

Laboratory work 5

1.

The screenshot shows the pgAdmin 4 interface. On the left, a document titled "Laboratory work 5" contains instructions and a list of tasks. The main window displays the "Query" editor with the following SQL code:

```
1 ALTER TABLE passengers
2 ADD CONSTRAINT chk_age CHECK(EXTRACT(YEAR FROM AGE(date_of_birth)))
```

The "Query History" pane shows the query was executed successfully in 60 msec. The "Data Output" pane is empty. The "Messages" pane shows the message: "ALTER TABLE". The "Notifications" pane shows a Windows activation message.

2.

The screenshot shows the pgAdmin 4 interface. On the left, a document titled "Laboratory work 5" contains instructions and a list of tasks. The main window displays the "Query" editor with the following SQL code:

```
1 ALTER TABLE booking
2 ADD CONSTRAINT chk_booking_price CHECK (
3 ticket_price > 0 AND ticket_price <= 50000
4 );
5
```

The "Query History" pane shows the query was executed successfully in 45 msec. The "Data Output" pane is empty. The "Messages" pane shows the message: "ALTER TABLE". The "Notifications" pane shows a Windows activation message.

3.

The screenshot shows the pgAdmin 4 interface. On the left, a list of tasks is visible. The main pane shows a SQL query being executed on the 'baggage' table. The query is:

```
1 ALTER TABLE baggage
2 ADD CONSTRAINT chk_baggage_weight CHECK (
3 weight_in_kg BETWEEN 1 AND 23
4 );
5
```

The 'Messages' tab shows the query completed successfully in 47 msec. The status bar indicates 'Total rows: Query complete 00:00:00.047'.

4.

The screenshot shows the pgAdmin 4 interface. On the left, a list of tasks is visible. The main pane shows a SQL query being executed on the 'airport' table. The query is:

```
1 ALTER TABLE airport
2 ADD CONSTRAINT chk_airport_name CHECK (
3 LENGTH(airport_name) >= 10
4 );
5
```

The 'Messages' tab shows the query completed successfully in 51 msec. The status bar indicates 'Total rows: Query complete 00:00:00.051'.

5.

we continue to work with the database from the previous laboratory works.

Take a full-page screenshot that covers the code and results of each task.

Tasks:

1. Add a CHECK constraint to passenger table to provide that passengers must be at least 10 years old.
2. Add a CHECK constraint to accept values in booking price not more than 50000tg and less than 0tg.
3. Add a CHECK constraint to accept the luggage weight between 1 and 23 kg.
4. Add a CHECK constraint to ensure that all values in airport_name must have at least 10 characters.
5. Add UNIQUE constraint to some columns in each table in database.
6. Add a CHECK constraint to ensure that male passengers must be at least 18 years old and female passengers must be 19 years old.
7. Add a CHECK constraint to add rule as follow (use column country of citizenship):
 - Passengers from Kazakhstan must be at least 18 years old.
 - Passengers from France must be at least 17 years old.
 - Passengers from other countries must be at least 19 years old.
8. Add a ticket discount column to table booking and a CHECK constraint to apply some discount based on ticket price and created time:
 - the constraint applies a 5% discount for tickets created after 2024-01-01, and 10% discount for tickets created before 2024-01-01.

