

1.

The screenshot shows the pgAdmin 4 interface with the 'Query' tab selected. The query editor contains the following SQL code:

```
1 CREATE TABLE customers (  
2   customer_id INT PRIMARY KEY,  
3   first_name VARCHAR(50),  
4   last_name VARCHAR(50),  
5   country VARCHAR(50)  
6 );  
7  
8 CREATE TABLE products (  
9   product_id INT PRIMARY KEY,  
10  product_name VARCHAR(100),  
11  unit_price NUMERIC(10, 2)  
12 );  
13  
14 CREATE TABLE orders (  
15   order_id INT PRIMARY KEY,  
16   customer_id INT REFERENCES customers(customer_id),  
17   order_date DATE,  
18   total_amount NUMERIC(10, 2)  
19 );  
20  
21 CREATE TABLE order_details (  
22   order_detail_id INT PRIMARY KEY,  
23   order_id INT REFERENCES orders(order_id),  
24   product_id INT REFERENCES products(product_id),  
25   quantity INT  
26 );  
27
```

The 'Data Output' tab at the bottom shows the results of the query execution:

Total rows: 4    Query complete 00:00:00.122

2.

The screenshot shows the pgAdmin 4 interface with the 'Query' tab selected. The query editor contains the following SQL code:

```
1 select * from orders;  
2
```

The 'Data Output' tab at the bottom shows the results of the query execution:

order_id [PK] integer	customer_id integer	order_date date	total_amount numeric (10,2)
1	1001	2023-01-10	1350.00
2	1002	2023-02-15	800.00
3	1003	2023-03-05	300.00
4	1004	2023-03-22	150.00

Total rows: 4    Query complete 00:00:00.222

3.

The screenshot shows the pgAdmin 4 interface. The left sidebar displays the database structure, with 'Tables (6)' expanded under the 'public' schema. The 'order\_details' table is selected. The main pane shows the SQL query editor with the following query:

```
1 SELECT * FROM order_details;
```

The 'Data Output' tab is active, displaying the results of the query. The results are shown in a table with 5 rows and 5 columns: 'order\_detail\_id', 'order\_id', 'product\_id', and 'quantity'. The status bar at the bottom indicates 'Total rows: 5' and 'Query complete 00:00:00.153'. A green message box at the bottom right states: 'Successfully run. Total query runtime: 153 msec. 5 rows affected.'

order_detail_id	order_id	product_id	quantity
1	1	1001	101
2	2	1001	104
3	3	1002	102
4	4	1003	103
5	5	1004	104

4.

