

Laboratory work 3

0.

The image displays two screenshots of the pgAdmin 4 interface, showing the execution of SQL queries in a PostgreSQL database.

Top Screenshot:

- Query:** `INSERT INTO booking (booking_id, flight_id, passenger_id, booking_platform, created_at, updated_at, status, ticket_price)`
- VALUES:** A list of 10 rows of data, including booking IDs, flight IDs, passenger IDs, booking platforms, creation and update timestamps, status, and ticket prices.
- Data Output:** `INSERT 0 10`
- Message:** Query returned successfully in 54 msec.

Bottom Screenshot:

- Query:** `INSERT INTO passengers (passenger_id, first_name, last_name, date_of_birth, gender, country_of_citizenship, country_of_residence, passport_number, created_at, updated_at)`
- VALUES:** A list of 10 rows of data, including passenger IDs, first and last names, dates of birth, genders, countries of citizenship and residence, passport numbers, and creation and update timestamps.
- Data Output:** `INSERT 0 10`
- Message:** Query returned successfully in 68 msec.

I added some extra data to my DB before doing the third laboratory work.

1.

The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer displays the database structure, with the 'passengers' table selected under the 'Columns (10)' folder. The main query editor on the right contains the following SQL query:

```
1 SELECT * FROM passengers
2 WHERE first_name = last_name;
```

The 'Data Output' tab at the bottom shows the results of the query. It displays two rows of data from the 'passengers' table:

passenger_id	first_name	last_name	date_of_birth	gender	country_of_citizenship	country_of_residence	passport_number
1	Aruzhan	Aruzhan	2002-01-12	Female	Kazakhstan	Kazakhstan	KZ123456
2	Yerbol	Yerbol	1998-10-14	Male	Kazakhstan	Kazakhstan	KZ445566

The status bar at the bottom indicates 'Total rows: 2' and 'Query complete 00:00:00.073'.

2.

The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer displays the database structure, with the 'passengers' table selected under the 'Columns (10)' folder. The main query editor on the right contains the following SQL query:

```
1 SELECT
2 DISTINCT last_name
3 FROM passengers;
```

The 'Data Output' tab at the bottom shows the results of the query. It displays nine rows of data, listing the distinct last names from the 'passengers' table:

last_name
Adil
Nur
Yerbol
Dias
Serik
Sultan
Bek
Aruzhan
Ali

The status bar at the bottom indicates 'Total rows: 9' and 'Query complete 00:00:00.101'.

3.

The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer displays the database structure, with the 'passengers' table selected under the 'lab2/postgres@PostgreSQL 17*' connection. The main pane shows a SQL query:

```
1 SELECT * FROM passengers
2 WHERE gender = 'Male'
3 AND date_of_birth BETWEEN '1990-01-01' AND '2000-01-01';
```

The Data Output tab shows the results of the query, displaying 5 rows of passenger data:

	passenger_id [PK] integer	first_name character varying (50)	last_name character varying (50)	date_of_birth date	gender character varying (50)	country_of_citizenship character varying (50)	country_of_residence character varying (50)	passport_num character varying (50)
1	2	Dias	Bek	1999-07-20	Male	Kazakhstan	Turkey	TR556677
2	4	Nursultan	Ali	1995-12-05	Male	Kazakhstan	Russia	RU223344
3	6	Yerbol	Yerbol	1998-10-14	Male	Kazakhstan	Kazakhstan	KZ445566
4	8	Azamat	Nur	1997-06-18	Male	Kazakhstan	Kazakhstan	KZ990011
5	9	Alikhan	Dias	1992-02-02	Male	Kazakhstan	Poland	PL667788

Total rows: 5 Query complete 00:00:00.105 CRLF Ln 3, Col 58

4.

The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer displays the database structure, with the 'booking' table selected under the 'lab2/postgres@PostgreSQL 17*' connection. The main pane shows a SQL query:

```
1 SELECT LEFT(created_at::text, 7) AS month, SUM(ticket_price) AS total_price
2 FROM booking
3 GROUP BY month
4 ORDER BY month;
```

The Data Output tab shows the results of the query, displaying 5 rows of booking data:

	month text	total_price numeric
1	2023-11	115000.00
2	2023-12	100000.00
3	2024-01	165000.00
4	2024-02	90000.00
5	2024-03	180000.00

Total rows: 5 Query complete 00:00:00.060 CRLF Ln 4, Col 16

5.

The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer displays the database structure, with the 'airline' table selected. The main pane shows a SQL query:

```
1 SELECT * FROM flights
2 WHERE arriving_gate = 'China';
```

The Data Output pane at the bottom shows the query results with columns: flight_id [PK] integer, sch_departure_time timestamp without time zone, sch_arrival_time timestamp without time zone, departing_airport_id integer, arriving_airport_id integer, departing_gate text, and arriving_gate character varying (50). The status bar indicates 'Total rows: 0' and 'Query complete 00:00:00.076'.

