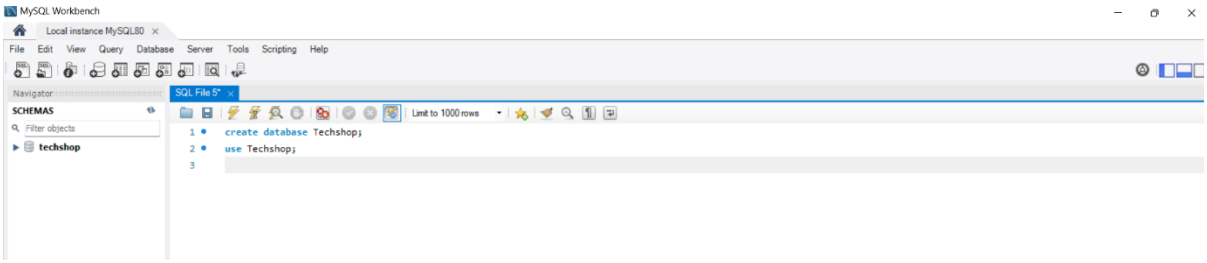
Name: R. Surya prakash

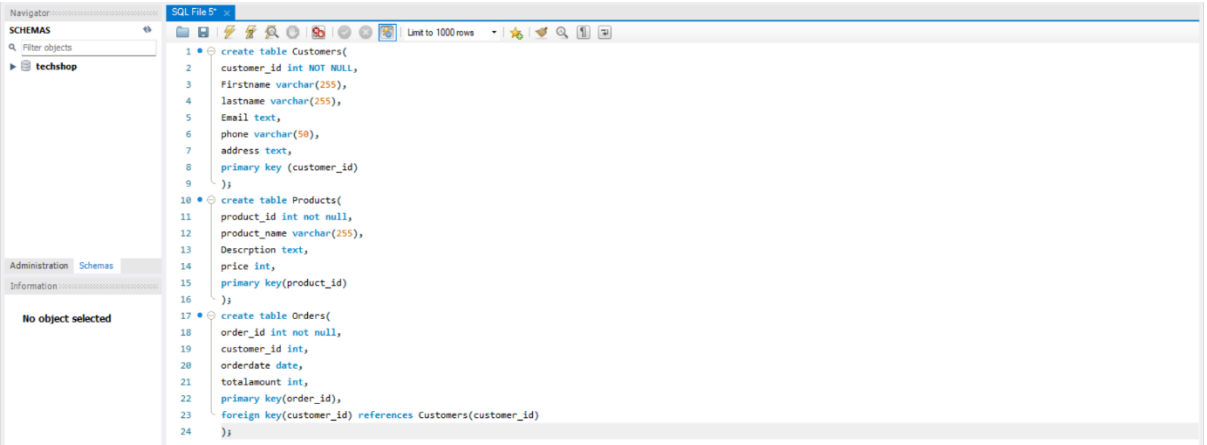
Assignment-1

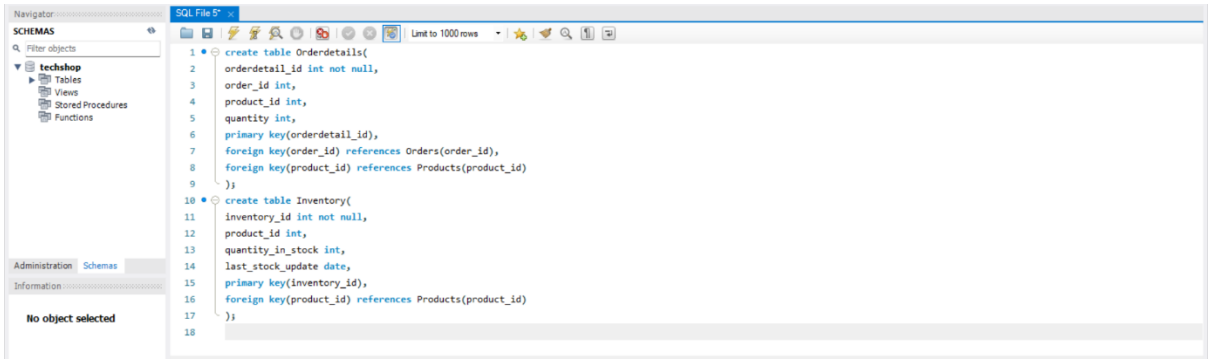
Task-1: Database Design

1.Create the database named Techshop.



2. Define the schema for the Customers, Products, Orders, Order Details and Inventory tables based on the provided schema.