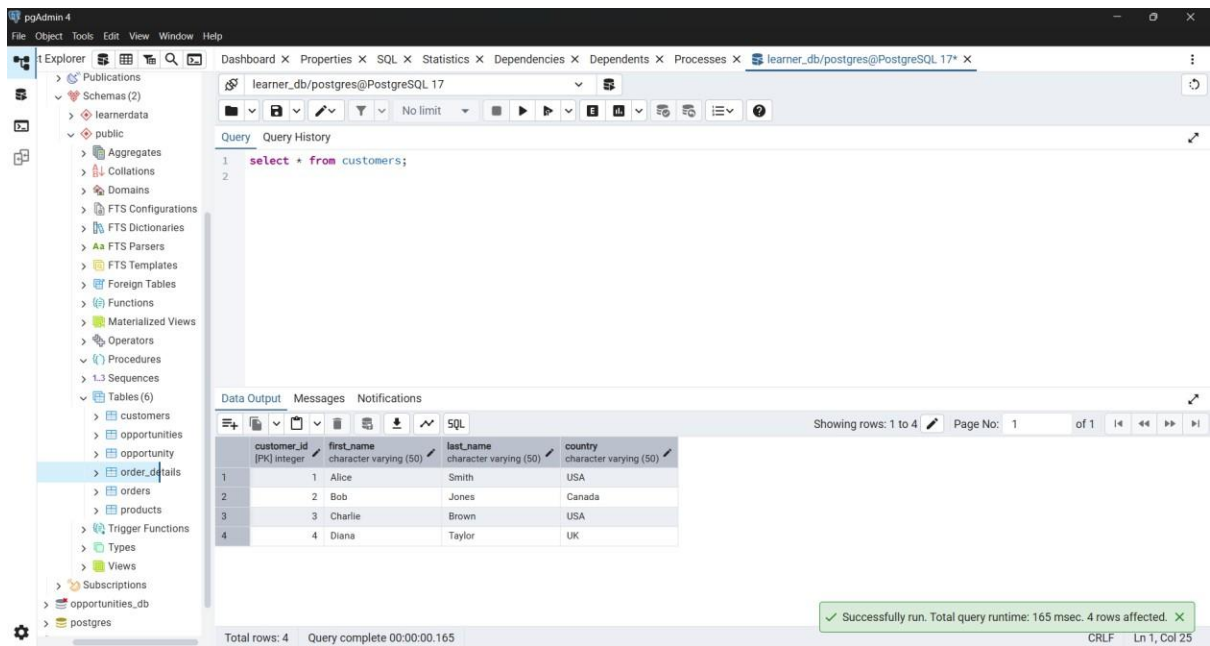
The screenshot shows the pgAdmin 4 interface. The left sidebar displays the database structure, with 'Tables (6)' expanded under the 'public' schema. The 'products' table is selected. The main pane shows the SQL query editor with the following query:

```
1 select * from products;
```

The 'Data Output' tab is active, displaying the results of the query. The results are shown in a table with 4 rows and 3 columns: 'product\_id', 'product\_name', and 'unit\_price'. The status bar at the bottom indicates 'Total rows: 4' and 'Query complete 00:00:00.178'. The status bar also shows 'CRLF Ln 2, Col 1'.

product_id	product_name	unit_price
101	Laptop	1200.00
102	Phone	800.00
103	Tablet	300.00
104	Headphones	150.00

5.



pgAdmin 4

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Query Query History

```
1 select * from customers;
```

