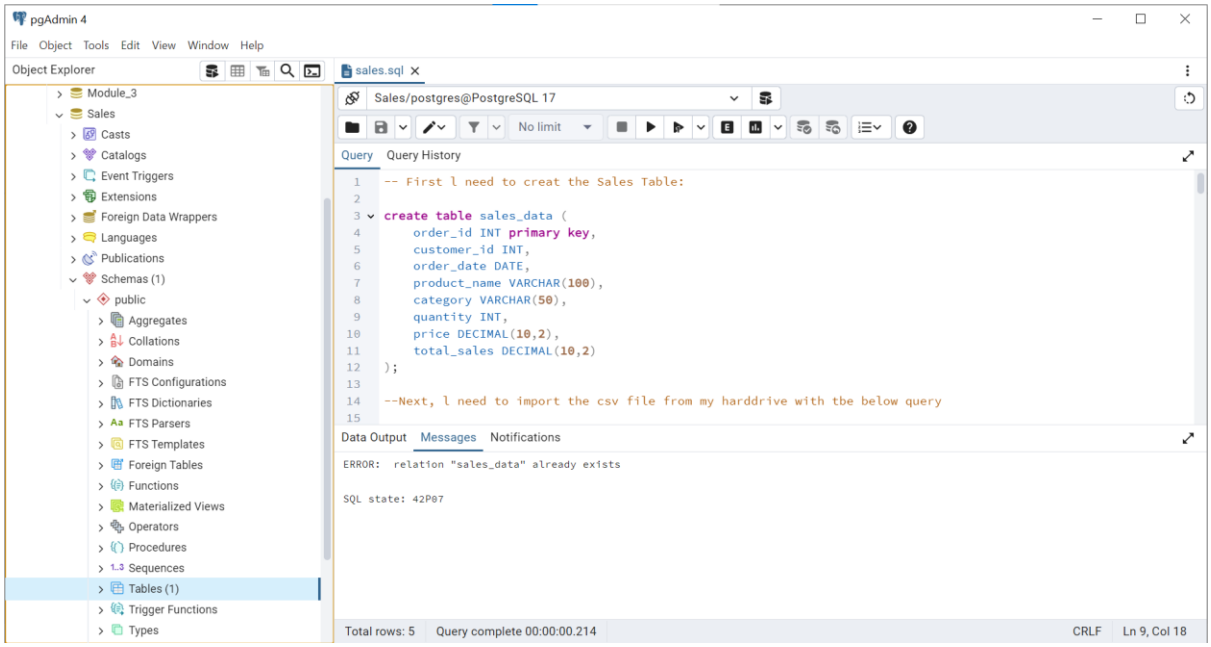
pgAdmin 4
File Object Tools Edit View Window Help
Object Explorer
sales.sql
Sales/postgres@PostgreSQL 17
No limit
Query Query History
1 -- First l need to creat the Sales Table:
2
3 create table sales_data (
4 order_id INT primary key,
5 customer_id INT,
6 order_date DATE,
7 product_name VARCHAR(100),
8 category VARCHAR(50),
9 quantity INT,
10 price DECIMAL(10,2),
11 total_sales DECIMAL(10,2)
12);
13
14 --Next, l need to import the csv file from my harddrive with tbe below query
15
Data Output Messages Notifications
ERROR: relation "sales_data" already exists
SQL state: 42P07
Total rows: 5 Query complete 00:00:00.214 CRLF Ln 9, Col 18
Module_3
Sales
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FTS Dictionaries
FTS Parsers
FTS Templates
Foreign Tables
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Materialized Views
Operators
Procedures
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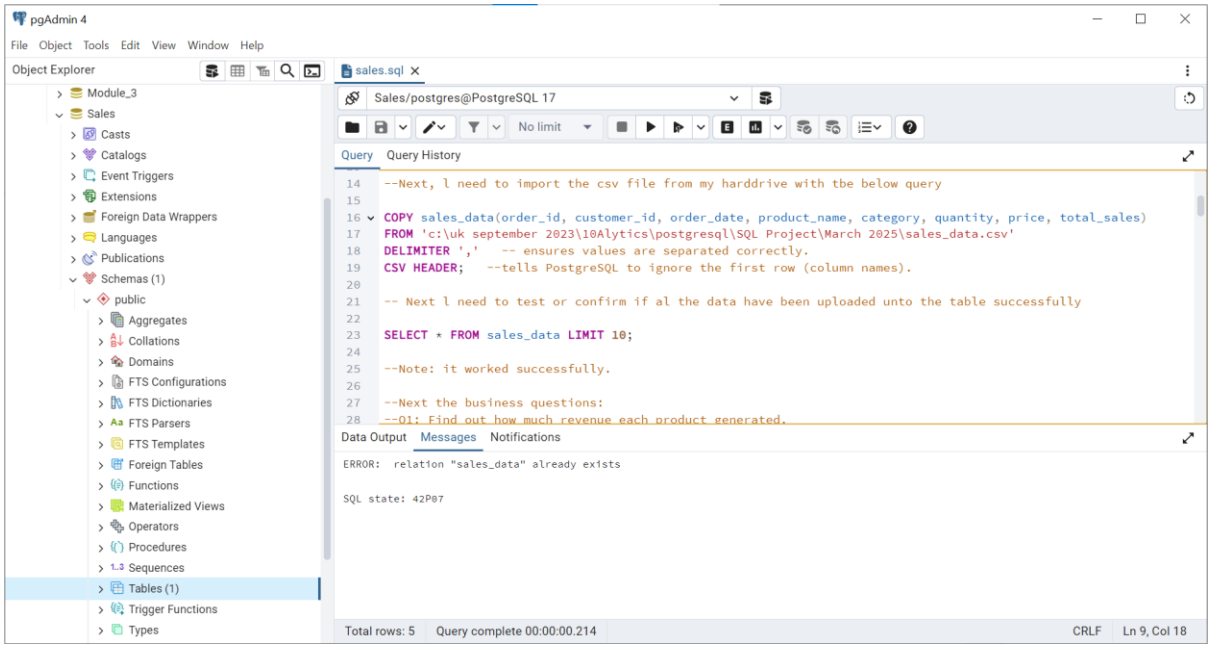
Tables (1)
Trigger Functions
Types


