

TASK 1

The screenshot shows the pgAdmin 4 web interface. On the left, the Object Explorer displays a tree view of database objects. The 'airline' table is selected under the 'Tables (10)' category. The main query editor displays the following SQL query:

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

Below the query editor, the 'Data Output' tab shows the results of the query. The results are displayed in a table with 8 rows and 1 column labeled 'upper text'.

	upper text
1	AIREASY_1
2	FLYHIGH_2
3	FLYFLY_3
4	SKYONE_4
5	BLUEWINGS_5
6	EUROFLY_6
7	ASIAAIR_7
8	STEPPEWINGS_8

At the bottom of the interface, the status bar indicates 'Total rows: 200', 'Query complete 00:00:00.087', and 'Ln 1, Col 40'.

TASK 2

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- > Aggregates
- > Collations
- > Domains
- > FTS Configurations
- > FTS Dictionaries
- > FTS Parsers
- > FTS Templates
- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > 1.3 Sequences
- > Tables (10)
 - > airline
 - > airport
 - > baggage
 - > baggage_check
 - > boarding_pass
 - > booking
 - > booking_flight
 - > flights
 - > passengers
 - > security_check
- > Trigger Functions
- > Types
- > Views
- > Subscriptions
- > postgres
- > Login/Group Roles
- > Tablespace

public.airline/Airport/postgres@PostgreSQL 17* X

public.airline/Airport/postgres@PostgreSQL 17

Query Query History

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

Data Output Messages Notifications

Showing rows: 1 to 200 Page No: 1 of 1

	replace text
10	KazAero_10
11	AeroEasy_11
12	FlyHigh_12
13	FlyFly_13
14	SkyOne_14
15	BlueWings_15
16	EuroFly_16
17	AsiaAero_17

Total rows: 200 Query complete 00:00:00.061 CRLF Ln 1. Col 43

TASK 3

The screenshot shows the pgAdmin 4 web interface. On the left, the Object Explorer displays the database structure, with the 'flights' table selected under the 'public.flights' schema. The main query editor displays the following SQL query:

```
1 SELECT
2     departing_airport_id,
3     arriving_airport_id
4 FROM flights
5 WHERE airline_id IN (1, 2)
6 GROUP BY departing_airport_id, arriving_airport_id
7 HAVING COUNT(DISTINCT airline_id) = 2;
8
```

Below the query editor, the Data Output tab shows the results of the query in a table format. The table has two columns: 'departing_airport_id' and 'arriving_airport_id', both of type 'integer'. The results are as follows:

	departing_airport_id integer	arriving_airport_id integer
1	118	15
2	127	88
3	180	185
4	188	81

The interface also includes a menu bar (File, Object, Tools, Edit, View, Window, Help), a toolbar with various icons, and a status bar at the bottom indicating 'Showing rows: 1 to 4' and 'Page No: 1 of 1'.

TASK 4

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' pane shows a tree structure of database objects. The 'airport' table is selected under the 'Tables (10)' category. The main query editor shows a SQL query that filters for airports containing 'Air' and 'Regional' in their names. The 'Data Output' pane at the bottom shows the results of the query, listing five airports.

Object Explorer

- Aggregates
- Collations
- Domains
- FTS Configurations
- FTS Dictionaries
- FTS Parsers
- FTS Templates
- Foreign Tables
- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (10)
 - airline
 - airport**
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - booking_flight
 - flights
 - passengers
 - security_check
- Trigger Functions
- Types
- Views
- Subscriptions
- postgres
- Login/Group Roles

Query Editor

```
SELECT airport_name
FROM airport
WHERE POSITION('Air' IN airport_name) > 0
AND POSITION('Regional' IN airport_name) > 0;
```

Data Output

	airport_name character varying (50)
1	KazAir Regional Airport
2	Central Regional Air Hub
3	Qazaq Regional Air Serv...
4	Astana Regional Air Cen...
5	East Regional Air Termi...