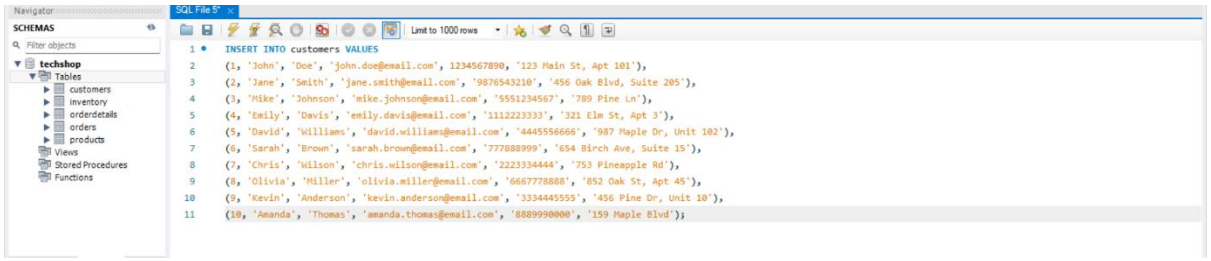




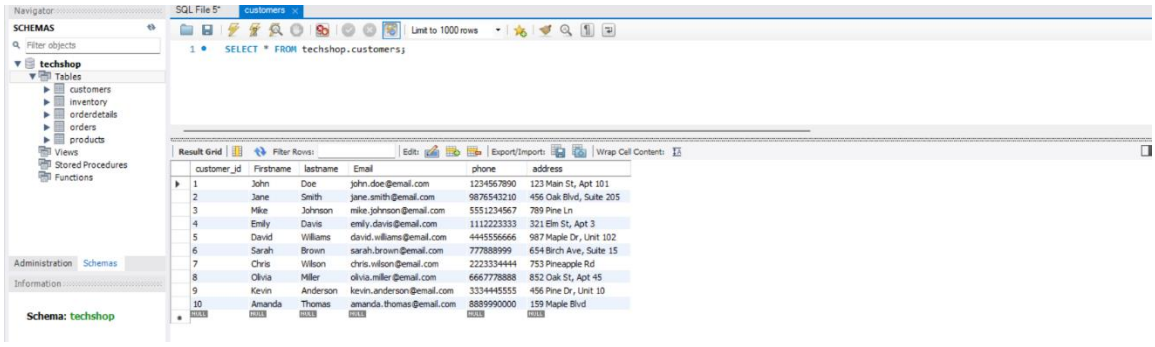
```
create table Orderdetails(
orderdetail_id int not null,
order_id int,
product_id int,
quantity int,
primary key(orderdetail_id),
foreign key(order_id) references Orders(order_id),
foreign key(product_id) references Products(product_id)
);
create table Inventory(
inventory_id int not null,
product_id int,
quantity_in_stock int,
last_stock_update date,
primary key(inventory_id),
foreign key(product_id) references Products(product_id)
);
```

5. Insert at least 10 sample records into each of the following tables.

a. Customers



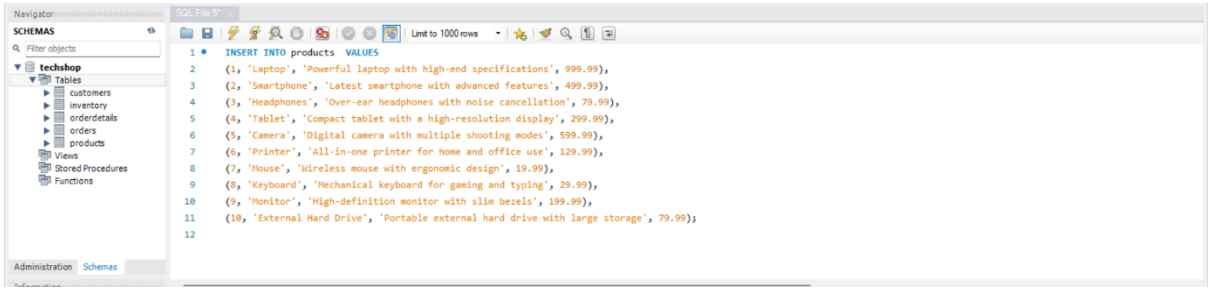
```
INSERT INTO customers VALUES
(1, 'John', 'Doe', 'john.doe@email.com', 1234567890, '123 Main St, Apt 101'),
(2, 'Jane', 'Smith', 'jane.smith@email.com', '9876543210', '456 Oak Blvd, Suite 205'),
(3, 'Mike', 'Johnson', 'mike.johnson@email.com', '5551234567', '789 Pine Ln'),
(4, 'Emily', 'Davis', 'emily.davis@email.com', '1112223333', '321 Elm St, Apt 3'),
(5, 'David', 'Williams', 'david.williams@email.com', '4445556666', '987 Maple Dr, Unit 102'),
(6, 'Sarah', 'Brown', 'sarah.brown@email.com', '777888999', '654 Birch Ave, Suite 15'),
(7, 'Chris', 'Wilson', 'chris.wilson@email.com', '2223334444', '753 Pineapple Rd'),
(8, 'Olivia', 'Miller', 'olivia.miller@email.com', '6667778888', '852 Oak St, Apt 45'),
(9, 'Kevin', 'Anderson', 'kevin.anderson@email.com', '3334445555', '456 Pine Dr, Unit 10'),
(10, 'Amanda', 'Thomas', 'amanda.thomas@email.com', '8889990000', '159 Maple Blvd');
```



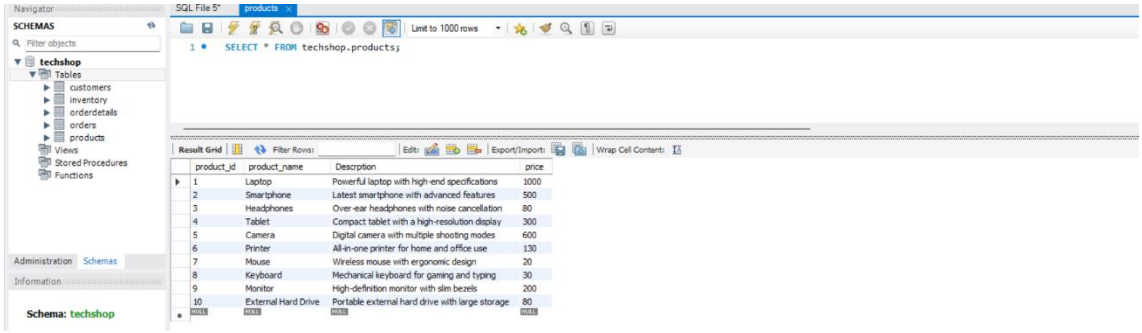
```
SELECT * FROM techshop.customers;
```

customer_id	Firstname	lastname	Email	phone	address
1	John	Doe	john.doe@email.com	1234567890	123 Main St, Apt 101
2	Jane	Smith	jane.smith@email.com	9876543210	456 Oak Blvd, Suite 205
3	Mike	Johnson	mike.johnson@email.com	5551234567	789 Pine Ln
4	Emily	Davis	emily.davis@email.com	1112223333	321 Elm St, Apt 3
5	David	Williams	david.williams@email.com	4445556666	987 Maple Dr, Unit 102
6	Sarah	Brown	sarah.brown@email.com	777888999	654 Birch Ave, Suite 15
7	Chris	Wilson	chris.wilson@email.com	2223334444	753 Pineapple Rd
8	Olivia	Miller	olivia.miller@email.com	6667778888	852 Oak St, Apt 45
9	Kevin	Anderson	kevin.anderson@email.com	3334445555	456 Pine Dr, Unit 10
10	Amanda	Thomas	amanda.thomas@email.com	8889990000	159 Maple Blvd