pgAdmin 4
File Object Tools Edit View Window Help
Object Explorer
sales.sql
Sales/postgres@PostgreSQL 17
No limit
Query Query History
14 --Next, l need to import the csv file from my harddrive with tbe below query
15
16 COPY sales_data(order_id, customer_id, order_date, product_name, category, quantity, price, total_sales)
17 FROM 'c:\uk september 2023\10Alytics\postgresql\SQL Project\March 2025\sales_data.csv'
18 DELIMITER ',' -- ensures values are separated correctly.
19 CSV HEADER; --tells PostgreSQL to ignore the first row (column names).
20
21 -- Next l need to test or confirm if al the data have been uploaded unto the table successfully
22
23 SELECT * FROM sales_data LIMIT 10;
24
25 --Note: it worked successfully.
26
27 --Next the business questions:
28 --Q1: Find out how much revenue each product generated.
Data Output Messages Notifications
ERROR: relation "sales_data" already exists
SQL state: 42P07
Total rows: 5 Query complete 00:00:00.214 CRLF Ln 9, Col 18
Module_3
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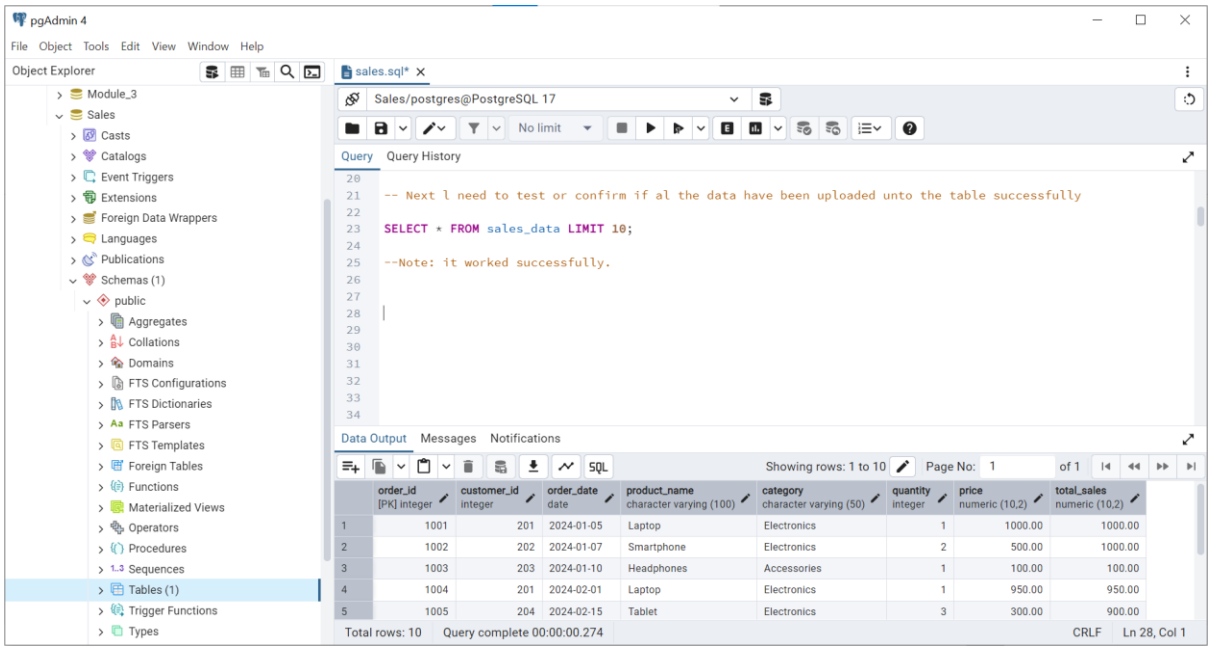
Tables (1)
Trigger Functions
Types


