

1.

The image displays a PostgreSQL database schema diagram and a terminal window. The schema diagram shows the following tables and their relationships:

- airports\_data**: airport\_name, city, coordinates, timezone.
- aircrafts\_data**: model, range, aircraft\_code.
- bookings**: book\_date, total\_amount, book\_ref.
- flights**: flight\_no, scheduled\_departure, departure\_airport, arrival\_airport, station, arrival\_date, actual\_departure, actual\_arrival, flight\_id.
- seats**: fare\_conditions, aircraft\_code, seat\_no.
- tickets**: book\_ref, passenger\_id, passenger\_name, contact\_data, ticket\_no.
- ticket\_flights**: fare\_conditions, amount, ticket\_no, flight\_id.
- boarding\_passes**: boarding\_no, flight\_id.
- flights\_v**: flight\_id, flight\_no, scheduled\_departure, scheduled\_departure\_local, scheduled\_arrival, scheduled\_arrival\_local, scheduled\_duration, departure\_airport, departure\_city.
- routes**: flight\_no, departure\_airport, departure\_city, arrival\_airport, arrival\_city, duration, days\_of\_week.
- airports**: airport\_code, airport\_name, city, coordinates, timezone.

The terminal window shows the execution of the following commands:

```
C:\Program Files\PostgreSQL\15\bin>psql -f C:\Users\aliya\OneDrive\Документы\demo-medium-20170815.sql -U postgres
Пароль пользователя postgres:
SET
SET
SET
SET
SET
SET
SET
psql:C:\Users\aliya\OneDrive\Документы\demo-medium-20170815.sql:17: P2PBP2P2P2: P4P0P0 P2P0P2P2C0C: "demo" P2P4 C2C2C3P4C2C"P2C2P4C"
CREATE DATABASE
Вы подключены к базе данных "demo" как пользователь "postgres".
SET
SET
SET
SET
SET
SET
SET
CREATE SCHEMA
COMMENT
CREATE EXTENSION
COMMENT
SET
CREATE FUNCTION
CREATE FUNCTION
COMMENT
SET
SET
CREATE TABLE
COMMENT
COMMENT
COMMENT
CREATE VIEW
COMMENT
COMMENT
COMMENT
COMMENT
CREATE TABLE
COMMENT
COMMENT
COMMENT
COMMENT
COMMENT
COMMENT
CREATE VIEW
```

(у меня medium версия)

2.

Database Explorer

database\_for\_restaurant@localhost

- Database Objects
- Server Objects
- database\_for\_user@localhost 1 of 7
  - database\_for\_user 1 of 3
    - public
      - tables 9
        - access
        - comment

Services

console [demo@localhost] x console\_1 [database\_for\_user@localhost] console [database\_for\_restaurant@localhost]

demo: bookings, public x console

```
1 select book_ref, passenger_id, passenger_name, contact_data, ticket_no from tickets
2
3 union all
4
5 select NULL as book_ref, null as passenger_id, null as passenger_id, null as passenger_name, ticket_no from ticket_flights
6
7 order by ticket_no desc
```

Output demo.bookings.tickets x

book_ref	passenger_id	passenger_name	contact_data	ticket_no
7B6A53	7380 075822	PAVEL ROMANOV	{"email": "p-romanov.021979@postgrespro.ru", "phone": "78858052627"}	0005435999873
<null>	<null>	<null>	<null>	0005435999873
<null>	<null>	<null>	<null>	0005435999873
<null>	<null>	<null>	<null>	0005435999872
<null>	<null>	<null>	<null>	0005435999872
7B6A53	9374 822707	NURIYA PETROVA	{"email": "petrova-n.051973@postgrespro.ru", "phone": "78858052627"}	0005435999872
A1AD46	1596 156448	MAKSIM SERGEEV	{"email": "m-sergeev111963@postgrespro.ru", "phone": "78858052627"}	0005435999871
<null>	<null>	<null>	<null>	0005435999871
<null>	<null>	<null>	<null>	0005435999871
<null>	<null>	<null>	<null>	0005435999871
<null>	<null>	<null>	<null>	0005435999870
<null>	<null>	<null>	<null>	0005435999870
<null>	<null>	<null>	<null>	0005435999870
D730BA	6535 751108	MARIYA LAZAREVA	{"email": "m-lazareva.021979@postgrespro.ru", "phone": "78858052627"}	0005435999870