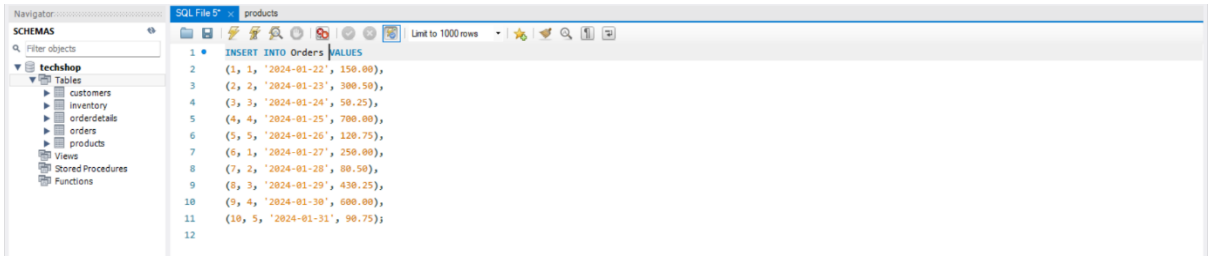
b. products

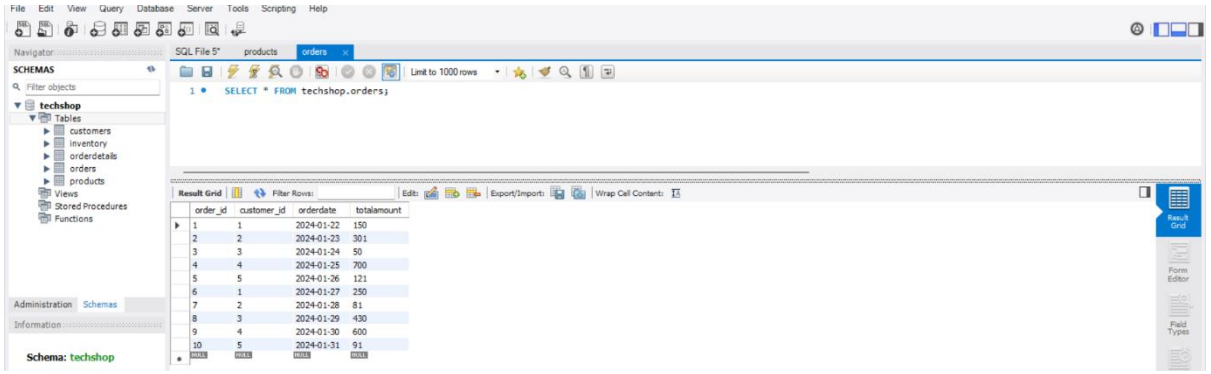


```
INSERT INTO products VALUES
(1, 'Laptop', 'Powerful laptop with high-end specifications', 999.99),
(2, 'Smartphone', 'Latest smartphone with advanced features', 499.99),
(3, 'Headphones', 'Over-ear headphones with noise cancellation', 79.99),
(4, 'Tablet', 'Compact tablet with a high-resolution display', 299.99),
(5, 'Camera', 'Digital camera with multiple shooting modes', 599.99),
(6, 'Printer', 'All-in-one printer for home and office use', 129.99),
(7, 'Mouse', 'Wireless mouse with ergonomic design', 19.99),
(8, 'Keyboard', 'Mechanical keyboard for gaming and typing', 29.99),
(9, 'Monitor', 'High-definition monitor with slim bezels', 199.99),
(10, 'External Hard Drive', 'Portable external hard drive with large storage', 79.99);
```

