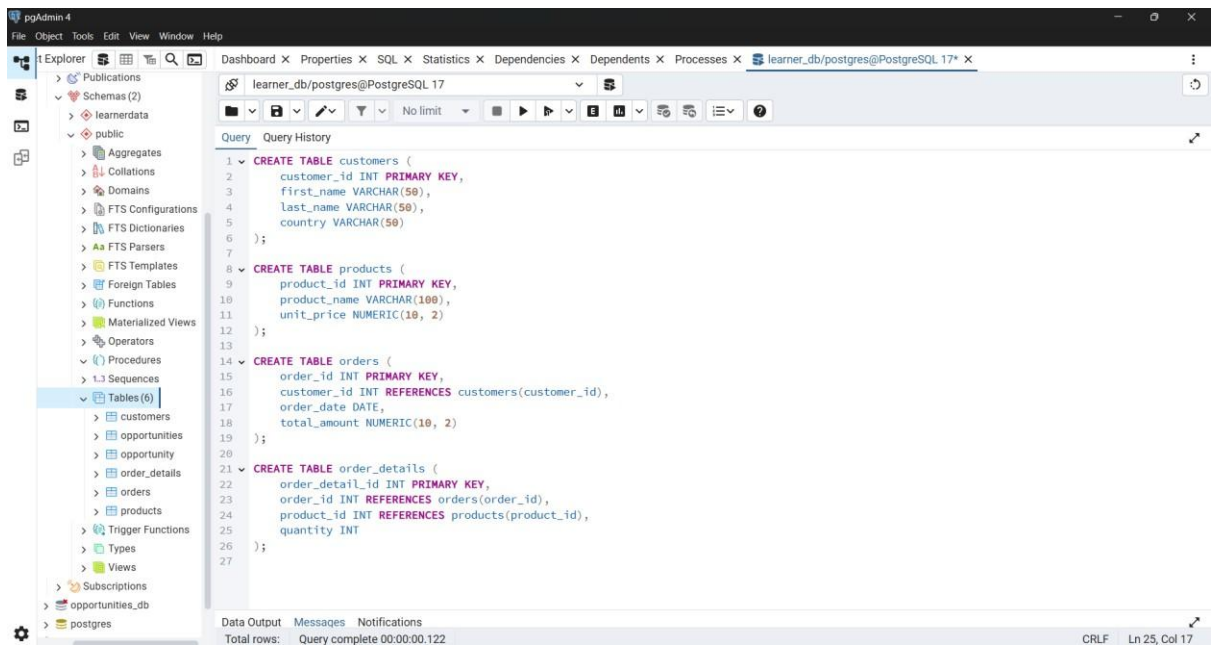
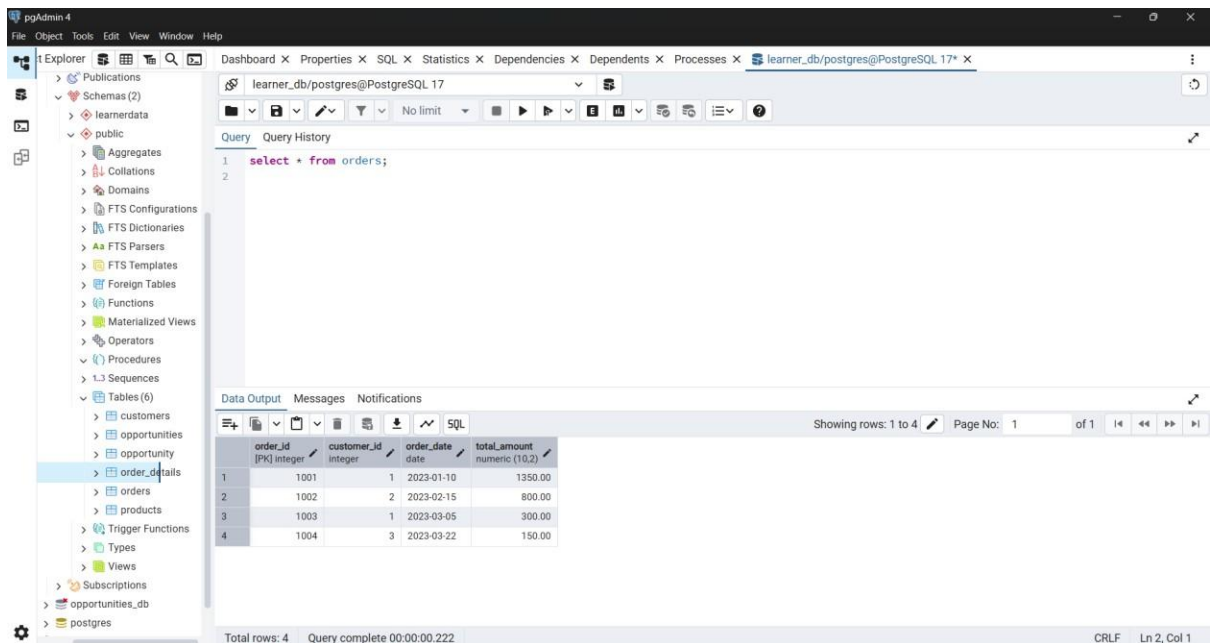


