

# Lab-6

## TASK #1

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' shows a tree structure with 'Servers (2)' expanded, leading to 'PostgreSQL 17', then 'Databases (2)', and finally 'Airport'. The 'Query' tab is active, showing a SQL query:

```
1 SELECT a.airline_name, f.flight_id
2 FROM airline a
3 INNER JOIN flights f
4 ON f.airline_id = a.airline_id
5 WHERE airline_name = 'Airline_1';
6
7
```

Below the query editor, the 'Data Output' tab shows the results of the query in a table format:

airline_name	flight_id
character varying (50)	integer
1 Airline_1	4

The status bar at the bottom indicates 'Total rows: 1' and 'Query complete 00:00:00.074'. The system tray at the very bottom shows the date and time as '21:15 04.11.2025'.

# TASK #2

The screenshot displays the pgAdmin 4 web interface. On the left, the Object Explorer shows a tree structure with 'Servers (2)' expanded, containing 'PostgreSQL' and 'PostgreSQL 17'. Under 'PostgreSQL 17', 'Databases (2)' are listed: 'Airport' and 'postgres'. The 'Airport' database is selected. The main pane shows a SQL query window with the following query:

```
8 SELECT a.airport_name AS departing_airport_name, f.flight_id
9 FROM airport a
10 INNER JOIN
11 flights f
12 ON f.departing_airport_id = a.airport_id
```

Below the query, the 'Data Output' tab shows the results of the query. The results are displayed in a table with two columns: 'departing\_airport\_name' (character varying (50)) and 'flight\_id' (integer). The table contains 20 rows of data, showing airport names and their corresponding flight IDs.

departing_airport_name	flight_id
AlmatyKzhKZ	1
AlmatyKzhKZ	2
AlmatyKzhKZ	3
AlmatyKzhKZ	4
AlmatyKzhKZ	5
AlmatyKzhKZ	6
AlmatyKzhKZ	7
AlmatyKzhKZ	8
Airport_10	9
Airport_11	10
Airport_12	11
Airport_13	12
Airport_14	13
Airport_15	14
Airport_16	15
Airport_17	16
Airport_18	17
Airport_19	18
Airport_20	19
Airport_21	20

The status bar at the bottom indicates 'Total rows: 301' and 'Query complete 00:00:00.089'. The system tray at the bottom shows the date and time as 21:19 on 04.11.2025.

# TASK #3

The screenshot displays the pgAdmin 4 web interface. On the left, the Object Explorer shows the database structure: Servers (2) > PostgreSQL > PostgreSQL 17 > Databases (2) > Airport. The main query editor shows a SQL query:

```
13
14 SELECT a.airline_name
15 FROM airline a
16 LEFT JOIN flights f
17 ON f.airline_id = a.airline_id
18 AND f.sch_departure_time BETWEEN '2025-11-01' AND '2025-11-30'
19 WHERE f.flight_id IS NULL;
20
```

Below the query editor, the Data Output tab shows the results of the query. The results are displayed in a table with the following columns:

airline_name
FlyFly
Air France Test
TAP Portugal Test
LOT Polish Test
Airline_1
Airline_2
Airline_3
Airline_4
Airline_5
Airline_6
Airline_7
Airline_8
Airline_9
Airline_10
Airline_11
Airline_12
Airline_13
Airline_14

The status bar at the bottom indicates "Total rows: 304" and "Query complete 00:00:00.147". The system tray at the bottom shows the date and time as 21:24 on 04.11.2025.

# TASK #4

The screenshot displays the pgAdmin 4 web interface. On the left, the Object Explorer shows a tree structure with 'Servers (2)' > 'PostgreSQL' > 'PostgreSQL 17' > 'Databases (2)' > 'Airport' selected. The main panel shows a SQL query being executed on the 'Airport' database. The query is:

```
21 SELECT p.last_name, p.first_name, f.flight_id
22 FROM passengers p
23 INNER JOIN booking b ON p.passenger_id = b.passenger_id
24 INNER JOIN flights f ON b.flight_id = f.flight_id
25 WHERE f.flight_id = 101;
```

The 'Data Output' tab shows the results of the query in a table with 1 row and 3 columns:

	last_name character varying (50)	first_name character varying (50)	flight_id integer
1	Nurgaliyev	Aidos	101

The bottom status bar indicates 'Total rows: 1', 'Query complete 00:00:00.066', and the current cursor position is 'Ln 26, Col 25'. The system tray at the bottom shows the date and time as '04.11.2025 21:30'.