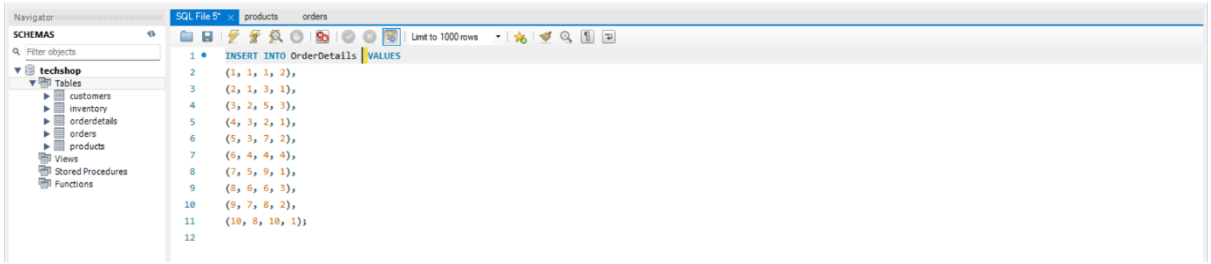


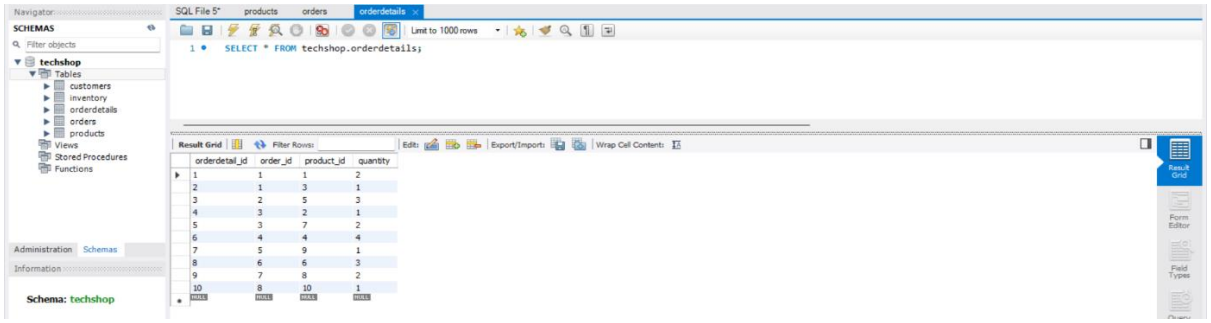
c.Orders



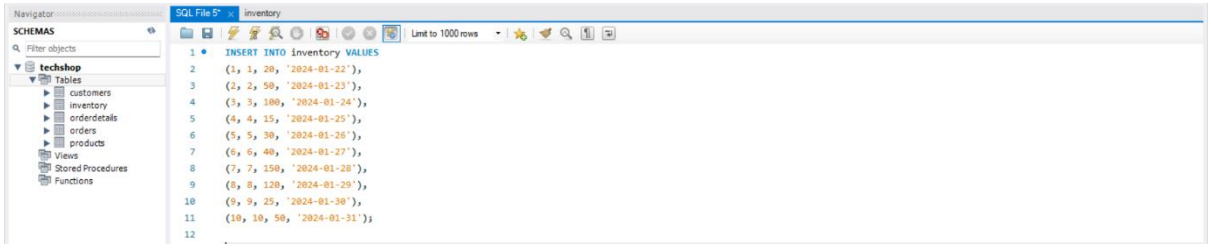


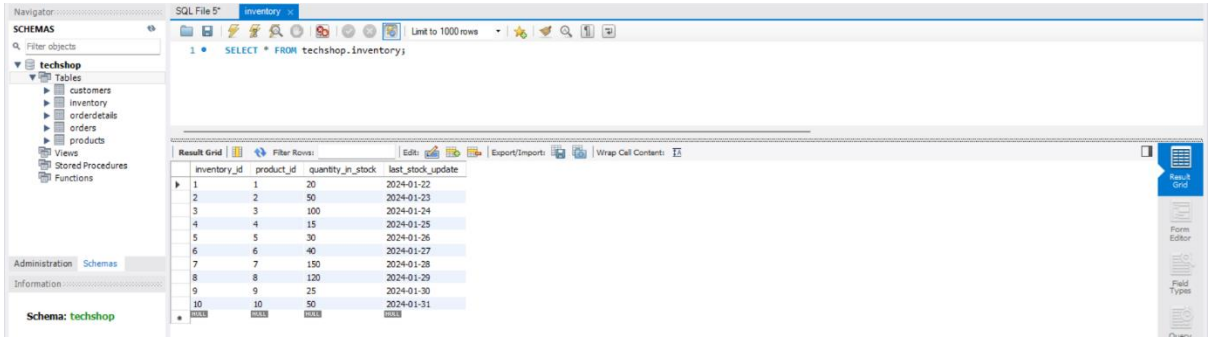
4.Orderdetails





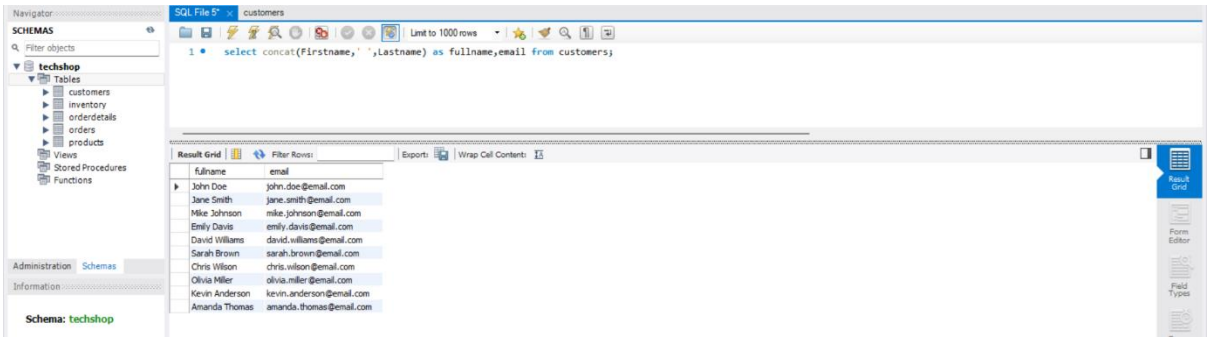
5.Inventory



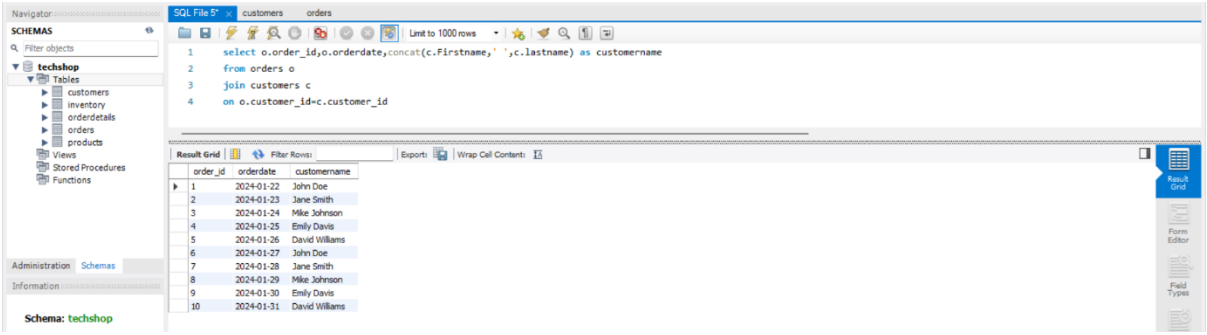


Tasks 2: Select, Where, Between, AND, LIKE:

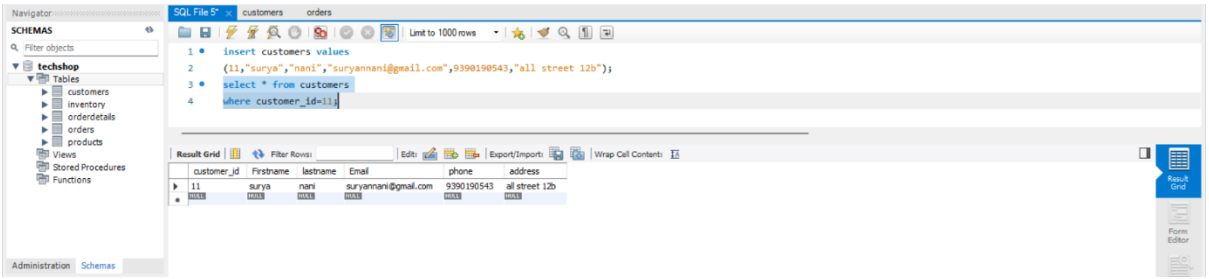
1. Write an SQL query to retrieve the names and emails of all customers.