1.



2.



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 query editor contains the following SQL query:

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

The 'Data Output' tab is active, showing the results of the query. The results are displayed in a table with the following columns: `order_detail_id` (PK Integer), `order_id` (Integer), `product_id` (Integer), and `quantity` (Integer). The results show 5 rows:

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

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.'

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 query editor contains the following SQL query:

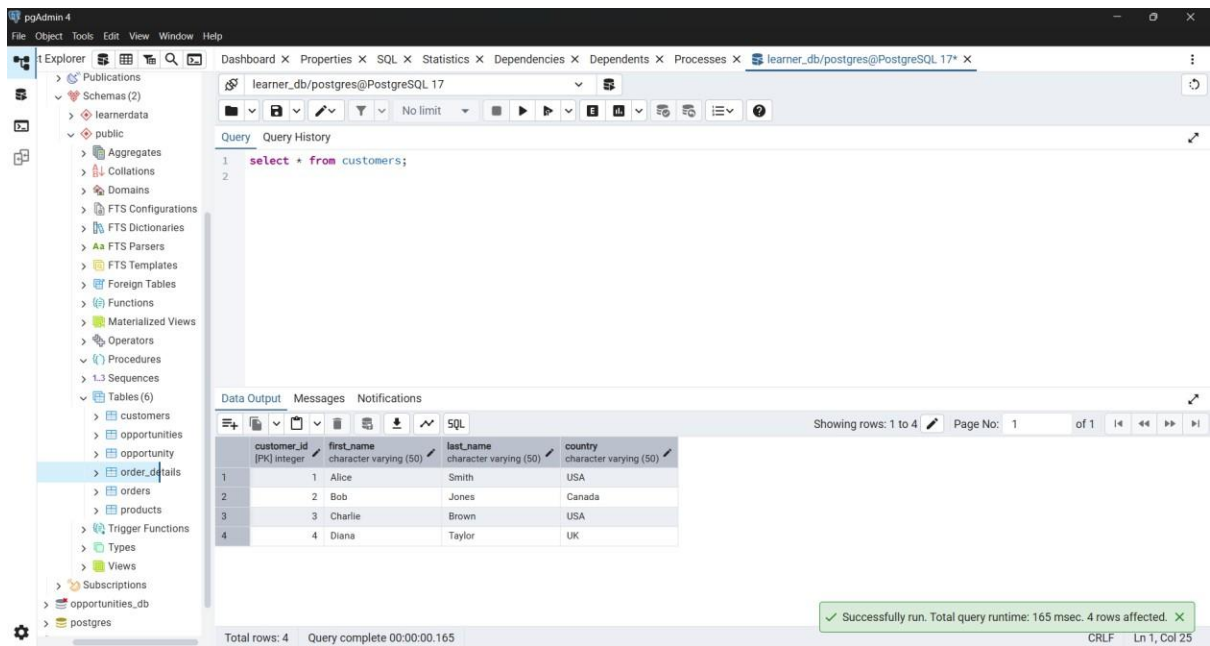
```
1 select * from products;
```

The 'Data Output' tab is active, showing the results of the query. The results are displayed in a table with the following columns: `product_id` (PK Integer), `product_name` (character varying (100)), and `unit_price` (numeric (10,2)). The results show 4 rows:

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

The status bar at the bottom indicates 'Total rows: 4' and 'Query complete 00:00:00.178'. The message bar at the bottom right shows 'CRLF Ln 2, Col 1'.

