

Laboratory work 4

1.

The screenshot shows the pgAdmin 4 interface. On the left, a document titled "Laboratory work 4" contains a list of tasks. The main window displays a SQL query in the "Query" tab:

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

The "Data Output" tab shows the results of the query:

upper text
1 KAZAIR
2 AIREASY
3 FLYHIGH
4 FLYFLY

The status bar at the bottom indicates "Total rows: 4" and "Query complete 00:00:00.240".

2.

The screenshot shows the pgAdmin 4 interface. On the left, a document titled "Laboratory work 4" contains a list of tasks. The main window displays a SQL query in the "Query" tab:

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

The "Data Output" tab shows the results of the query:

replace text
1 KazAero
2 AeroEasy
3 FlyHigh
4 FlyFly

The status bar at the bottom indicates "Total rows: 4" and "Query complete 00:00:00.061".

3.

The screenshot shows a web browser window on the left displaying a document titled "Laboratory work 4". The document contains a list of tasks. Task 3 is highlighted: "Find all flight numbers that coordinates with both airline 1 and airline 2." The right side of the image shows the pgAdmin 4 interface. The "Query" tab is active, showing the following SQL 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;
```

The "Data Output" tab shows the result of the query, with the column "flight_id [PK] integer" and a value of 1. The status bar at the bottom indicates "Total rows: 0", "Query complete 00:00:00.084", and "Ln 5, Col 38".

4.

The screenshot shows the same web browser window on the left. The right side of the image shows the pgAdmin 4 interface. The "Query" tab is active, showing the following SQL query:

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

The "Data Output" tab shows the result of the query, with the column "airport_name character varying (50)" and a value of 1. The status bar at the bottom indicates "Total rows: 0", "Query complete 00:00:00.087", and "Ln 4, Col 32".

5.

The screenshot shows a web browser window displaying a document titled "Laboratory work 4" with a list of tasks. The tasks are as follows:

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.

The pgAdmin 4 interface shows the "passenger" table selected in the Object Explorer. The Query tab displays the following SQL query:

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

The Data Output tab shows the results of the query:

format
Aruzhan 2002-01-12
Dias 1999-07-20
Amina 2001-03-10
Nursultan 1995-12-05
Dana 2003-04-22
Yerbol 1998-10-14

The status bar indicates "Total rows: 10" and "Query complete 00:00:00.081".

6.

The screenshot shows the same web browser window with the "Laboratory work 4" document. The tasks are repeated, with the last task being:

10. Find flights that arrived late according to their actual arrival time compared to the scheduled arrival time.

The pgAdmin 4 interface shows the "flights" table selected in the Object Explorer. The Query tab displays the following SQL query:

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

The Data Output tab shows the results of the query:

flight_id

The status bar indicates "Total rows: 0" and "Query complete 00:00:00.081".

7.

The screenshot shows the pgAdmin 4 interface. On the left, a document titled 'Laboratory work 4.docx' contains a list of tasks. The main window displays a SQL query in the 'Query' tab, which categorizes passengers into age groups based on their birth date. The 'Data Output' tab shows the results of the query.

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.

SQL Query:

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

Data Output:

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

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

8.

The screenshot shows the pgAdmin 4 interface. On the left, the same document 'Laboratory work 4.docx' is visible. The main window displays a SQL query in the 'Query' tab, which categorizes ticket prices based on their value. The 'Data Output' tab shows the results of the query.

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.

SQL Query:

```
SELECT ticket_price,
CASE
WHEN ticket_price < 10 THEN 'Cheap'
WHEN ticket_price >= 10 AND ticket_price < 30 THEN 'Medium'
WHEN ticket_price >= 30 THEN 'Expensive'
END AS price_rate
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

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

9.

The screenshot shows the pgAdmin 4 interface. On the left, a document titled 'Laboratory work 4.docx' contains a list of tasks. The 'airline' table is selected in the Object Explorer. The Query Editor shows the following SQL query:

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

The Data Output pane displays the results of the query:

count	airline_name
1	
1	
1	
1	

The status bar at the bottom indicates 'Total rows: 4' and 'Query complete 00:00:00.091'.

10.

The screenshot shows the pgAdmin 4 interface. On the left, the same document 'Laboratory work 4.docx' is visible. The 'flights' table is selected in the Object Explorer. The Query Editor shows the following SQL query:

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

The Data Output pane shows the column 'flight_id' with its data type '[PK] Integer'. The status bar at the bottom indicates 'Total rows: 0' and 'Query complete 00:00:00.096'.