TASK 5

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- Aggregates
- Collations
- Domains
- FTS Configurations
- FTS Dictionaries
- FTS Parsers
- FTS Templates
- Foreign Tables
- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (10)
 - airline
 - airport
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - booking_flight
 - flights
 - passengers
 - security_check
- Trigger Functions
- Types
- Views
- Subscriptions
- postgres
- Login/Group Roles
- Tablespaces

public.airport/Airport/postgres@PostgreSQL 17*

public.airport/Airport/postgres@PostgreSQL 17

Query Query History

```
1 SELECT first_name || ' ' || last_name as Full_name, TRIM(TO_CHAR(date_of_birth, 'Month DD, YYYY')) AS formatted_
2 FROM passengers;
```

Scratch Pad

Data Output Messages Notifications

Showing rows: 1 to 200 Page No: 1 of 1

	full_name text	formatted_birth_date text
9	Sara Taylor	April 04, 2000
10	David Wilson	December 27, 1972
11	Ivan Petrov	July 18, 1978
12	David Wilson	October 10, 1986
13	Michael Smith	August 07, 2002
14	Anna Davis	March 15, 1983
15	Olga Brown	June 20, 2010
16	David Johnson	August 09, 1991

Total rows: 200 Query complete 00:00:00.071

CR L F Ln 1 Col 50

TASK 6

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' sidebar shows a tree view of database objects. The 'Tables (10)' folder is expanded, and the 'airport' table is selected. The main pane shows a SQL query editor with the following query:

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

Below the query editor, the 'Data Output' tab is active, showing the results of the query. The results are displayed in a table with two columns: 'flight_id' and 'integer'. The table contains 8 rows of data.

	flight_id [PK] integer
1	4
2	8
3	10
4	13
5	16
6	22
7	24
8	25

The status bar at the bottom indicates 'Total rows: 49' and 'Query complete 00:00:00.080'. The bottom right corner shows 'CR1 F' and 'Ln 4 Col 1'.

TASK 7

The screenshot shows the pgAdmin 4 interface. On the left is the Object Explorer with a tree view of database objects. The 'airport' database is selected, and the 'passengers' table is highlighted. The main pane displays a SQL query in the 'Query' tab. The query selects first_name, last_name, and calculates age and age_group from the 'passengers' table. The 'Data Output' tab at the bottom shows the results of the query as a table with 8 rows.

Object Explorer:

- Aggregates
- Collations
- Domains
- FTS Configurations
- FTS Dictionaries
- FTS Parsers
- FTS Templates
- Foreign Tables
- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (10)
 - airline
 - airport**
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - booking_flight
 - flights
 - passengers
 - security_check
 - Trigger Functions
 - Types
 - Views
- Subscriptions
- postgres
- Login/Group Roles

Query:

```
1 SELECT first_name, last_name, EXTRACT(YEAR FROM AGE(current_date, date_of_birth)) AS age,
2     CASE
3     WHEN EXTRACT(YEAR FROM AGE(current_date, date_of_birth)) BETWEEN 18 AND 35 THEN 'Young'
4     WHEN EXTRACT(YEAR FROM AGE(current_date, date_of_birth)) BETWEEN 36 AND 55 THEN 'Adult'
5     ELSE 'Other'
6     END AS age_group
7 FROM passengers;
8
```

Data Output:

	first_name character varying (50)	last_name character varying (50)	age numeric	age_group text
1	Sara	Smith	52	Adult
2	Olga	Smith	47	Adult
3	Olga	Smith	31	Young
4	Alex	Taylor	46	Adult
5	Olga	Smith	28	Young
6	David	Brown	41	Adult
7	Michael	Smith	50	Adult
8	Sara	Miller	45	Adult

TASK 8

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' pane shows a tree structure of database objects. The 'airport' database is selected, and the 'booking' table is highlighted. The main pane shows a SQL query being executed against the 'public.airport/Airport/postgres@PostgreSQL 17' connection. The query is a SELECT statement that categorizes ticket prices into 'Cheap', 'Medium', or 'Expensive' based on ranges. The results are displayed in a table with two columns: 'ticket_price' (numeric) and 'ticket_value' (text). The table shows 8 rows of data.