Data Output Messages Notifications

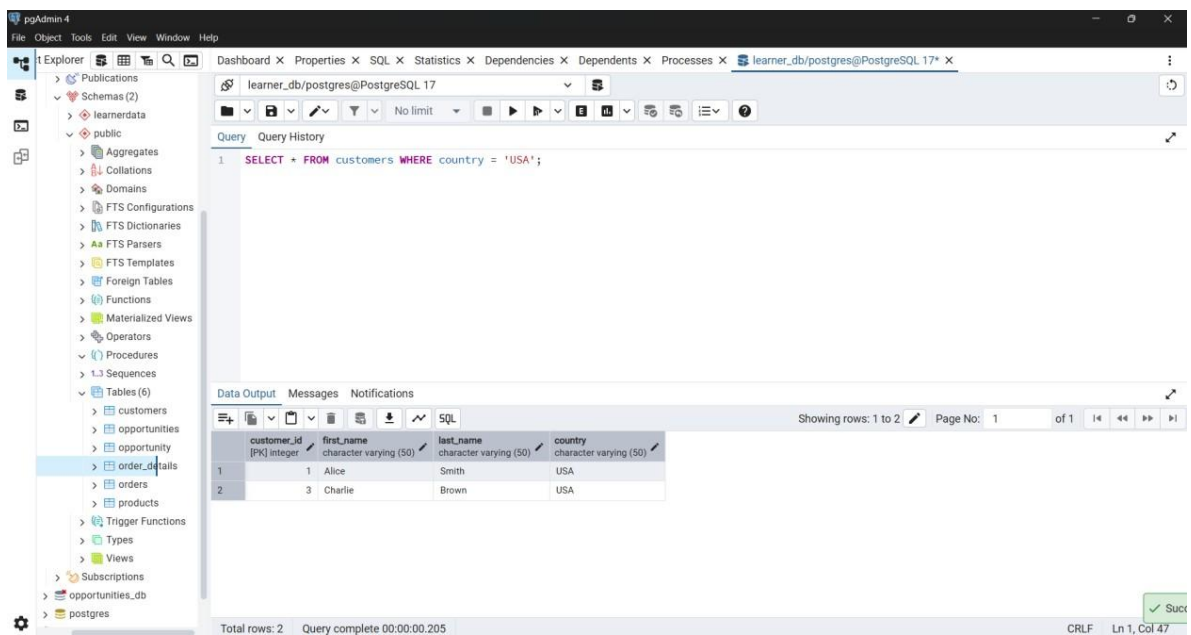
Showing rows: 1 to 4 Page No: 1 of 1

customer_id [PK] integer	first_name character varying (50)	last_name character varying (50)	country character varying (50)
1	Alice	Smith	USA
2	Bob	Jones	Canada
3	Charlie	Brown	USA
4	Diana	Taylor	UK

Total rows: 4 Query complete 00:00:00.165

Successfully run. Total query runtime: 165 msec. 4 rows affected.

6.



pgAdmin 4

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learner\_db/postgres@PostgreSQL 17

Query Query History

```
1 SELECT * FROM customers WHERE country = 'USA';
```

Data Output Messages Notifications

Showing rows: 1 to 2 Page No: 1 of 1

customer_id [PK] integer	first_name character varying (50)	last_name character varying (50)	country character varying (50)
1	Alice	Smith	USA
2	Charlie	Brown	USA

Total rows: 2 Query complete 00:00:00.205

Successfully run. Total query runtime: 205 msec. 2 rows affected.

7.

pgAdmin 4 interface showing a SQL query and its results. The query is:

```
SELECT product_name, unit_price FROM products ORDER BY unit_price DESC;
```

The results are displayed in a table with 4 rows:

product_name	unit_price
Laptop	1200.00
Phone	800.00
Tablet	300.00
Headphones	150.00

Total rows: 4 Query complete 00:00:00.203

8.

pgAdmin 4 interface showing a SQL query and its results. The query is:

```
SELECT customer_id, SUM(total_amount) AS total_spent
FROM orders GROUP BY customer_id;
```

The results are displayed in a table with 3 rows:

customer_id	total_spent
3	150.00
2	800.00
1	1650.00

Total rows: 3 Query complete 00:00:00.212

Successfully run. Total query runtime: 212 msec. 3 rows affected.

9.

The screenshot shows the pgAdmin 4 interface. The left sidebar displays the database structure, with the 'orders' table selected under the 'public' schema. The main query editor contains the following SQL query:

```
1 SELECT AVG(total_amount) AS average_order_value
2 FROM orders;
```

The 'Data Output' tab at the bottom shows the result of the query:

average_order_value
650.0000000000000000

A status message at the bottom right indicates: 'Successfully run. Total query runtime: 136 msec. 1 rows affected.' The bottom status bar shows 'Total rows: 1' and 'Query complete 00:00:00.136'.

10.

The screenshot shows the pgAdmin 4 interface. The left sidebar displays the database structure, with the 'orders' table selected under the 'public' schema. The main query editor contains the following SQL query:

```
1 SELECT o.order_id, o.order_date, c.first_name, c.last_name
2 FROM orders o INNER JOIN customers c ON o.customer_id = c.customer_id;
```

The 'Data Output' tab at the bottom shows the result of the query:

order_id	order_date	first_name	last_name
1001	2023-01-10	Alice	Smith
1002	2023-02-15	Bob	Jones
1003	2023-03-05	Alice	Smith
1004	2023-03-22	Charlie	Brown

The bottom status bar shows 'Total rows: 4' and 'Query complete 00:00:00.159'.