6.

The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer displays the database structure, with the 'airline' table selected. The main pane shows a SQL query:

```
1 SELECT * FROM airline
2 WHERE (airline_country = 'France'
3 OR airline_country = 'Portugal'
4 OR airline_country = 'Poland')
5 AND created_at BETWEEN '2023-11-01' AND '2024-03-31';
6
```

The Data Output pane at the bottom shows the query results with columns: airline_id [PK] integer, airline_code character varying (30), airline_name character varying (50), airline_country character varying (50), created_at timestamp without time zone, and updated_at timestamp without time zone. The status bar indicates 'Total rows: 0' and 'Query complete 00:00:00.095'.

7.

The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer displays the database structure, with the 'airline' table selected. The main pane shows a SQL query editor with the following query:

```
1 SELECT airline_name
2 FROM airline
3 WHERE airline_country = 'Kazakhstan';
4
```

The Data Output pane at the bottom shows the result of the query:

airline_name
character varying (50)

The status bar at the bottom indicates 'Total rows: 0' and 'Query complete 00:00:00.101'.

8.

The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer displays the database structure, with the 'booking' table selected. The main pane shows a SQL query editor with the following query:

```
1 UPDATE booking
2 SET ticket_price = ticket_price * 0.9
3 WHERE created_at < '2023-11-01';
4
```

The Data Output pane at the bottom shows the result of the query:

UPDATE 0

Query returned successfully in 69 msec.

The status bar at the bottom indicates 'Total rows: 0' and 'Query complete 00:00:00.069'.

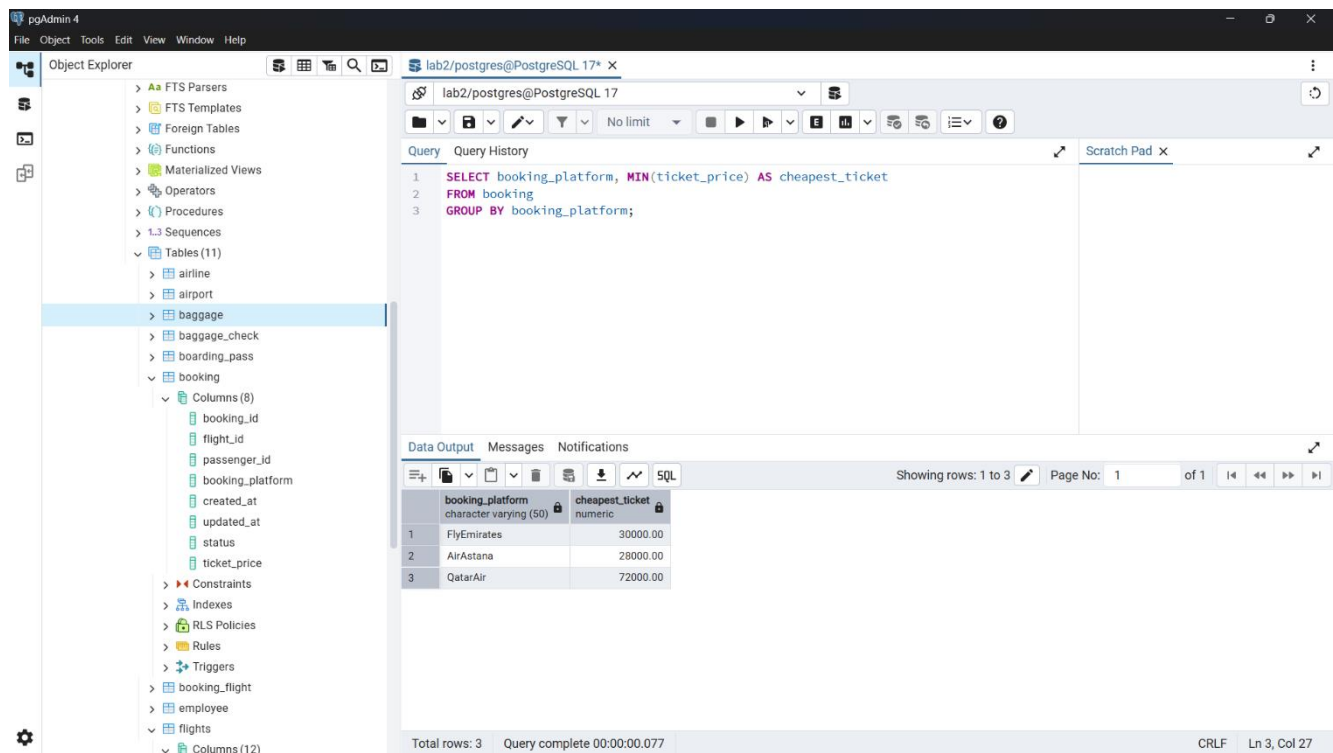
9.