Database Consoles > demo@localhost > console [demo@localhost] 7:24 CRLF UTF-8 4 spaces

Database Explorer

database\_for\_user@localhost

- languages 4
- virtual views 1
- Server Objects
- demo@localhost 1 of 8
  - demo 1 of 4
    - bookings
      - tables 8
        - aircrafts\_data
        - airports\_data

Services

console [demo@localhost] x seats [demo@localhost] tickets [demo@localhost] console\_1 [database\_for\_user@localhost] users [database\_for\_restaurant@localhost]

demo: bookings, public x console

```
5 select NULL as book_ref, null as passenger_id, null as passenger_id, null as passenger_name, ticket_no from ticket_flights
6
7 order by ticket_no desc;
8
9 select * from bookings
10 where total_amount < 20000
11 order by book_ref asc
12 limit 9;
```

Output demo.bookings.bookings x

book_ref	book_date	total_amount
000068	2017-08-15 11:27:00.000000 +00:00	18100.00
000104	2017-05-15 04:51:00.000000 +00:00	18600.00
000335	2017-06-26 22:52:00.000000 +00:00	9800.00
000440	2017-07-29 21:24:00.000000 +00:00	6000.00
000480	2017-07-28 06:00:00.000000 +00:00	12000.00
0004E7	2017-05-02 16:17:00.000000 +00:00	19600.00
00053F	2017-08-06 00:15:00.000000 +00:00	6000.00
000744	2017-06-04 08:41:00.000000 +00:00	15000.00
0009ED	2017-07-08 11:25:00.000000 +00:00	14000.00

Database Consoles > demo@localhost > console [demo@localhost] 11:14 CRLF UTF-8 4 spaces

Database Explorer

demo@localhost

- aircrafts\_data
- airports\_data
- boarding\_passes
- bookings
  - columns 3
    - book\_ref char(6)
    - book\_date timestamp with time
    - total\_amount numeric(10,2)
  - keys 1

console\_1 [demo@localhost]

```
SELECT
  LEAST(departure_airport, arrival_airport) AS airport1,
  GREATEST(departure_airport, arrival_airport) AS airport2
FROM flights
group by airport1, airport2
```

ticket\_flights [demo@localhost]

ticket_no	flight_id	fare_conditions	amo
0005432259511	1	Economy	67
0005432815912	1	Economy	67
0005432259540	1	Economy	67
0005432815918	1	Economy	67
0005432259522	1	Business	200
0005432753098	1	Economy	67
0005432815910	1	Economy	67
0005432259538	1	Economy	67

Services

Output Result 4

airport1	airport2
GDZ	ROV
OSW	VKO
IKT	VVO
NOJ	NUX
DME	ULV
KZN	MQF
GDZ	SVO
SVO	VOG
DME	PKV
CSY	LED
DME	NNM
NOJ	VKO
CSY	LED

Database Consoles > demo@localhost > console\_1 [demo@localhost]

console\_1 [demo@localhost]

```
select f.flight_no, avg(flight_id) as avg_id from flights f
where exists(
  select * from ticket_flights t
  where f.flight_id = t.flight_id
  and t.fare_conditions = 'Business'
  and t.amount < 100000
)
group by f.flight_no
```

aircrafts\_data

flight_id	flight_no	scheduled_departure
182	P60402	2017-09-01 09:25:00.000000 +0
1996	P60335	2017-08-26 06:30:00.000000 +0
5979	P60384	2017-08-26 09:10:00.000000 +0
8136	P60138	2017-08-28 07:15:00.000000 +0
10455	P60277	2017-09-12 08:45:00.000000 +0
11531	P60456	2017-08-16 13:15:00.000000 +0
13774	P60460	2017-08-25 11:30:00.000000 +0
16088	P60407	2017-08-20 09:10:00.000000 +0

Services

Output Result 8

flight_no	avg_id
P60303	22861.289288288288
P60413	28875.714285714286
P60474	16843.875
P60174	11173
P60606	50754.216666666667
P60355	43124.084745762712
P60273	787.0847457627118644
P60605	4534.6752136752136752
P60683	29741.325
P60539	8164.5
P60695	30778.25
P60433	47572.593333333333

Database Consoles > demo@localhost > console\_1 [demo@localhost]

(не хватило воображения, чтобы засунуть в агрегатную функцию что-то толковое + об осмысленности в условии речи не было)