# TASK #5

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- Servers (2)
  - PostgreSQL
    - PostgreSQL 17
      - Databases (2)
        - Airport
          - Casts
          - Catalogs
          - Event Triggers
          - Extensions
          - Foreign Data Wrappers
          - Languages
          - Publications
          - Schemas
          - Subscriptions
          - postgres
          - Login/Group Roles
          - Tablespaces

Airport/postgres@PostgreSQL 17

Query

```
27
28 SELECT f.flight_id,
29 AVG(b.ticket_price),
30 SUM(b.ticket_price),
31 MAX(b.ticket_price),
32 MIN(b.ticket_price)
33 FROM booking b
34 INNER JOIN flights f ON b.flight_id = f.flight_id
35 GROUP BY f.flight_id;
```

Query History

Scratch Pad

Data Output Messages Notifications

Showing rows: 1 to 300 Page No: 1 of 1

	flight_id [PK] integer	avg numeric	sum numeric	max numeric	min numeric
1	184	14164.770000000000000000	14164.77	14164.77	14164.77
2	116	19501.070000000000000000	19501.07	19501.07	19501.07
3	87	14738.760000000000000000	14738.76	14738.76	14738.76
4	273	14804.600000000000000000	14804.60	14804.60	14804.60
5	51	16722.500000000000000000	16722.50	16722.50	16722.50
6	272	17824.580000000000000000	17824.58	17824.58	17824.58
7	70	24312.870000000000000000	24312.87	24312.87	24312.87
8	190	6982.950000000000000000	6982.95	6982.95	6982.95
9	278	20677.290000000000000000	20677.29	20677.29	20677.29
10	299	19853.170000000000000000	19853.17	19853.17	19853.17
11	176	18380.420000000000000000	18380.42	18380.42	18380.42
12	169	5550.110000000000000000	5550.11	5550.11	5550.11
13	92	7169.920000000000000000	7169.92	7169.92	7169.92
14	180	20394.690000000000000000	20394.69	20394.69	20394.69
15	292	20621.840000000000000000	20621.84	20621.84	20621.84
16	236	12071.200000000000000000	12071.20	12071.20	12071.20
17	271	18079.900000000000000000	18079.90	18079.90	18079.90

Total rows: 300 Query complete 00:00:00.104

CRLF Ln 35, Col 22

7°C Light rain

Поиск

21:36 04.11.2025

# TASK #6

The screenshot displays the pgAdmin 4 web interface. On the left, the Object Explorer shows the database structure: Servers (2) > PostgreSQL > PostgreSQL 17 > Databases (2) > Airport. The main panel shows a query window for 'Airport/postgres@PostgreSQL 17'. The query is as follows:

```
36
37 SELECT a.country, f.flight_id, air.airline_name
38 FROM airport a
39 INNER JOIN flights f ON f.arriving_airport_id = a.airport_id
40 INNER JOIN airline air ON air.airline_id = f.airline_id
41 WHERE a.country = 'France';
```

Below the query, the Data Output tab is active, showing the results of the query. The results are displayed in a table with three columns: country, flight\_id, and airline\_name. The table has a total of 0 rows.

country	flight_id	airline_name
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The status bar at the bottom indicates 'Total rows: 0' and 'Query complete 00:00:00.094'. The system tray at the bottom shows the date and time as 04.11.2025, 21:40.