The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer displays the database structure, with the 'baggage' table selected. The table has five columns: 'baggage_id', 'weight_in_kg', 'created_at', 'updated_at', and 'booking_id'. The 'updated_at' column is highlighted. In the center, the Query Editor shows a SQL query: `SELECT * FROM baggage WHERE weight_in_kg > 25 ORDER BY weight_in_kg DESC LIMIT 3;`. The bottom panel shows the Data Output tab, which is currently empty, indicating that the query has not been executed yet. The status bar at the bottom indicates 'Total rows: 0' and 'Query complete 00:00:00.084'.

10.

The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer displays the database structure, with the 'passengers' table selected. The table has eight columns: 'passenger_id', 'first_name', 'last_name', 'date_of_birth', 'booking_id', 'flight_id', 'passenger_email', and 'passenger_phone'. The 'updated_at' column is highlighted. In the center, the Query Editor shows a SQL query: `SELECT first_name || ' ' || last_name AS full_name, date_of_birth FROM passengers ORDER BY date_of_birth DESC LIMIT 1;`. The bottom panel shows the Data Output tab, which displays the results of the query. The results are shown in a table with two columns: 'full_name' and 'date_of_birth'. The first row shows 'Aruzhan Sultan' and '2005-09-25'. The status bar at the bottom indicates 'Total rows: 1' and 'Query complete 00:00:00.072'.

11.



The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer displays the database structure, with the 'booking' table selected under the 'Tables (11)' category. The main query editor on the right contains the following SQL query:

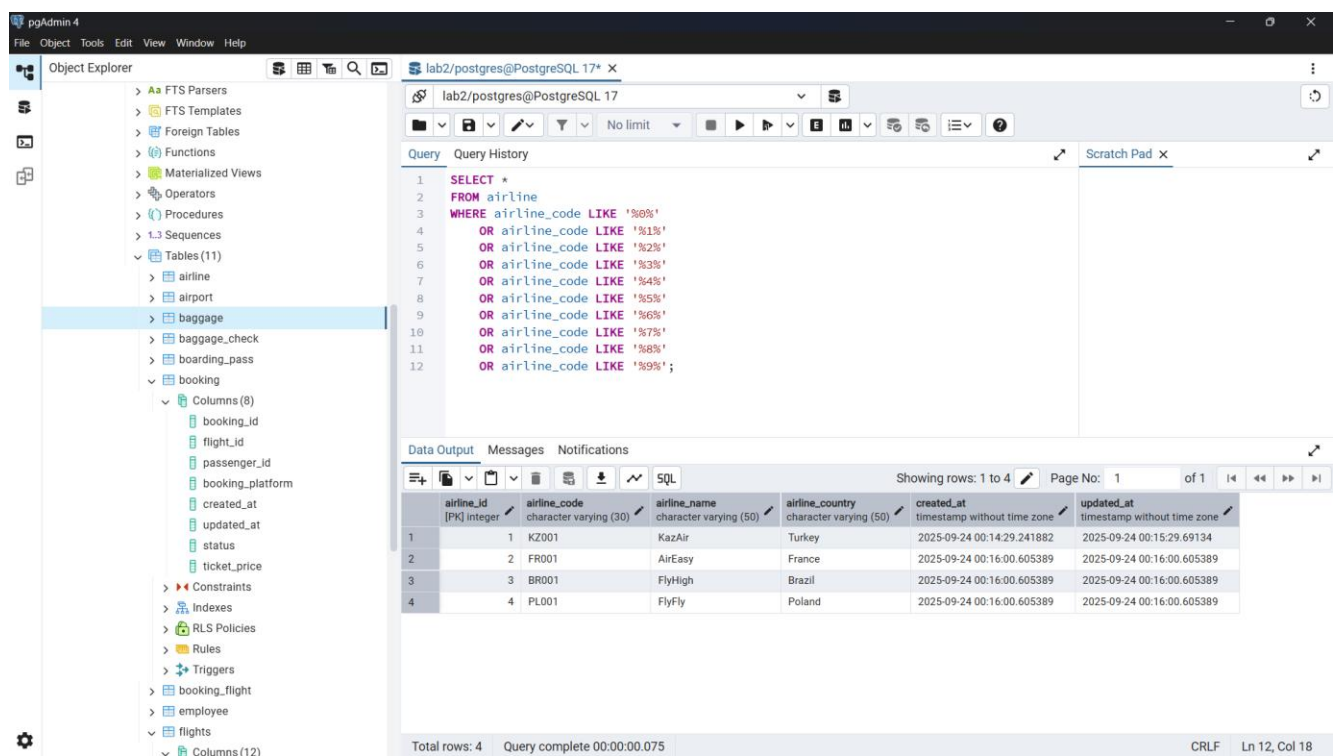
```
1 SELECT booking_platform, MIN(ticket_price) AS cheapest_ticket
2 FROM booking
3 GROUP BY booking_platform;
```