5.



pgAdmin 4

File Object Tools Edit View Window Help

Dashboard x Properties x SQL x Statistics x Dependencies x Dependents x Processes x learner_db/postgres@PostgreSQL 17* x

learner_db/postgres@PostgreSQL 17

Query Query History

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

Data Output Messages Notifications

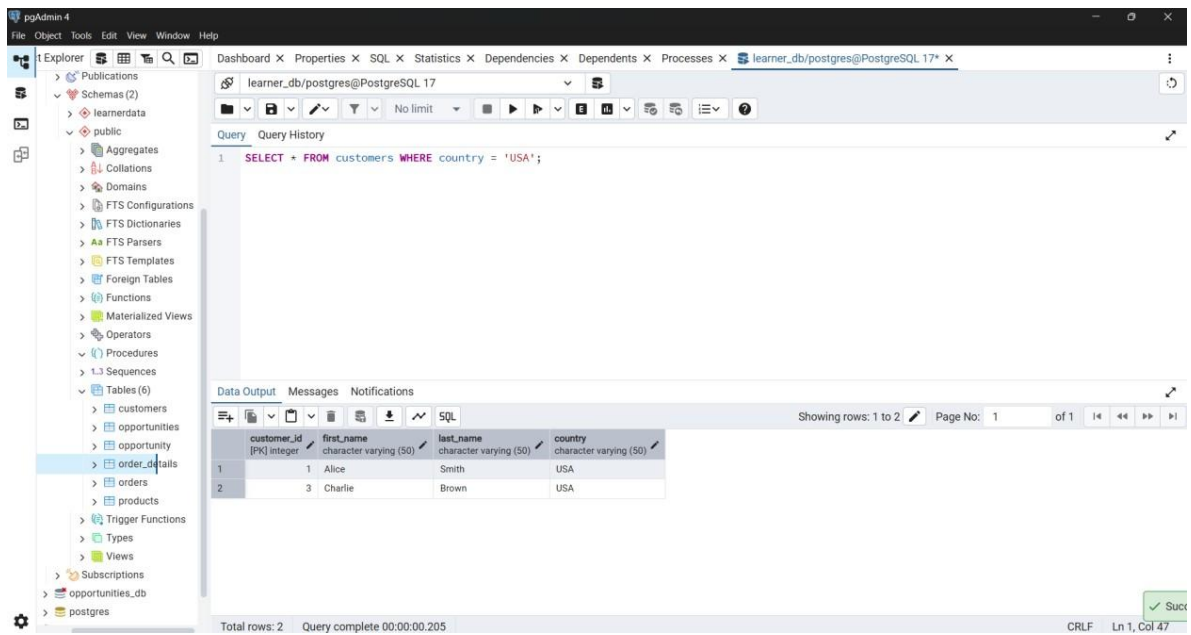
Showing rows: 1 to 4 Page No: 1 of 1

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

File Object Tools Edit View Window Help

Dashboard x Properties x SQL x Statistics x Dependencies x Dependents x Processes x learner_db/postgres@PostgreSQL 17* x

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, including schemas (public, learnerdata), aggregates, collations, domains, FTS configurations, FTS dictionaries, FTS parsers, FTS templates, foreign tables, functions, materialized views, operators, procedures, sequences, tables (customers, opportunities, order_details, orders, products), trigger functions, types, and views. The main query editor shows the following SQL query:

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

The Data Output tab shows the result of the query:

average_order_value
650.0000000000000000

The status bar at the bottom indicates: Total rows: 1 Query complete 00:00:00.136. A green message box at the bottom right states: "Successfully run. Total query runtime: 136 msec. 1 rows affected."

10.

The screenshot shows the pgAdmin 4 interface. The left sidebar displays the database structure, including schemas (public, learnerdata), aggregates, collations, domains, FTS configurations, FTS dictionaries, FTS parsers, FTS templates, foreign tables, functions, materialized views, operators, procedures, sequences, tables (customers, opportunities, order_details, orders, products), trigger functions, types, and views. The main query editor shows 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 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 status bar at the bottom indicates: Total rows: 4 Query complete 00:00:00.159. The bottom right corner shows "CRLF Ln 2, Col 15".

11.

pgAdmin 4 interface showing a query execution result 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 data:

	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 result 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 data:

	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.