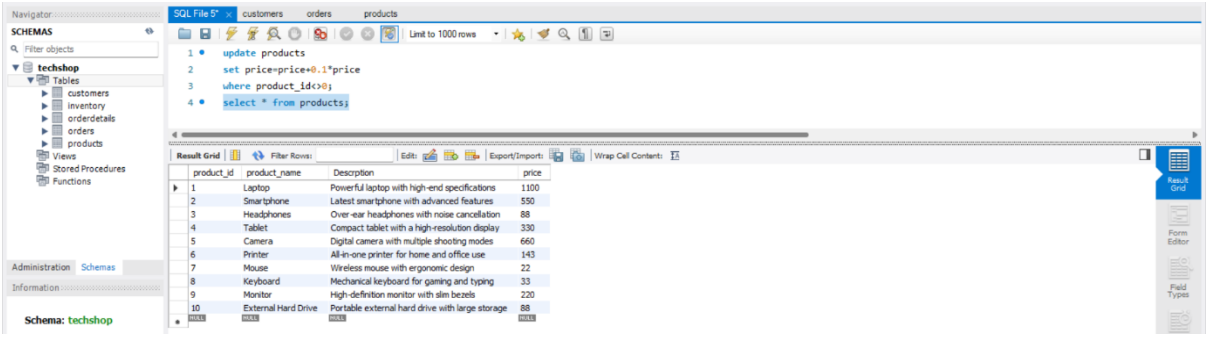
2. Write an SQL query to list all orders with their order dates and corresponding customer names.



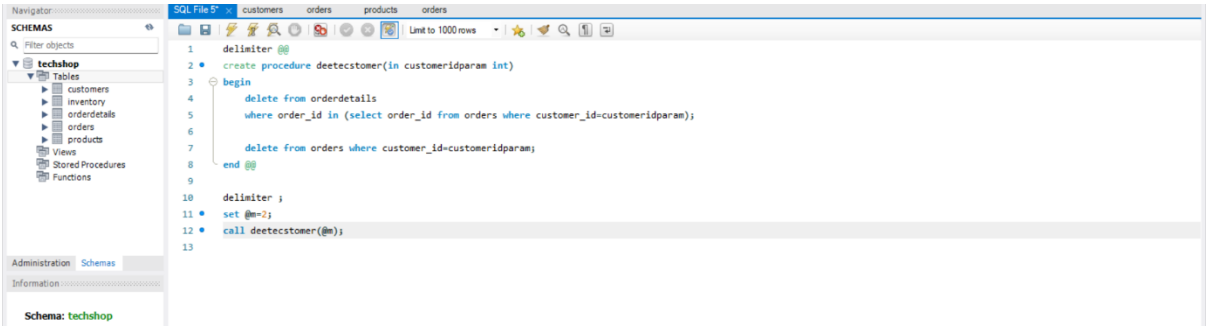
3. Write an SQL query to insert a new customer record into the "Customers" table. Include customer information such as name, email, and address



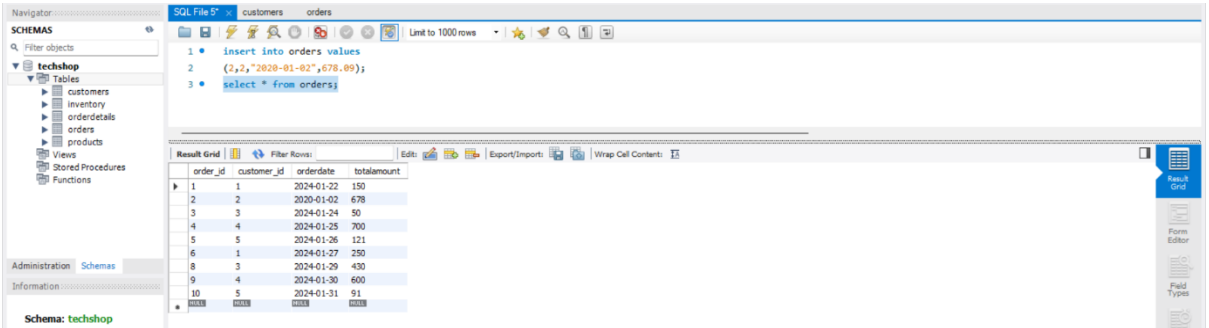
4.Write an SQL query to update the prices of all electronic gadgets in the "Products" table by increasing them by 10%.



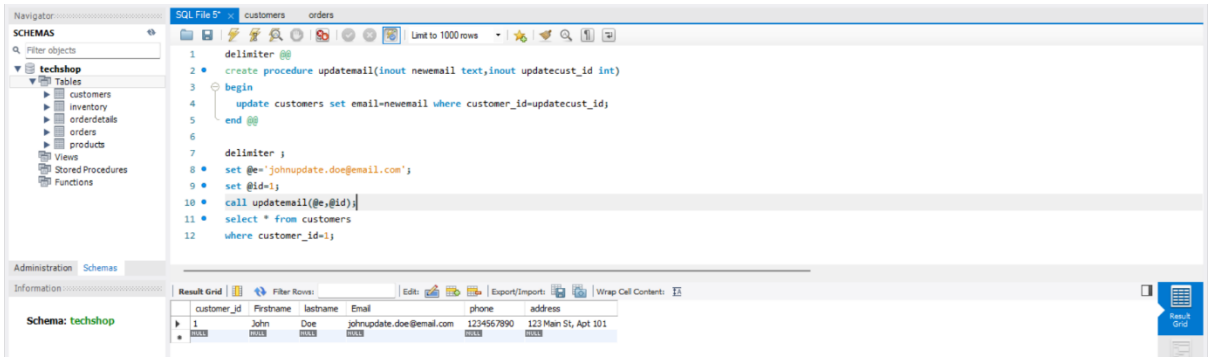
5. Write an SQL query to delete a specific order and its associated order details from the "Orders" and "Order Details" tables. Allow users to input the order ID as a parameter.