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```

17 ADD CONSTRAINT unique_booking_created_time UNIQUE(created_at);
18
19 ALTER TABLE booking_flight
20 ADD CONSTRAINT unique_booking_fl_created_time UNIQUE(created_at);
21
22 ALTER TABLE employee
23 ADD CONSTRAINT unique_employee_id UNIQUE(employee_id);
24
25 ALTER TABLE flights
26 ADD CONSTRAINT unique_flight_id UNIQUE(flight_id);
27
28 ALTER TABLE passengers
29 ADD CONSTRAINT unique_passenger_id UNIQUE(passenger_id);
30
31 ALTER TABLE security_check
32 ADD CONSTRAINT unique_security_chk_created_time UNIQUE(created_at);

```

Query returned successfully in 48 msec.

Активация Windows
Чтобы активировать Windows, перейдите в раздел "Параметры".

Total rows: Query complete 00:00:00.048 CRLF Ln 23, Col 50

6.

we continue to work with the database from the previous laboratory works.

Take a full-page screenshot that covers the code and results of each task.

Tasks:

1. Add a CHECK constraint to passenger table to provide that passengers must be at least 10 years old.
2. Add a CHECK constraint to accept values in booking price not more than 50000tg and less than 0tg.
3. Add a CHECK constraint to accept the luggage weight between 1 and 23 kg.
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```

1 ALTER TABLE passengers
2 ADD CONSTRAINT chk_gender_age CHECK (
3     (gender = 'Male' AND EXTRACT(YEAR FROM AGE(date_of_birth)) >= 18)
4     OR (gender = 'Female' AND EXTRACT(YEAR FROM AGE(date_of_birth)) >= 19)
5 );
6

```

Query returned successfully in 46 msec.

Активация Windows
Чтобы активировать Windows, перейдите в раздел "Параметры".

Total rows: Query complete 00:00:00.046 CRLF Ln 1, Col 23

7.

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

```
1 ALTER TABLE passengers
2 ADD CONSTRAINT chk_country_age CHECK (
3 (country_of_citizenship = 'Kazakhstan' AND EXTRACT(YEAR FROM AGE(date_of_birth)) >= 18)
4 OR (country_of_citizenship = 'France' AND EXTRACT(YEAR FROM AGE(date_of_birth)) >= 17)
5 OR (country_of_citizenship NOT IN ('Kazakhstan', 'France') AND EXTRACT(YEAR FROM AGE(date_of_birth)) >= 19)
6 );
7
```

The Messages pane at the bottom shows the message: "ALTER TABLE" and "Query returned successfully in 50 msec." The status bar at the bottom indicates "Total rows: Query complete 00:00:00.050" and "Ln 5, Col 100".

8.

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

```
1 ALTER TABLE booking
2 ADD COLUMN ticket_discount INT;
```

The Messages pane at the bottom shows the message: "ALTER TABLE" and "Query returned successfully in 50 msec." The status bar at the bottom indicates "Total rows: Query complete 00:00:00.050" and "Ln 2, Col 31".

On the left side of the screen, there is a list of tasks:

Tasks:

1. Add a CHECK constraint to passenger table to provide that passengers must be at least 10 years old.
2. Add a CHECK constraint to accept values in booking price not more than 50000tg and less than 0tg.
3. Add a CHECK constraint to accept the luggage weight between 1 and 23 kg.
4. Add a CHECK constraint to ensure that all values in airport_name must have at least 10 characters.
5. Add UNIQUE constraint to some columns in each table in database.
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pgAdmin 4

File Object Tools Edit View Window Help

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Object Explorer

- FTS Parsers
- FTS Templates
- Foreign Tables
- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (11)
 - airline
 - airport
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - booking_flight
 - employee
 - flights
 - passengers
 - Columns (10)
 - passenger_id
 - first_name
 - last_name
 - date_of_birth
 - gender
 - country_of_citizenship
 - country_of_residence
 - passport_number
 - created_at
 - updated_at
 - Constraints
 - Indexes

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Query Query History

```
1 ALTER TABLE booking
2 ADD CONSTRAINT chk_ticket_discount CHECK (
3 (created_at > '2024-01-01' AND ticket_discount = ticket_price * 0.95)
4 OR (created_at <= '2024-01-01' AND ticket_discount = ticket_price * 0.90)
5 );
6
```

Data Output Messages Notifications

ALTER TABLE

Query returned successfully in 50 msec.

Активация Windows

Чтобы активировать Windows, перейдите в раздел "Параметры".

✓ Query returned successfully in 50 msec. ✕

CRLF Ln 3, Col 52

Total rows: Query complete 00:00:00.050