pgAdmin 4
File Object Tools Edit View Window Help
Object Explorer
sales.sql*
Sales/postgres@PostgreSQL 17
No limit
Query Query History
20
21 -- Next l need to test or confirm if al the data have been uploaded unto the table successfully
22
23 SELECT * FROM sales_data LIMIT 10;
24
25 --Note: it worked successfully.
26
27
28
29
30
31
32
33
34
Data Output Messages Notifications
Showing rows: 1 to 10 Page No: 1 of 1
order_id [PK] integer
customer_id integer
order_date date
product_name character varying (100)
category character varying (50)
quantity integer
price numeric (10,2)
total_sales numeric (10,2)
1 1001 201 2024-01-05 Laptop Electronics 1 1000.00 1000.00
2 1002 202 2024-01-07 Smartphone Electronics 2 500.00 1000.00
3 1003 203 2024-01-10 Headphones Accessories 1 100.00 100.00
4 1004 201 2024-02-01 Laptop Electronics 1 950.00 950.00
5 1005 204 2024-02-15 Tablet Electronics 3 300.00 900.00
Total rows: 10 Query complete 00:00:00.274 CRLF Ln 28, Col 1
Module_3
Sales
Casts
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Foreign Data Wrappers
Languages
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Schemas (1)
public
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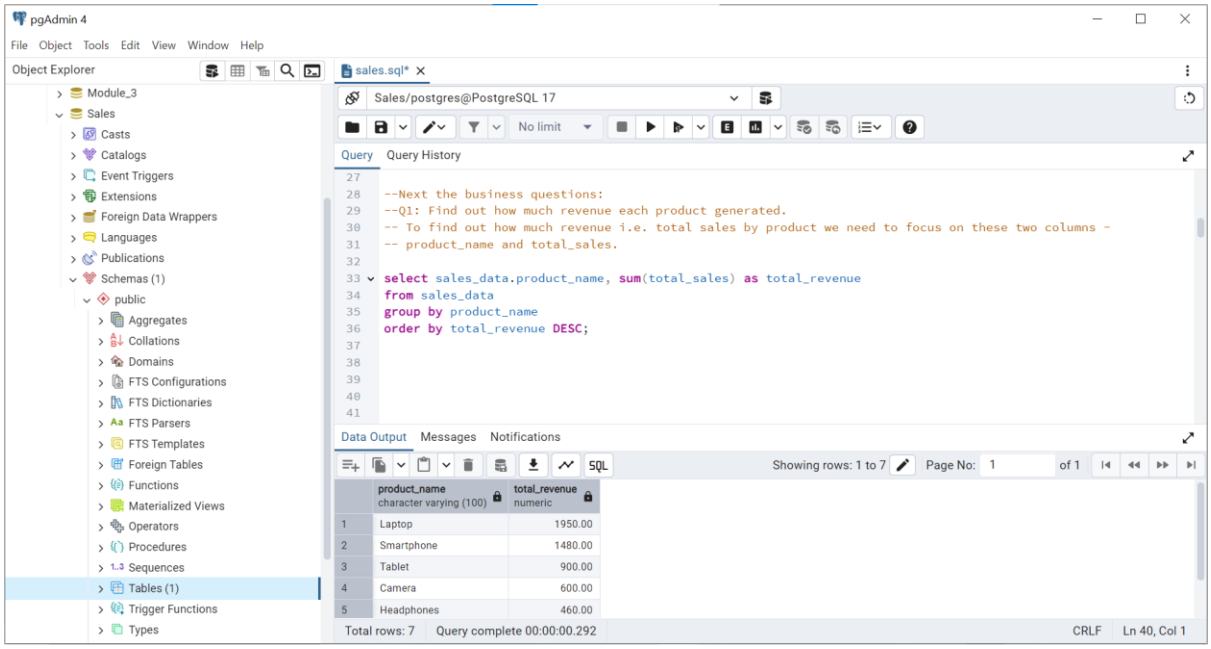
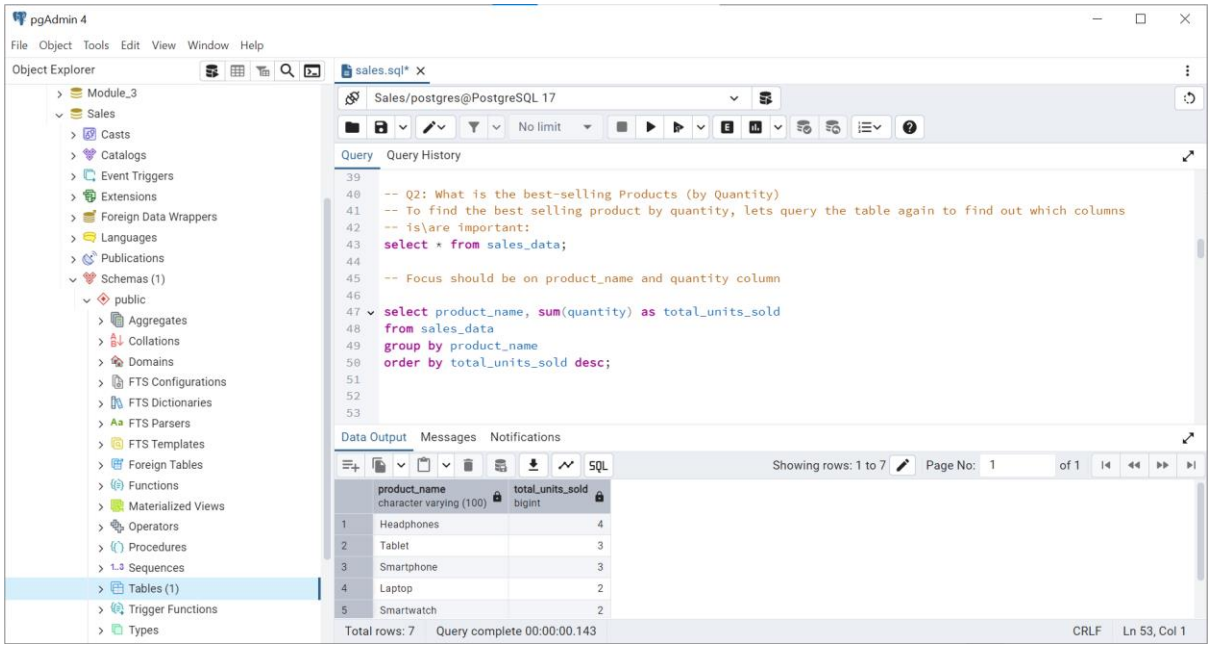
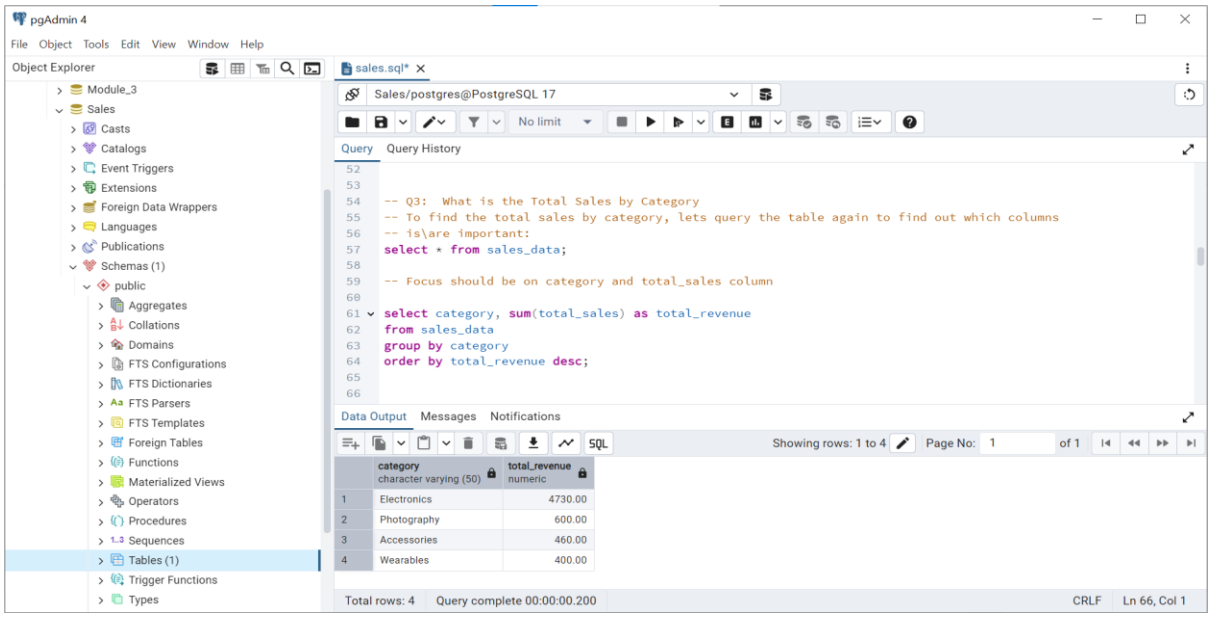
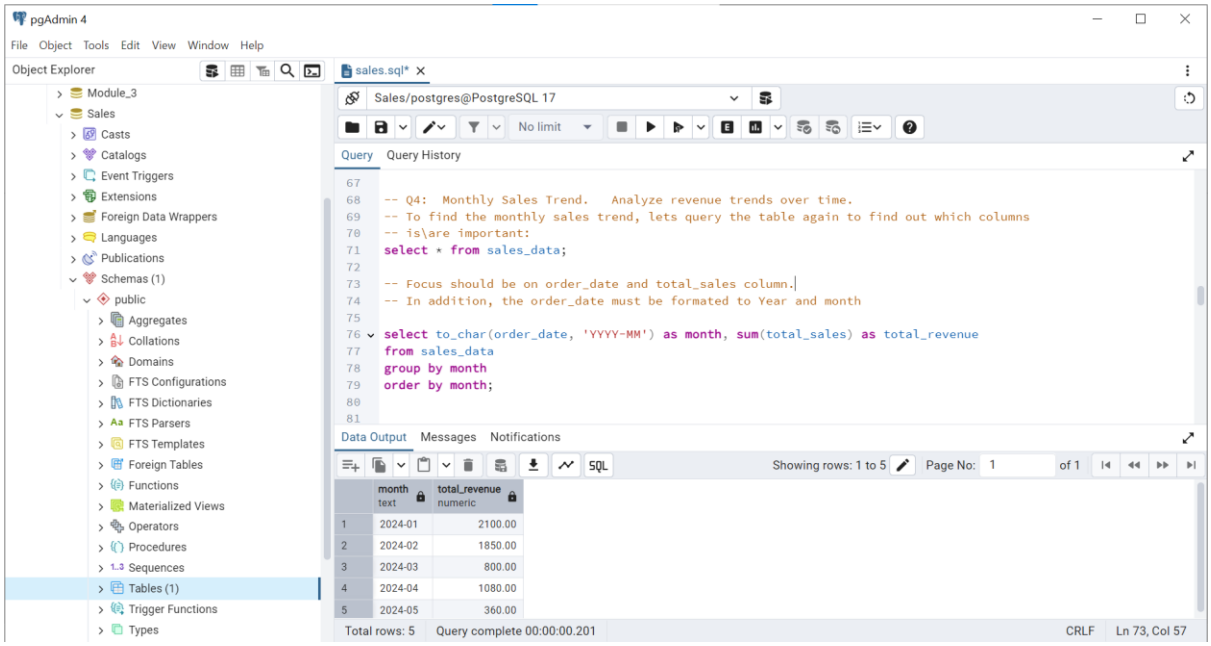
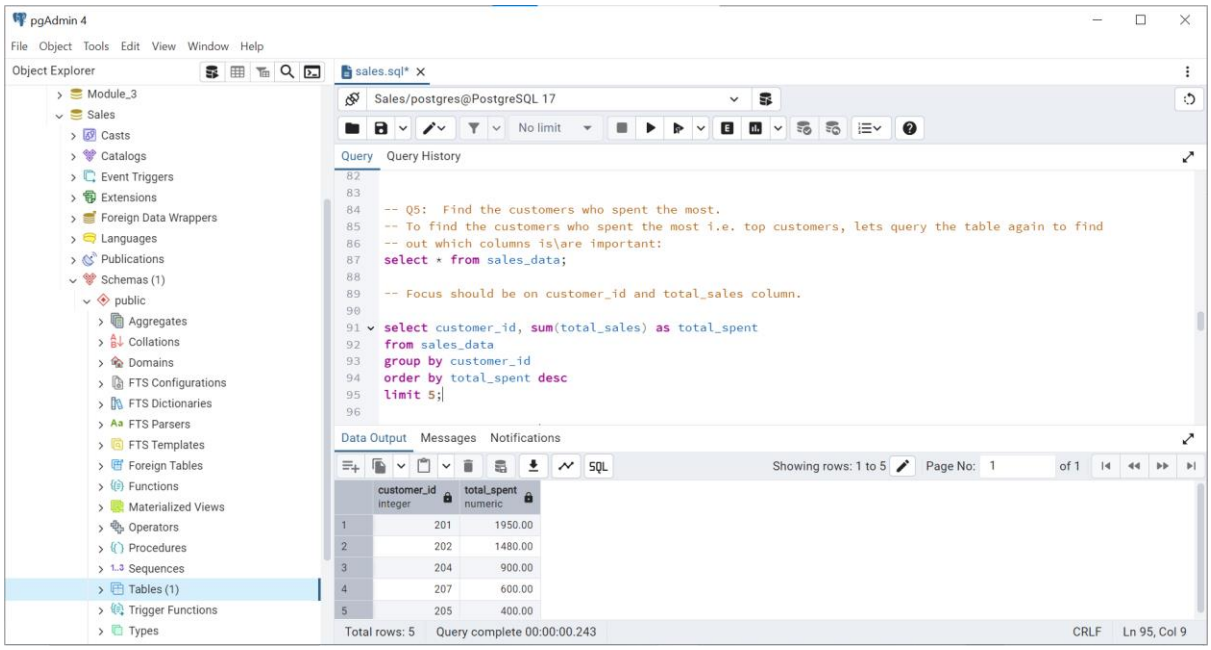
FTS Configurations
FTS Dictionaries
FTS Parsers
FTS Templates
Foreign Tables
Functions
Materialized Views
Operators
Procedures
Sequences
Tables (1)
Trigger Functions
Types