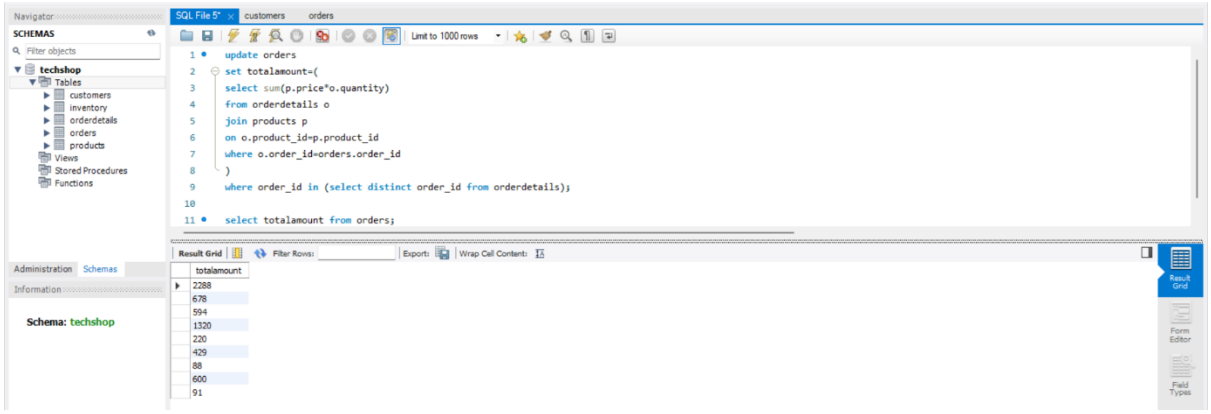
6. Write an SQL query to insert a new order into the "Orders" table. Include the customer ID, order date, and any other necessary information.



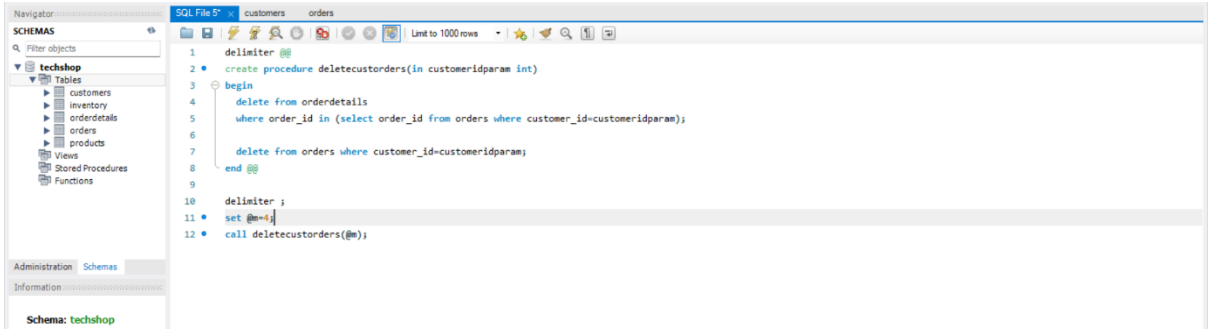
7. Write an SQL query to update the contact information (e.g., email and address) of a specific customer in the "Customers" table. Allow users to input the customer ID and new contact information.



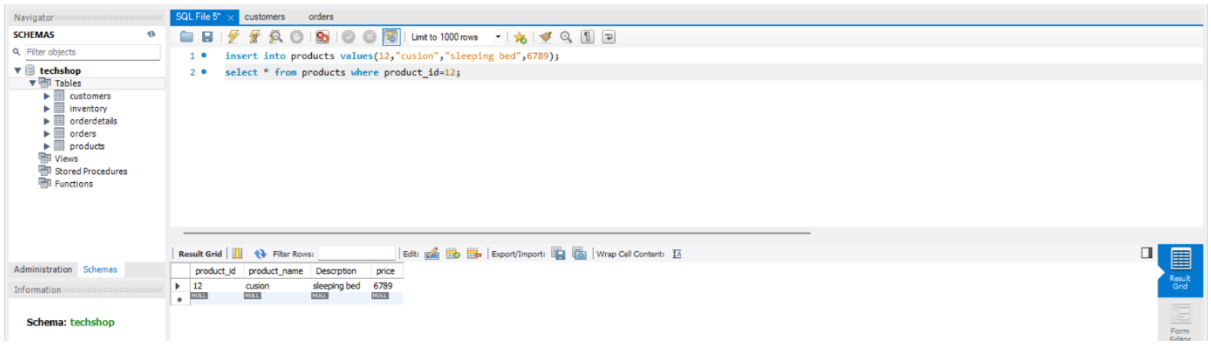
8. Write an SQL query to recalculate and update the total cost of each order in the "Orders" table based on the prices and quantities in the "Order Details" table.



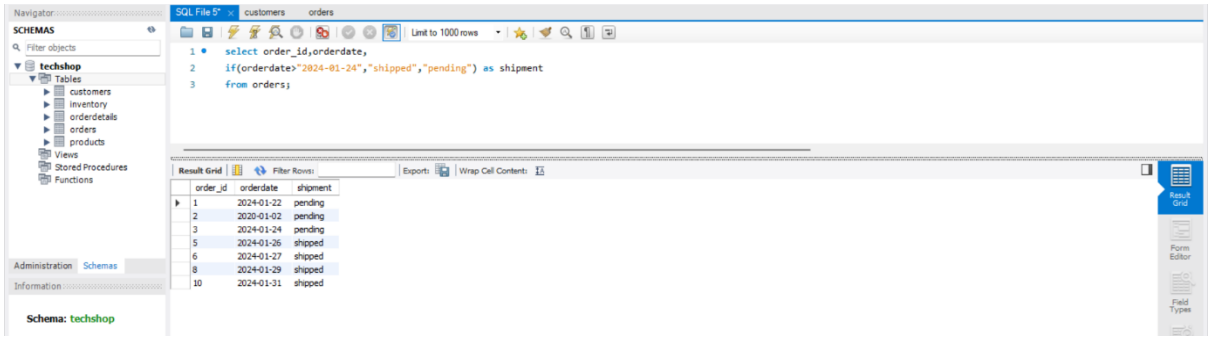
9. Write an SQL query to delete all orders and their associated order details for a specific customer from the "Orders" and "order Details" tables. Allow users to input the customer ID as a parameter.



