_price, min_price, average_price, and total_price. The table contains 15 rows of data.

flight_id	flight_no	max_price	min_price	average_price	total_price
1	AA9129	49.99	3.49	27.865	111.46
2	AA9129	89.99	4.29	25.286666666666667	151.24
3	<null>	24.99	3.69	14.34	28.68
4	<null>	34.99	2.99	22.656666666666667	67.97
5	7 <null>	99.99	12.99	56.49	112.98
6	9 <null>	4.99	4.99	4.99	4.99
7	11 <null>	39.99	39.99	39.99	39.99
8	12 <null>	2.99	0.75	1.87	3.74
9	15 <null>	5.99	5.99	5.99	5.99
10	16 <null>	79.99	1.49	34.823333333333333	104.47
11	17 <null>	34.99	4.99	16.99	50.97
12	18 <null>	8.49	8.49	8.49	8.49
13	19 <null>	49.99	49.99	49.99	49.99
14	20 <null>	29.99	29.99	29.99	29.99
15	21 <null>	8.99	8.99	8.99	8.99

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.



The screenshot shows a database console interface with a SQL query and its results. The query is as follows:

```
select f.flight_id,
       a.airline_name,
       dep.airport_name as departure_airport,
       arr.airport_name as arrival_airport,
       arr.country as destination_country
from flights f
join airline a 1,n<>1: on f.airline_id = a.airline_id
join airport dep 1,n<>1: on f.departing_airport_id = dep.airport_id
join airport arr 1,n<>1: on f.arriving_airport_id = arr.airport_id
where arr.country = 'Japan';
```

The results are displayed in a table with the following columns: flight_id, airline_name, departure_airport, arrival_airport, and destination_country. The table contains 8 rows of data.

flight_id	airline_name	departure_airport	arrival_airport	destination_country
8	Southwest Airlines	Wantoat Airport	Julius Nyerere International Airport	Japan
24	United Airlines	Osmanabad Airport	Châlons-Vatry Airport	Japan
52	Iberia	Carutapera Airport	Châlons-Vatry Airport	Japan
68	South African Aeroways	Zhoushuizi Airport	Ambatolhy Airport	Japan
143	SAS Scandinavian	Valdosta Regional Airport	Châlons-Vatry Airport	Japan
239	Ethiopian Airlines	Mbarara Airport	Mushaf Air Base	Japan
299	Korean Aero	Seward Airport	Sikasso Airport	Japan
316	Alitalia	Neyveli Airport	Gasuke Airport	Japan

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

The screenshot shows a database console interface with a SQL query and its results. The query is as follows:

```
select p.passenger_id,
       p.first_name,
       p.last_name,
       a.airport_name as arrival_airport,
       a.country as arriving_country,
       p.date_of_birth
from passengers p
join booking b 1<=>1 on b.passenger_id = p.passenger_id
join flights f 1,1<=>1 on f.flight_id = b.flight_id
join airport a 1,1<=>1 on a.airport_id = f.arriving_airport_id
where age(current_date, p.date_of_birth) < interval '18 years';
```

The results are displayed in a table with 6 columns: passenger_id, first_name, last_name, arrival_airport, arriving_country, and date_of_birth. There are 12 rows of data.

passenger_id	first_name	last_name	arrival_airport	arriving_country	date_of_birth
1	Lisetta	Ranyell	Pulau Pangkor Airport	Spain	2025-03-29
2	Marco	Grindall	Kisengam Airport	Poland	2025-04-08
3	Marco	Grindall	Semonkong Airport	Czech Republic	2025-04-08
4	Ricardo	Handke	Vladivostok International Airport	Indonesia	2024-10-08
5	Anetta	Garnsworth	Ijuí Airport	Canada	2025-07-24
6	Anetta	Garnsworth	Zhob Airport	Greece	2025-07-24
7	Eolande	Blitzer	Barrow Walney Island Airport	China	2025-07-12
8	Eolande	Blitzer	Tonopah Airport	Thailand	2025-07-12
9	Cornelia	Ruck	Kasenga Airport	Indonesia	2025-01-17
10	Ryley	Dublin	Châlons-Vatry Airport	Japan	2024-11-18
11	Mark	Dubbin	Pulau Pangkor Airport	Spain	2025-03-01
12	Mark	Dubbin	Whati Airport	Philippines	2025-03-01