The 'Data Output' tab at the bottom shows the results of the query in a table with two columns: 'booking_platform' (character varying (50)) and 'cheapest_ticket' (numeric). The results are as follows:

booking_platform	cheapest_ticket
FlyEmirates	30000.00
AirAstana	28000.00
QatarAir	72000.00

The status bar at the bottom indicates 'Total rows: 3' and 'Query complete 00:00:00.077'.

12.



The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer displays the database structure, with the 'airline' table selected under the 'Tables (11)' category. The main query editor on the right contains the following SQL query:

```
1 SELECT *
2 FROM airline
3 WHERE airline_code LIKE '%0%'
4 OR airline_code LIKE '%1%'
5 OR airline_code LIKE '%2%'
6 OR airline_code LIKE '%3%'
7 OR airline_code LIKE '%4%'
8 OR airline_code LIKE '%5%'
9 OR airline_code LIKE '%6%'
10 OR airline_code LIKE '%7%'
11 OR airline_code LIKE '%8%'
12 OR airline_code LIKE '%9%' ;
```

The 'Data Output' tab at the bottom shows the results of the query in a table with six columns: 'airline_id' [PK] integer, 'airline_code' character varying (30), 'airline_name' character varying (50), 'airline_country' character varying (50), 'created_at' timestamp without time zone, and 'updated_at' timestamp without time zone. The results are as follows:

airline_id	airline_code	airline_name	airline_country	created_at	updated_at
1	KZ001	KazAir	Turkey	2025-09-24 00:14:29.241882	2025-09-24 00:15:29.69134
2	FR001	AirEasy	France	2025-09-24 00:16:00.605389	2025-09-24 00:16:00.605389
3	BR001	FlyHigh	Brazil	2025-09-24 00:16:00.605389	2025-09-24 00:16:00.605389
4	PL001	FlyFly	Poland	2025-09-24 00:16:00.605389	2025-09-24 00:16:00.605389

The status bar at the bottom indicates 'Total rows: 4' and 'Query complete 00:00:00.075'.

13.

The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer displays the database structure, with the 'airline' table selected under 'Tables (11)'. The table has 6 columns: airline_id, airline_code, airline_name, airline_country, created_at, and updated_at. The main pane shows a SQL query:

```
1 SELECT airline_name
2 FROM airline
3 ORDER BY created_at DESC
4 LIMIT 5;
```

The Data Output pane shows the results of the query:

airline_name
AirEasy
FlyHigh
FlyFly
KazAir

The status bar at the bottom indicates 'Total rows: 4' and 'Query complete 00:00:00.085'.

14

The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer displays the database structure, with the 'booking' table selected under 'Tables (11)'. The table has 8 columns: booking_id, flight_id, passenger_id, booking_platform, created_at, updated_at, status, and ticket_price. The main pane shows a SQL query:

```
1 SELECT *
2 FROM booking
3 WHERE booking_id BETWEEN 200 AND 300
4 AND status <> 'Checked';
5
```

The Data Output pane shows the results of the query:

booking_id	flight_id	passenger_id	booking_platform	created_at	updated_at	status	ticket_price
[PK] integer	integer	integer	character varying (50)	timestamp without time zone	timestamp without time zone	character varying (50)	numeric (7,2)

The status bar at the bottom indicates 'Total rows: 0' and 'Query complete 00:00:00.081'.

15.

pgAdmin 4

File Object Tools Edit View Window Help

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Object Explorer

- > AFS Parsers
- > FTS Templates
- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > Sequences
- > Tables (11)
 - airline
 - Columns (6)
 - airline_id
 - airline_code
 - airline_name
 - airline_country
 - created_at
 - updated_at
 - Constraints (1)
 - airline_info_pkey
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
 - airport
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - Columns (8)
 - booking_id
 - flight_id
 - passenger_id
 - booking_platform

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Query Query History

```
1 SELECT *
2 FROM baggage_check
3 WHERE LEFT(updated_at::text, 7) = LEFT(created_at::text, 7)
4 AND updated_at < created_at;
5
```

Data Output Messages Notifications

baggage_check_id	check_result	created_at	updated_at	booking_id	passenger_id
[PK] integer	character varying (50)	timestamp without time zone	timestamp without time zone	integer	integer

Total rows: 0 Query complete 00:00:00.089

Successfully run. Total query runtime: 89 msec. 0 rows affected.

CRLF Ln 5, Col 1