11.

pgAdmin 4 interface showing a query execution for a LEFT JOIN between the `customers` and `orders` tables. The query is:

```
1 SELECT c.first_name, o.order_id, o.total_amount
2 FROM customers c
3 LEFT JOIN orders o ON c.customer_id = o.customer_id;
```

The Data Output tab shows 5 rows of results:

	first_name character varying (50)	order_id integer	total_amount numeric (10,2)
1	Alice	1001	1350.00
2	Bob	1002	800.00
3	Alice	1003	300.00
4	Charlie	1004	150.00
5	Diana	[null]	[null]

Summary: Total rows: 5, Query complete 00:00:00.133. Status: Successfully run. Total query runtime: 133 msec. 5 rows affected.

12.

pgAdmin 4 interface showing a query execution for a RIGHT JOIN between the `customers` and `orders` tables. The query is:

```
1 SELECT c.first_name, o.order_id, o.total_amount
2 FROM customers c
3 RIGHT JOIN orders o ON c.customer_id = o.customer_id;
```

The Data Output tab shows 4 rows of results:

	first_name character varying (50)	order_id integer	total_amount numeric (10,2)
1	Alice	1001	1350.00
2	Bob	1002	800.00
3	Alice	1003	300.00
4	Charlie	1004	150.00

Summary: Showing rows: 1 to 4, Page No: 1 of 1. Status: Successfully run. Total query runtime: 133 msec. 4 rows affected.



13.

The screenshot shows the pgAdmin 4 interface with the following components:

- Left Panel (Object Explorer):** Displays the database structure, including Schemas (2), learnerdata, public, and various database objects like Aggregates, Collations, Domains, FTS Configurations, FTS Dictionaries, FTS Parsers, FTS Templates, Foreign Tables, Functions, Materialized Views, Operators, Procedures, Sequences, Tables (6), Trigger Functions, Types, Views, Subscriptions, opportunities\_db, and postgres.
- Query Editor:** Contains the following SQL query:
 

```
1 SELECT * FROM customers
2 WHERE customer_id IN (
3     SELECT customer_id
4     FROM orders
5     WHERE total_amount > (SELECT AVG(total_amount) FROM orders)
6 );
```
- Data Output:** Shows the results of the query in a table with 4 columns: customer\_id [PK] Integer, first\_name character varying (50), last\_name character varying (50), and country character varying (50). The results are:
 

customer_id	first_name	last_name	country
1	Alice	Smith	USA
2	Bob	Jones	Canada
- Status Bar:** Indicates "Total rows: 2" and "Query complete 00:00:00.177". A green message box states: "Successfully run. Total query runtime: 177 msec. 2 rows affected."

14.

The screenshot shows the pgAdmin 4 interface with the following components:

- Left Panel (Object Explorer):** Displays the database structure, including Schemas (2), learnerdata, public, and various database objects like Aggregates, Collations, Domains, FTS Configurations, FTS Dictionaries, FTS Parsers, FTS Templates, Foreign Tables, Functions, Materialized Views, Operators, Procedures, Sequences, Tables (6), Trigger Functions, Types, Views, Subscriptions, opportunities\_db, and postgres.
- Query Editor:** Contains the following SQL query:
 

```
1 SELECT * FROM customers WHERE customer_id IN (
2     SELECT customer_id FROM orders GROUP BY customer_id HAVING SUM(total_amount) > 1000);
3
```
- Data Output:** Shows the results of the query in a table with 4 columns: customer\_id [PK] Integer, first\_name character varying (50), last\_name character varying (50), and country character varying (50). The results are:
 

customer_id	first_name	last_name	country
1	Alice	Smith	USA
- Status Bar:** Indicates "Total rows: 1" and "Query complete 00:00:00.212". A green message box states: "Successfully run. Total query runtime: 212 msec. 1 rows affected."

15.

pgAdmin 4

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learner\_db/postgres@PostgreSQL 17

Query Query History

```
1 SELECT * FROM products WHERE unit_price = (SELECT MAX(unit_price) FROM products);
```

Data Output Messages Notifications

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

product_id	product_name	unit_price
[PK] integer	character varying (100)	numeric (10,2)
1	Laptop	1200.00

Total rows: 1 Query complete 00:00:00.159

✓ Successfully run. Total query runtime: 159 msec. 1 rows affected. ✕

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