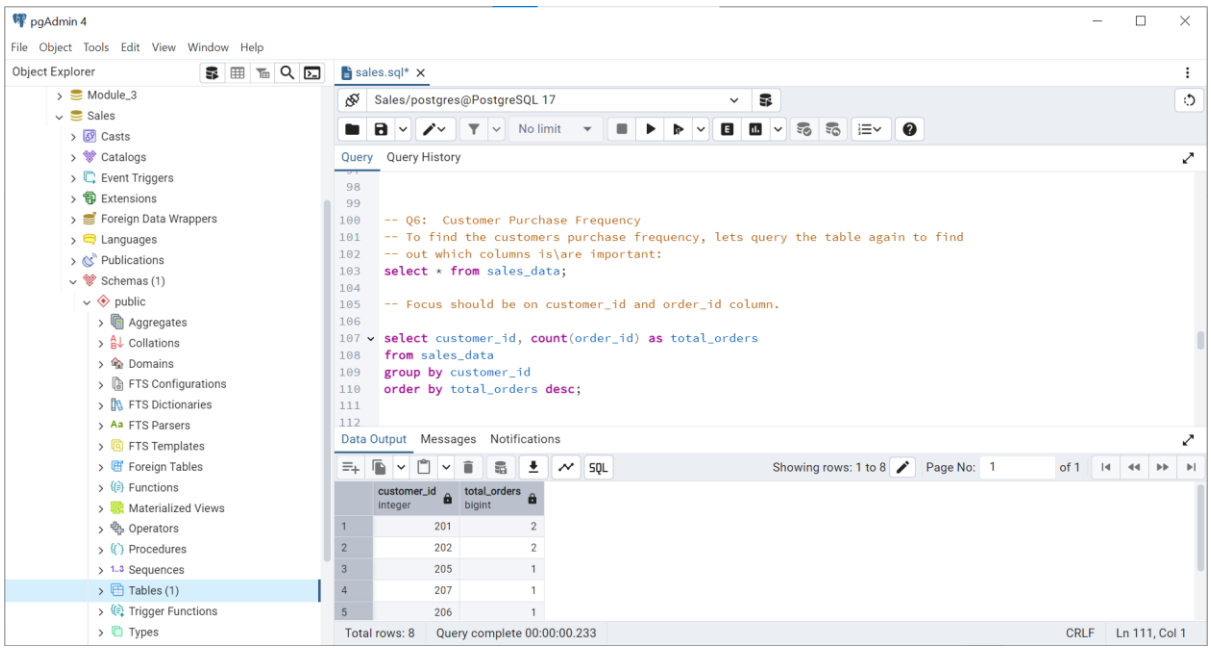

pgAdmin 4
File Object Tools Edit View Window Help
Object Explorer
sales.sql*
Sales/postgres@PostgreSQL 17
No limit
Query Query History
--Next the business questions:
--Q1: Find out how much revenue each product generated.
-- To find out how much revenue i.e. total sales by product we need to focus on these two columns -
-- product_name and total_sales.
select sales_data.product_name, sum(total_sales) as total_revenue
from sales_data
group by product_name
order by total_revenue DESC;
Data Output Messages Notifications
Showing rows: 1 to 7 Page No: 1 of 1
product_name character varying (100)
total_revenue numeric
1 Laptop 1950.00
2 Smartphone 1480.00
3 Tablet 900.00
4 Camera 600.00
5 Headphones 460.00
Total rows: 7 Query complete 00:00:00.292
CRLF Ln 40, Col 1

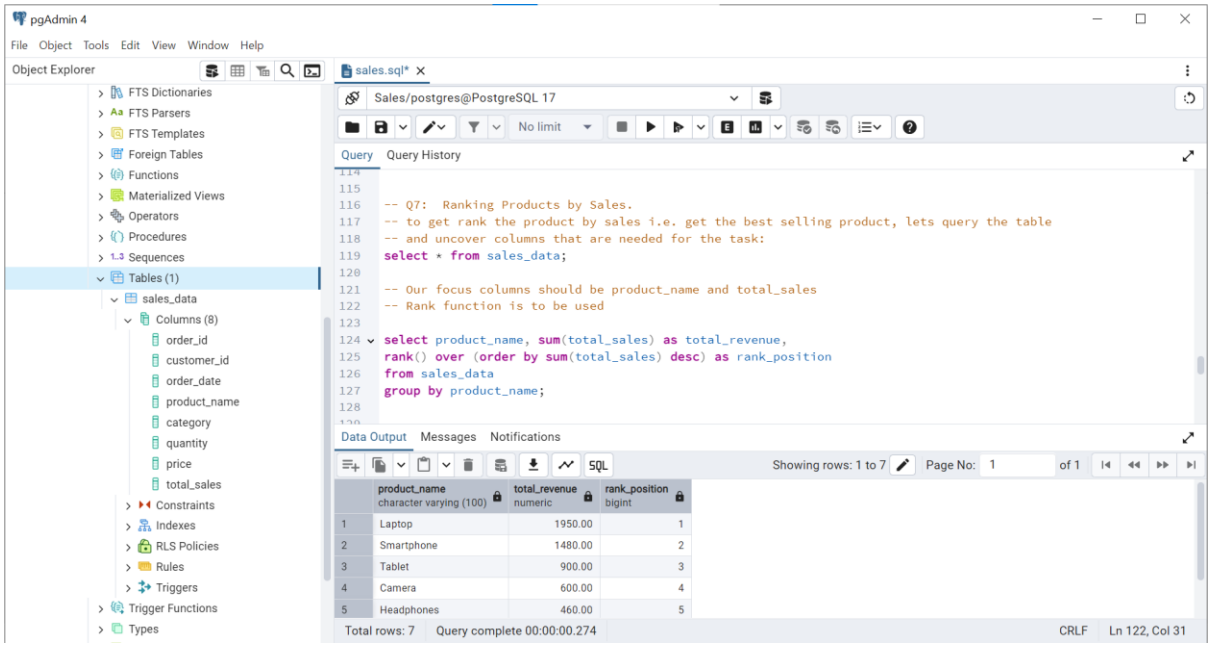

pgAdmin 4
File Object Tools Edit View Window Help
Object Explorer
sales.sql*
Sales/postgres@PostgreSQL 17
No limit
Query Query History
-- Q2: What is the best-selling Products (by Quantity)
-- To find the best selling product by quantity, lets query the table again to find out which columns
-- is\are important:
select * from sales_data;
-- Focus should be on product_name and quantity column
select product_name, sum(quantity) as total_units_sold
from sales_data
group by product_name
order by total_units_sold desc;
Data Output Messages Notifications
Showing rows: 1 to 7 Page No: 1 of 1
product_name character varying (100)
total_units_sold bigint
1 Headphones 4
2 Tablet 3
3 Smartphone 3
4 Laptop 2
5 Smartwatch 2
Total rows: 7 Query complete 00:00:00.143
CRLF Ln 53, Col 1

