

Laboratory work 4

1.

The screenshot shows the pgAdmin 4 interface. On the left is a browser window displaying a Microsoft Word document titled "Laboratory work 4.docx". The document contains instructions and a list of tasks. On the right is the pgAdmin 4 interface, which includes a sidebar with database objects like Domains, FTS Configurations, and Tables (11). The main pane shows a query editor with the following SQL code:

```
1 SELECT UPPER(airline_name)
2 FROM airline;
```

The results of the query are displayed in a Data Output tab:

upper	text
1	KAZAIR
2	AIRSEASY
3	FLYHIGH
4	FLYFLY

At the bottom of the pgAdmin interface, there is a message about Windows activation: "Активация Windows. Чтобы активировать Windows, перейдите в раздел 'Параметры'." (Activation Windows. To activate Windows, go to the 'Parameters' section.)

2.

This screenshot is similar to the first one, showing the pgAdmin 4 interface and a Microsoft Word document. The Word document contains the same instructions and task list. The pgAdmin interface shows a different query in the editor:

```
1 SELECT REPLACE(airline_name, 'Air', 'Aero')
2 FROM airline;
```

The results of this query are shown in the Data Output tab:

replace	text
1	KazAero
2	AeroEasy
3	FlyHigh
4	FlyFly

Again, at the bottom of the pgAdmin interface, there is a message about Windows activation: "Активация Windows. Чтобы активировать Windows, перейдите в раздел 'Параметры'." (Activation Windows. To activate Windows, go to the 'Parameters' section.)

3.

Laboratory work 4.docx

Object Explorer

Query

```
1 SELECT flight_id
2 FROM flights
3 WHERE flight_id IN (1, 2)
4 GROUP BY flight_id
5 HAVING COUNT(DISTINCT airline_id) = 2;
```

Tasks:

1. Retrieve all airline names in uppercase.
2. Replace any occurrence of the word "Air" in airline names with "Aero".
3. Find all flight numbers that coordinates with both airline 1 and airline 2.
4. Retrieve airports that contain the word "Reginal" and "Air" in their names.
5. Retrieve passenger names and format their birth dates as 'Month DD, YYYY'.o
6. Find flight numbers that have been delayed based on the actual arrival time.
7. Create a query that divides passengers into age groups like 'Young' and 'Adult' based on their birth date. Young passengers age between 18 and 35, Adult passengers age between 36 and 55.
8. Create a query that categorizes ticket prices based on their price as "Cheap," "Medium" or "Expensive."
9. Find number of airline names in each airline country.
10. Find flights that arrived late according to their actual arrival time compared to the scheduled arrival time.

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lab2/postgres@PostgreSQL 17*

flight_id [PK] integer

Total rows: 0 Query complete 00:00:00.084 CRLF Ln 5, Col 38

4.

Laboratory work 4.docx

Object Explorer

Query

```
1 SELECT airport_name
2 FROM airport
3 WHERE airport_name ILIKE '%Regional%'
4 AND airport_name ILIKE '%Air%';
```

Tasks:

1. Retrieve all airline names in uppercase.
2. Replace any occurrence of the word "Air" in airline names with "Aero".
3. Find all flight numbers that coordinates with both airline 1 and airline 2.
4. Retrieve airports that contain the word "Reginal" and "Air" in their names.
5. Retrieve passenger names and format their birth dates as 'Month DD, YYYY'.o
6. Find flight numbers that have been delayed based on the actual arrival time.
7. Create a query that divides passengers into age groups like 'Young' and 'Adult' based on their birth date. Young passengers age between 18 and 35, Adult passengers age between 36 and 55.
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lab2/postgres@PostgreSQL 17*

airport_name character varying (50)

Total rows: 0 Query complete 00:00:00.087 CRLF Ln 4, Col 32

5.