Object Explorer

- Aggregates
- Collations
- Domains
- FTS Configurations
- FTS Dictionaries
- FTS Parsers
- FTS Templates
- Foreign Tables
- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (10)
 - airline
 - airport
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - booking_flight
 - flights
 - passengers
 - security_check
- Trigger Functions
- Types
- Views
- Subscriptions
- postgres
- Login/Group Roles

Query

```
1 SELECT ticket_price,  
2 CASE  
3     WHEN ticket_price > 0 AND ticket_price < 1000 THEN 'Cheap'  
4     WHEN ticket_price > 1000 AND ticket_price < 2000 THEN 'Medium'  
5     WHEN ticket_price > 2000 THEN 'Expensive'  
6     END AS ticket_value FROM booking  
7
```

Data Output

	ticket_price numeric (7,2)	ticket_value text
1	991.58	Cheap
2	1147.86	Medium
3	4062.10	Expensive
4	1246.04	Medium
5	2832.11	Expensive
6	1582.39	Medium
7	1823.45	Medium
8	345.62	Cheap

TASK 9

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- Aggregates
- Collations
- Domains
- FTS Configurations
- FTS Dictionaries
- FTS Parsers
- FTS Templates
- Foreign Tables
- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (10)
 - airline
 - Columns (6)
 - airline_id
 - airline_code
 - airline_name
 - airline_country
 - created_at
 - updated_at
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
 - airport
 - baggage
 - baggage_check
 - boarding_pass

public.airport/Airport/postgres@PostgreSQL 17*

public.airport/Airport/postgres@PostgreSQL 17

Query Query History

```
1 SELECT
2     airline_country,
3     COUNT(airline_name) AS number_of_airlines
4 FROM airline
5 GROUP BY airline_country;
6
```

Scratch Pad

Data Output Messages Notifications

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

	airline_country character varying (50)	number_of_airlines bigint
1	Turkey	14
2	Spain	16
3	Brazil	21
4	Kazakhstan	29
5	Poland	22
6	Germany	16
7	China	17
8	Portugal	20

Total rows: 10 Query complete 00:00:00.069 CRLF Ln 6, Col 1

TASK 10

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- Aggregates
- Collations
- Domains
- FTS Configurations
- FTS Dictionaries
- FTS Parsers
- FTS Templates
- Foreign Tables
- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (10)
 - airline
 - Columns (6)
 - airline_id
 - airline_code
 - airline_name
 - airline_country
 - created_at
 - updated_at
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
 - airport
 - baggage
 - baggage_check
 - boarding_pass

public.airport/Airport/postgres@PostgreSQL 17*

public.airport/Airport/postgres@PostgreSQL 17

No limit

Query Query History

```
1 SELECT
2     flight_id,
3     airline_id,
4     sch_arrival_time,
5     act_arrival_time
6 FROM flights
7 WHERE act_arrival_time > sch_arrival_time;
8
```

Scratch Pad

Data Output Messages Notifications

Showing rows: 1 to 49 Page No: 1 of 1

	flight_id [PK] integer	airline_id integer	sch_arrival_time timestamp without time zone	act_arrival_time timestamp without time zone
1	4	110	2021-06-30 02:30:59	2021-06-30 02:40:59
2	8	186	2022-10-05 19:35:32	2022-10-05 19:45:32
3	10	121	2024-08-23 13:11:15	2024-08-23 13:21:15
4	13	34	2022-05-07 11:49:22	2022-05-07 11:59:22
5	16	174	2022-02-08 22:41:21	2022-02-08 22:51:21
6	22	95	2023-11-11 20:27:00	2023-11-11 20:37:00
7	24	199	2025-03-22 00:00:02	2025-03-22 00:10:02
8	25	54	2022-09-26 14:08:21	2022-09-26 14:18:21

Total rows: 49 Query complete 00:00:00 100%

CR F Ln 8 Col 1