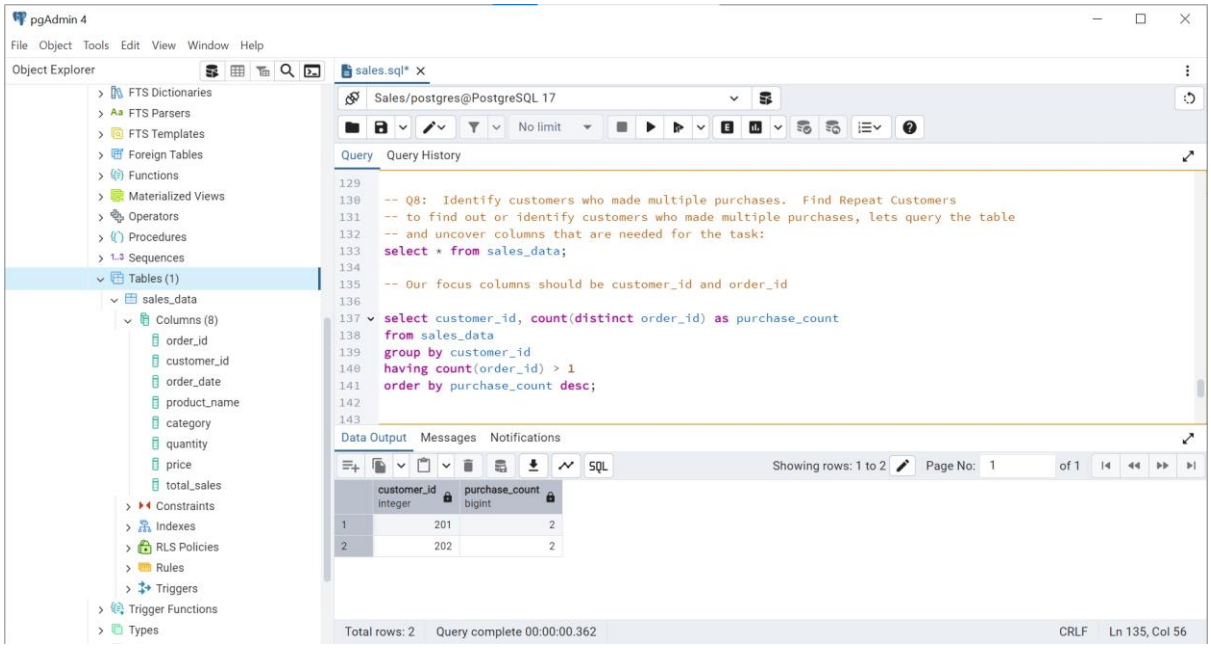

pgAdmin 4
File Object Tools Edit View Window Help
Object Explorer
sales.sql*
Sales/postgres@PostgreSQL 17
No limit
Query Query History
-- Q3: What is the Total Sales by Category
-- To find the total sales by category, lets query the table again to find out which columns
-- is\are important:
select * from sales_data;
-- Focus should be on category and total_sales column
select category, sum(total_sales) as total_revenue
from sales_data
group by category
order by total_revenue desc;
Data Output Messages Notifications
Showing rows: 1 to 4 Page No: 1 of 1
category character varying (50)
total_revenue numeric
1 Electronics 4730.00
2 Photography 600.00
3 Accessories 460.00
4 Wearables 400.00
Total rows: 4 Query complete 00:00:00.200
CRLF Ln 66, Col 1