Laboratory work 4.docx

pgAdmin 4

Object Explorer

Query

Query History

```
1 SELECT FORMAT('%s %s', first_name, date_of_birth)
2 FROM passengers;
3
```

Data Output

format	text
1	Aruzhan 2002-01-12
2	Dias 1999-07-20
3	Amina 2001-03-10
4	Nursultan 1995-12-05
5	Dana 2003-04-22
6	Yerbol 1998-10-14

Активация Windows

Чтобы активировать Windows, перейдите в раздел "Параметры".

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Total rows: 10 Query complete 00:00:00.081 CRLF Ln 1, Col 20

6.

Laboratory work 4.docx

pgAdmin 4

Object Explorer

Query

Query History

```
1 SELECT flight_id
2 FROM flights
3 WHERE act_arrival_time > sch_arrival_time;
4
```

Data Output

flight_id	[PK] integer

Активация Windows

Чтобы активировать Windows, перейдите в раздел "Параметры".

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Total rows: 0 Query complete 00:00:00.081 CRLF Ln 3, Col 10

7.

Laboratory work 4.docx

Object Explorer

Query

```
1 SELECT first_name,
2 CASE
3 WHEN EXTRACT(YEAR FROM AGE(date_of_birth)) BETWEEN 18 AND 35 THEN 'Young'
4 WHEN EXTRACT(YEAR FROM AGE(date_of_birth)) BETWEEN 36 AND 55 THEN 'Adult'
5 ELSE 'Other'
6 END AS age_group
7 FROM passengers;
```

Data Output

first_name	age_group
Aruzhan	Young
Dias	Young
Amina	Young
Nursultan	Young
Dana	Young
Yerbol	Young

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Query History

1 SELECT first_name,
2 CASE
3 WHEN EXTRACT(YEAR FROM AGE(date_of_birth)) BETWEEN 18 AND 35 THEN 'Young'
4 WHEN EXTRACT(YEAR FROM AGE(date_of_birth)) BETWEEN 36 AND 55 THEN 'Adult'
5 ELSE 'Other'
6 END AS age_group
7 FROM passengers;

Data Output Messages Notifications

Showing rows: 1 to 10 Page No: 1 of 1

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

Total rows: 10 Query complete 00:00:00.080 CRLF Ln 4, Col 49

8.

Laboratory work 4.docx

Object Explorer

Query

```
1 SELECT ticket_price,
2 CASE
3 WHEN ticket_price < 10 THEN 'Cheap'
4 WHEN ticket_price >= 10 AND ticket_price < 30 THEN 'Medium'
5 WHEN ticket_price >= 30 THEN 'Expensive'
6 END AS price_rate
7 FROM booking;
```

Data Output

ticket_price	price_rate
50000.00	Expensive
65000.00	Expensive
72000.00	Expensive
28000.00	Expensive
90000.00	Expensive
75000.00	Expensive

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lab2/postgres@PostgreSQL 17*

Query History

1 SELECT ticket_price,
2 CASE
3 WHEN ticket_price < 10 THEN 'Cheap'
4 WHEN ticket_price >= 10 AND ticket_price < 30 THEN 'Medium'
5 WHEN ticket_price >= 30 THEN 'Expensive'
6 END AS price_rate
7 FROM booking;

Data Output Messages Notifications

Showing rows: 1 to 10 Page No: 1 of 1

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

Total rows: 10 Query complete 00:00:00.079 CRLF Ln 7, Col 13

9.

Laboratory work 4.docx

Object Explorer

Query

```
SELECT COUNT(airline_name)
FROM airline
GROUP BY airline_country;
```

Data Output

count	bigint
1	1
2	1
3	1
4	1

Aктивация Windows

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Query complete 00:00:00.091 CRLF Ln 3, Col 26

10.

Laboratory work 4.docx

Object Explorer

Query

```
SELECT flight_id
FROM flights
WHERE sch_arrival_time < act_arrival_time;
```

Data Output

flight_id	[PK] integer

Aктивация Windows

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Query complete 00:00:00.096 CRLF Ln 3, Col 43