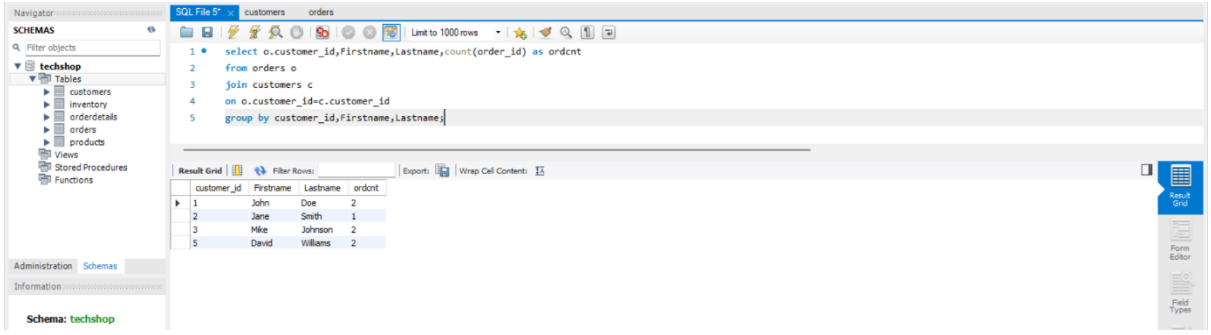
10. Write an SQL query to insert a new electronic gadget product into the "Products" table, including product name, category, price, and any other relevant details.



11. Write an SQL query to update the status of a specific order in the "Orders" table (e.g., from "Pending" to "Shipped"). Allow users to input the order ID and the new status.

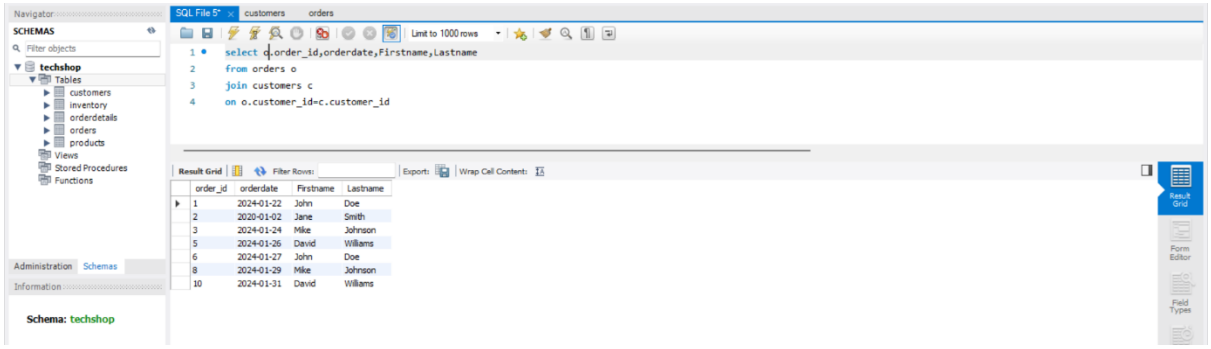


12. Write an SQL query to calculate and update the number of orders placed by each customer in the "Customers" table based on the data in the "Orders" table.

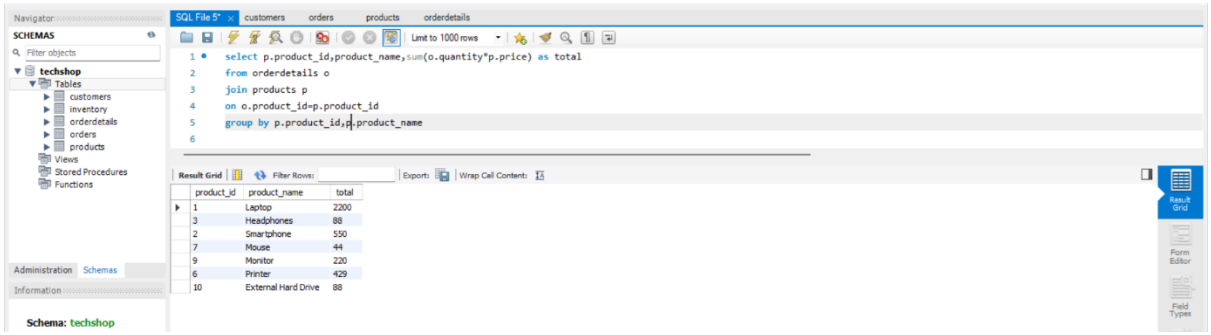


Task 3. Aggregate functions, Having, Order By, Group By and Joins:

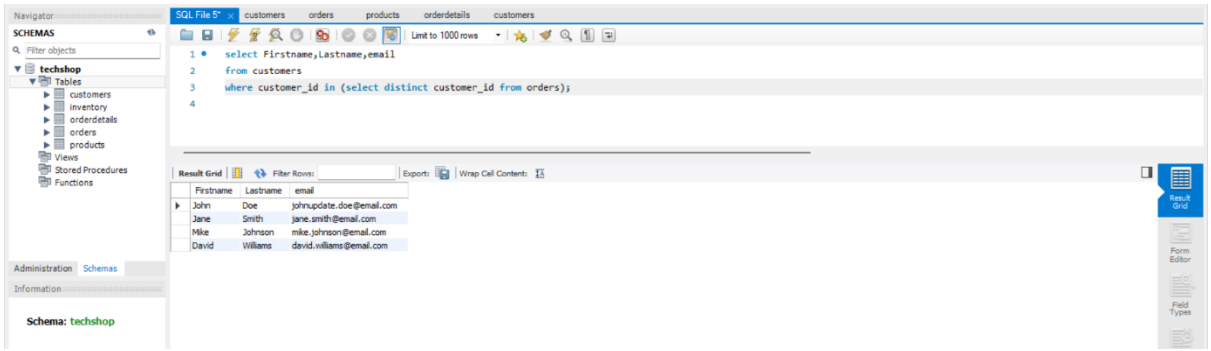
1. Write an SQL query to retrieve a list of all orders along with customer information (e.g., customer name) for each order.