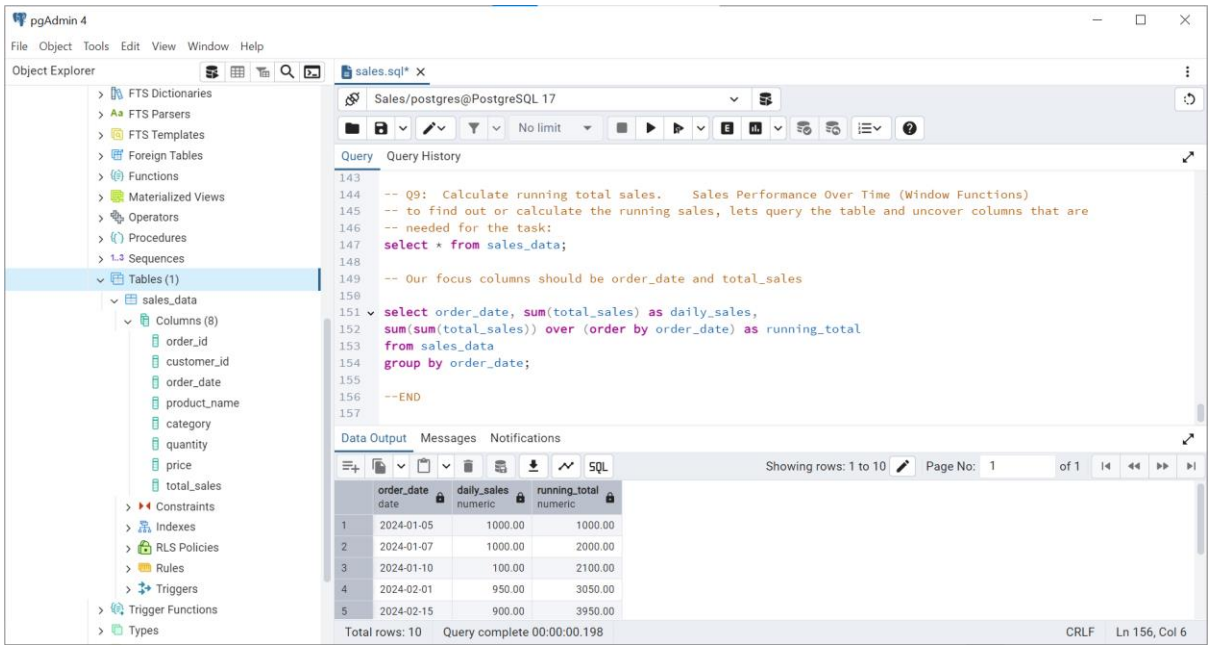

pgAdmin 4
File Object Tools Edit View Window Help
Object Explorer
sales.sql*
Sales/postgres@PostgreSQL 17
No limit
Query Query History
-- Q4: Monthly Sales Trend. Analyze revenue trends over time.
-- To find the monthly sales trend, lets query the table again to find out which columns
-- is\are important:
select * from sales_data;
-- Focus should be on order_date and total_sales column.
-- In addition, the order_date must be formated to Year and month
select to_char(order_date, 'YYYY-MM') as month, sum(total_sales) as total_revenue
from sales_data
group by month
order by month;
Data Output Messages Notifications
Showing rows: 1 to 5 Page No: 1 of 1
month text | total_revenue numeric
1 2024-01 2100.00
2 2024-02 1850.00
3 2024-03 800.00
4 2024-04 1080.00
5 2024-05 360.00
Total rows: 5 Query complete 00:00:00.201 CRLF Ln 73, Col 57


pgAdmin 4
File Object Tools Edit View Window Help
Object Explorer
sales.sql*
Sales/postgres@PostgreSQL 17
No limit
Query Query History
-- Q5: Find the customers who spent the most.
-- To find the customers who spent the most i.e. top customers, lets query the table again to find
-- out which columns is\are important:
select * from sales_data;
-- Focus should be on customer_id and total_sales column.
select customer_id, sum(total_sales) as total_spent
from sales_data
group by customer_id
order by total_spent desc
limit 5;
Data Output Messages Notifications
Showing rows: 1 to 5 Page No: 1 of 1
customer_id integer | total_spent numeric
1 201 1950.00
2 202 1480.00
3 204 900.00
4 207 600.00
5 205 400.00
Total rows: 5 Query complete 00:00:00.243 CRLF Ln 95, Col 9


pgAdmin 4
File Object Tools Edit View Window Help
Object Explorer
sales.sql*
Sales/postgres@PostgreSQL 17
No limit
Query Query History
-- Q6: Customer Purchase Frequency
-- To find the customers purchase frequency, lets query the table again to find
-- out which columns is\are important:
select * from sales_data;
-- Focus should be on customer_id and order_id column.
select customer_id, count(order_id) as total_orders
from sales_data
group by customer_id
order by total_orders desc;
Data Output Messages Notifications
Showing rows: 1 to 8 Page No: 1 of 1
customer_id integer | total_orders bigint
1 201 2
2 202 2
3 205 1
4 207 1
5 206 1
Total rows: 8 Query complete 00:00:00.233 CRLF Ln 111, Col 1


pgAdmin 4
File Object Tools Edit View Window Help
Object Explorer
sales.sql*
Sales/postgres@PostgreSQL 17
No limit
Query Query History
-- Q7: Ranking Products by Sales.
-- to get rank the product by sales i.e. get the best selling product, lets query the table
-- and uncover columns that are needed for the task:
select * from sales_data;
-- Our focus columns should be product_name and total_sales
-- Rank function is to be used
select product_name, sum(total_sales) as total_revenue,
rank() over (order by sum(total_sales) desc) as rank_position
from sales_data
group by product_name;
Data Output Messages Notifications
Showing rows: 1 to 7 Page No: 1 of 1
product_name character varying (100) total_revenue numeric rank_position bigint
1 Laptop 1950.00 1
2 Smartphone 1480.00 2
3 Tablet 900.00 3
4 Camera 600.00 4
5 Headphones 460.00 5
Total rows: 7 Query complete 00:00:00.274 CRLF Ln 122, Col 31


pgAdmin 4
File Object Tools Edit View Window Help
Object Explorer
sales.sql*
Sales/postgres@PostgreSQL 17
No limit
Query Query History
-- Q8: Identify customers who made multiple purchases. Find Repeat Customers
-- to find out or identify customers who made multiple purchases, lets query the table
-- and uncover columns that are needed for the task:
select * from sales_data;
-- Our focus columns should be customer_id and order_id
select customer_id, count(distinct order_id) as purchase_count
from sales_data
group by customer_id
having count(order_id) > 1
order by purchase_count desc;
Data Output Messages Notifications
Showing rows: 1 to 2 Page No: 1 of 1
customer_id integer purchase_count bigint
1 201 2
2 202 2
Total rows: 2 Query complete 00:00:00.362 CRLF Ln 135, Col 56


pgAdmin 4
File Object Tools Edit View Window Help
Object Explorer
sales.sql*
Sales/postgres@PostgreSQL 17
No limit
Query Query History
-- Q9: Calculate running total sales. Sales Performance Over Time (Window Functions)
-- to find out or calculate the running sales, lets query the table and uncover columns that are
-- needed for the task:
select * from sales_data;
-- Our focus columns should be order_date and total_sales
select order_date, sum(total_sales) as daily_sales,
sum(sum(total_sales)) over (order by order_date) as running_total
from sales_data
group by order_date;
--END
Data Output Messages Notifications
Showing rows: 1 to 10 Page No: 1 of 1
order_date date daily_sales numeric running_total numeric
1 2024-01-05 1000.00 1000.00
2 2024-01-07 1000.00 2000.00
3 2024-01-10 100.00 2100.00
4 2024-02-01 950.00 3050.00
5 2024-02-15 900.00 3950.00
Total rows: 10 Query complete 00:00:00.198 CRLF Ln 156, Col 6