# TASK #7

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' pane shows a tree structure with 'Servers (2)' expanded, containing 'PostgreSQL' and 'PostgreSQL 17'. Under 'PostgreSQL 17', 'Databases (2)' is expanded, showing 'Airport' and 'postgres'. The 'Airport' database is selected. The main pane shows a SQL query editor with the following query:

```
43 SELECT
44   a.country AS arrival_destination,
45   p.last_name,
46   p.first_name,
47   EXTRACT(YEAR FROM AGE(CURRENT_DATE, p.date_of_birth)) AS age
48 FROM passengers p
49 INNER JOIN booking b ON p.passenger_id = b.passenger_id
50 INNER JOIN flights f ON f.flight_id = b.flight_id
51 INNER JOIN airport a ON f.arriving_airport_id = a.airport_id
52 WHERE EXTRACT(YEAR FROM AGE(CURRENT_DATE, p.date_of_birth)) < 18;
```

Below the query editor, the 'Data Output' tab is active, showing the results of the query. The results are displayed in a table with the following columns:

arrival_destination	last_name	first_name	age
character varying (50)	character varying (50)	character varying (50)	numeric

The status bar at the bottom indicates 'Total rows: 0' and 'Query complete 00:00:00.081'. The system tray at the bottom shows the date and time as 21:46 on 04.11.2025.

# TASK #8

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' shows a tree structure with 'Servers (2)' > 'PostgreSQL' > 'PostgreSQL 17' > 'Databases (2)' > 'Airport'. The main pane shows a SQL query for 'Airport/postgres@PostgreSQL 17'.

**Query:**

```
53  
54 SELECT  
55 p.last_name || ' ' || p.last_name AS full_name,  
56 p.passport_number,  
57 f.act_arrival_time  
58 FROM passengers p  
59 INNER JOIN booking b ON p.passenger_id = b.passenger_id  
60 INNER JOIN flights f ON f.flight_id = b.flight_id;
```

**Data Output:**

	full_name text	passport_number character varying (20)	act_arrival_time timestamp without time zone
1	Nurgaliyev Nurgaliyev	P1	2025-09-28 13:06:57.024355
2	Sadykova Sadykova	P2	2025-09-28 14:06:57.024355
3	Iskakov Iskakov	P3	2025-09-28 15:06:57.024355
4	Tulegenova Tulegenova	P4	2025-09-28 16:06:57.024355
5	Abayuly Abayuly	P5	2025-09-28 17:06:57.024355
6	Saparova Saparova	P6	2025-09-28 18:06:57.024355
7	Omarova Omarova	P7	2025-09-28 19:06:57.024355
8	Yesenov Yesenov	P8	2025-09-28 20:06:57.024355
9	Zhakanova Zhakanova	P9	2025-09-28 21:06:57.024355
10	Sembayev Sembayev	P10	2025-09-28 22:06:57.024355
11	Nurgaliyev Nurgaliyev	P11	2025-09-28 23:06:57.024355
12	Sadykova Sadykova	P12	2025-09-29 00:06:57.024355
13	Iskakov Iskakov	P13	2025-09-29 01:06:57.024355
14	Tulegenova Tulegenova	P14	2025-09-29 02:06:57.024355
15	Abayuly Abayuly	P15	2025-09-29 03:06:57.024355
16	Saparova Saparova	P16	2025-09-29 04:06:57.024355
17	Omarova Omarova	P17	2025-09-29 05:06:57.024355
18	Yesenov Yesenov	P18	2025-09-29 06:06:57.024355

Total rows: 300    Query complete 00:00:00.085

7°C Cloudy    Поиск    ENG    22:00 04.11.2025



# TASK #9

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' pane shows a tree structure with 'Servers (2)' expanded, containing 'PostgreSQL' and 'PostgreSQL 17'. Under 'PostgreSQL 17', 'Databases (2)' are listed, with 'Airport' selected. The 'Query' pane on the right shows a SQL query being executed against the 'Airport' database. The query is as follows:

```
64 SELECT
65   a.country,
66   COUNT(f.flight_id) AS number_of_flights
67 FROM flights f
68 INNER JOIN airline air ON f.airline_id = air.airline_id
69 INNER JOIN airport a ON f.departing_airport_id = a.airport_id
70 WHERE air.airline_country = a.country
71 GROUP BY a.country;
```

Below the query, the 'Data Output' tab shows the results of the query. The results are displayed in a table with two columns: 'country' (character varying (50)) and 'number\_of\_flights' (bigint). The table is currently empty, showing 'Total rows: 0'. The status bar at the bottom indicates 'Query complete 00:00:00.092' and 'Ln 69, Col 39'.

The bottom of the image shows a Windows taskbar with the date '04.11.2025' and time '22:11'.