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

```

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 );

```

The results table shows 2 rows:

customer_id	first_name	last_name	country
1	Alice	Smith	USA
2	Bob	Jones	Canada

Success message: Successfully run. Total query runtime: 177 msec. 2 rows affected.

14.

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

```

1 SELECT * FROM customers WHERE customer_id IN (
2     SELECT customer_id FROM orders GROUP BY customer_id HAVING SUM(total_amount) > 1000;
3

```

The results table shows 1 row:

customer_id	first_name	last_name	country
1	Alice	Smith	USA

Success message: Successfully run. Total query runtime: 212 msec. 1 rows affected.

15.

pgAdmin 4 interface showing a query execution result. The query is:

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

The result set shows one row:

product_id	product_name	unit_price
101	Laptop	1200.00

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

16.

pgAdmin 4 interface showing the creation of a view. The query is:

```
CREATE VIEW high_value_orders AS
SELECT * FROM orders
WHERE total_amount > 1000;
```

Messages: CREATE VIEW. Query returned successfully in 146 msec.

17.

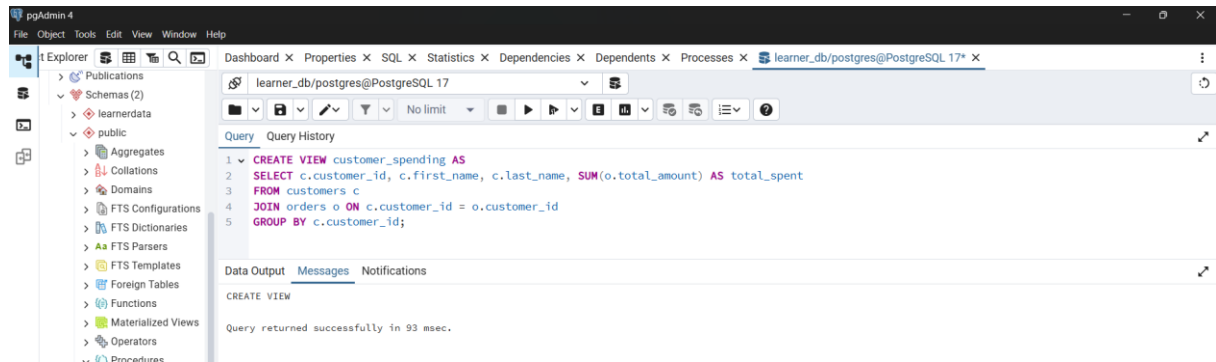
pgAdmin 4 interface showing the creation of a view. The query is:

```
CREATE VIEW customer_order_summary AS
SELECT c.customer_id, c.first_name, COUNT(o.order_id) AS total_orders, SUM(o.total_amount) AS total_spent
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
GROUP BY c.customer_id;
```

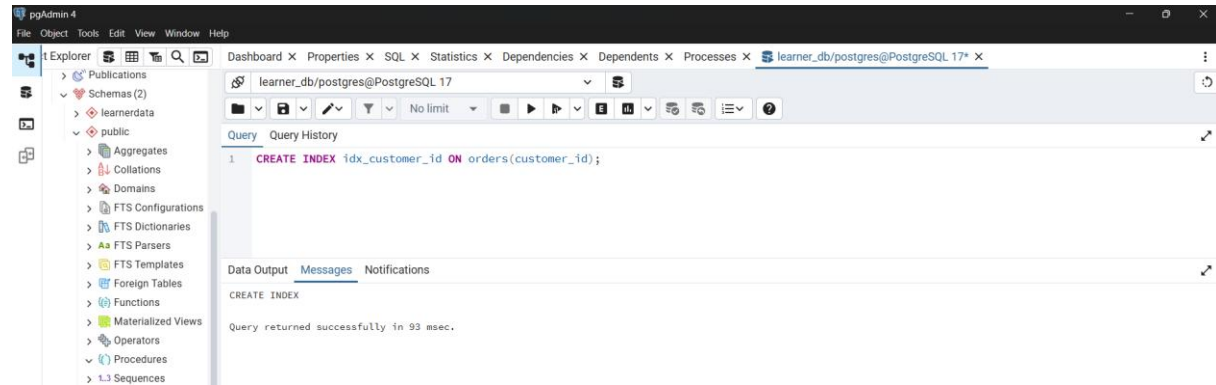
Messages: CREATE VIEW. Query returned successfully in 96 msec.

15.

18.



19.



20.