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

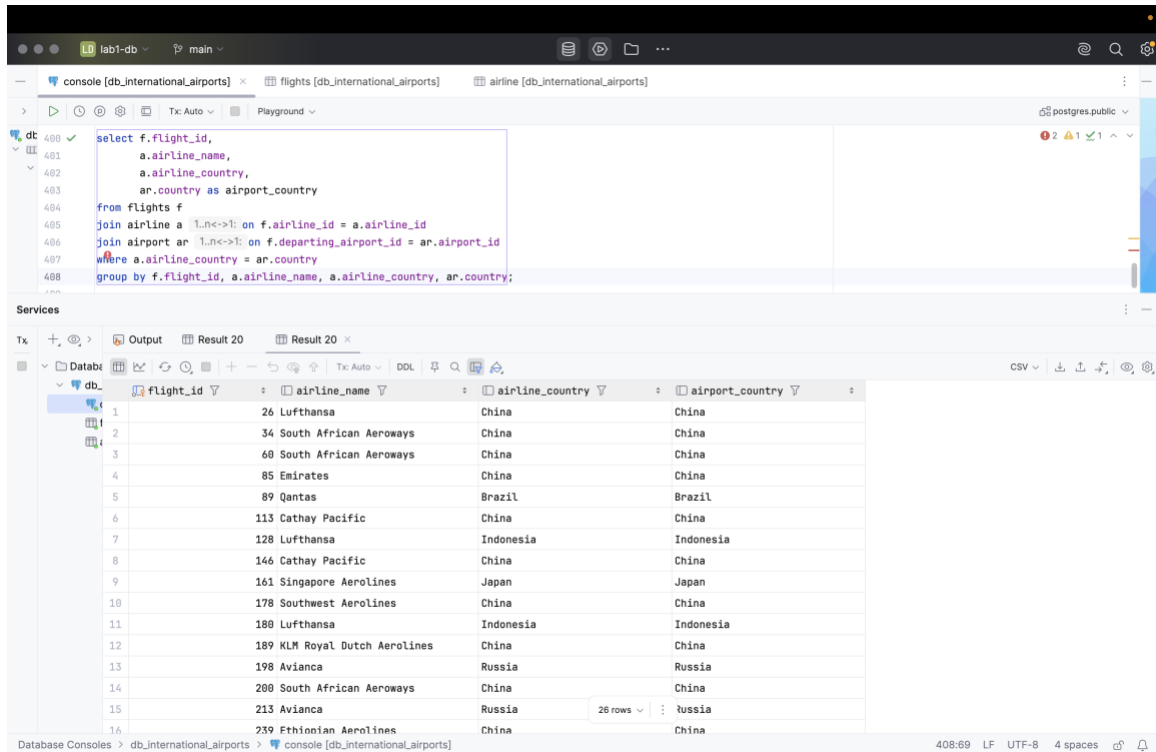
The screenshot shows a database console interface with a SQL query and its results. The query is as follows:

```
select p.first_name,
       p.last_name,
       p.passport_number,
       f.act_arrival_time
from flights f
join booking b 1<=>1 on b.flight_id = f.flight_id
join passengers p 1,1<=>1 on b.passenger_id = p.passenger_id;
```

The results are displayed in a table with 4 columns: first_name, last_name, passport_number, and act_arrival_time. There are 16 rows of data.

first_name	last_name	passport_number	act_arrival_time
Sabrina	Harmon	017-193-69-44	2009-10-19 09:24:49.000000
Ralf	Newbery	583-307-19-94	2001-02-09 01:38:41.000000
Anetta	Garnsworth	507-975-40-42	2011-07-05 15:17:03.000000
Alvin	Hyland	514-995-73-41	2014-09-14 20:47:11.000000
Hubert	Sweeten	953-964-18-10	2014-12-17 21:10:33.000000
Pablo	Gannon	176-076-70-96	2001-02-09 01:38:41.000000
Brannon	MacAnespie	051-787-12-77	2009-07-16 19:31:58.000000
Newton	Sweetenham	242-061-31-67	2013-12-17 20:51:25.000000
Korella	Safont	337-864-29-38	2023-04-21 04:48:30.000000
Ransell	Managh	721-339-40-44	2015-02-01 03:21:41.000000
Carin	Binney	021-760-50-35	2006-03-22 09:58:15.000000
Audy	Trotter	496-998-29-71	2015-09-06 13:26:52.000000
BurLie	Lapham	500-071-81-69	2014-04-03 22:46:58.000000
Uriah	Dericot	505-630-91-41	2012-03-17 23:06:16.000000
Darelle	Gabits	876-286-88-09	2007-01-23 08:39:37.000000
Inigo	Inglese	739-110-30-14	2007-01-23 18:53:54.000000

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



The screenshot shows a database console interface with a SQL query and its results. The query is as follows:

```
select f.flight_id,
       a.airline_name,
       a.airline_country,
       ar.country as airport_country
from flights f
join airline a 1..n<>:1: on f.airline_id = a.airline_id
join airport ar 1..n<>:1: on f.departing_airport_id = ar.airport_id
where a.airline_country = ar.country
group by f.flight_id, a.airline_name, a.airline_country, ar.country;
```

The results are displayed in a table with the following columns: flight_id, airline_name, airline_country, and airport_country. The table contains 16 rows of data, showing flights where the airline's home country matches the origin country.

flight_id	airline_name	airline_country	airport_country
26	Lufthansa	China	China
34	South African Airways	China	China
60	South African Airways	China	China
85	Emirates	China	China
89	Qantas	Brazil	Brazil
113	Cathay Pacific	China	China
128	Lufthansa	Indonesia	Indonesia
146	Cathay Pacific	China	China
161	Singapore Airlines	Japan	Japan
178	Southwest Airlines	China	China
180	Lufthansa	Indonesia	Indonesia
189	KLM Royal Dutch Airlines	China	China
198	Avianca	Russia	Russia
200	South African Airways	China	China
213	Avianca	Russia	Russia
239	Ethiopian Airlines	China	China