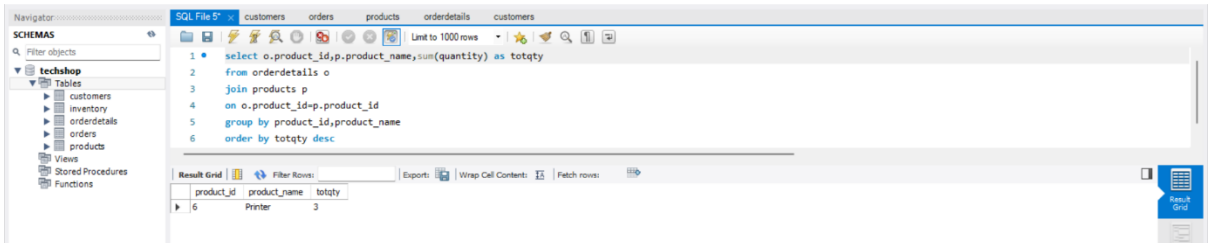
2. Write an SQL query to find the total revenue generated by each electronic gadget product. Include the product name and the total revenue.



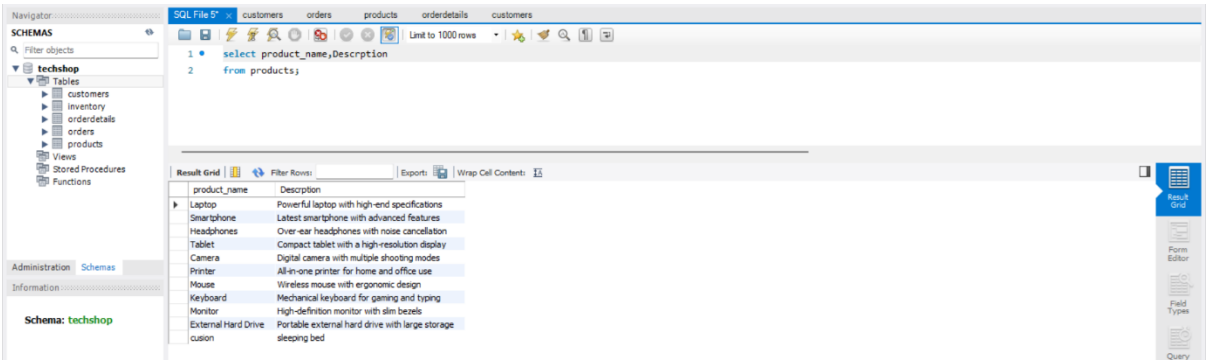
3. Write an SQL query to list all customers who have made at least one purchase. Include their names and contact information.



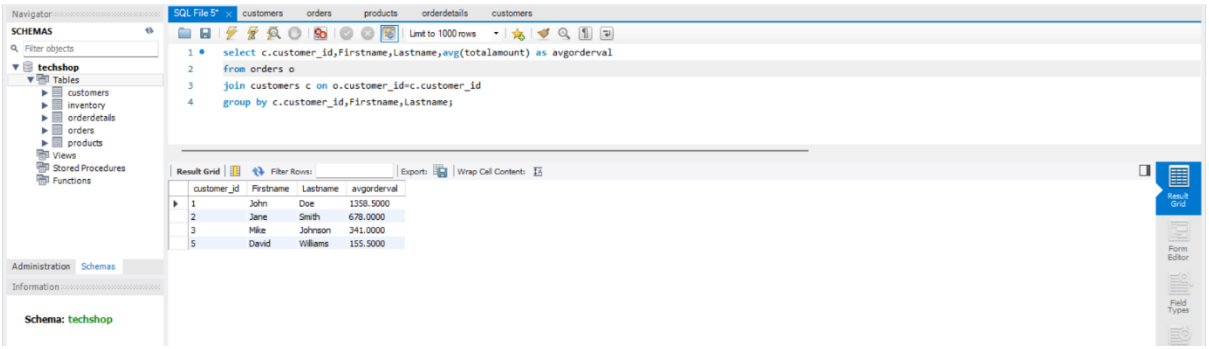
4. Write an SQL query to find the most popular electronic gadget, which is the one with the highest total quantity ordered. Include the product name and the total quantity ordered.



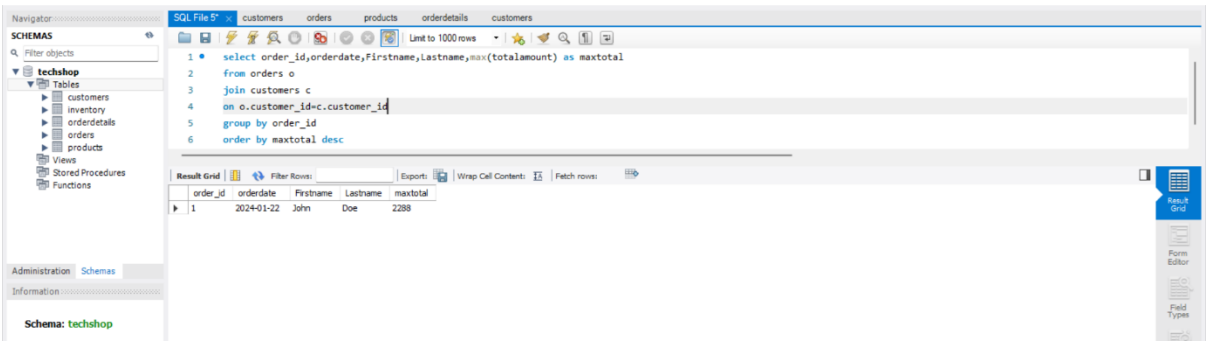
5. Write an SQL query to retrieve a list of electronic gadgets along with their corresponding categories.



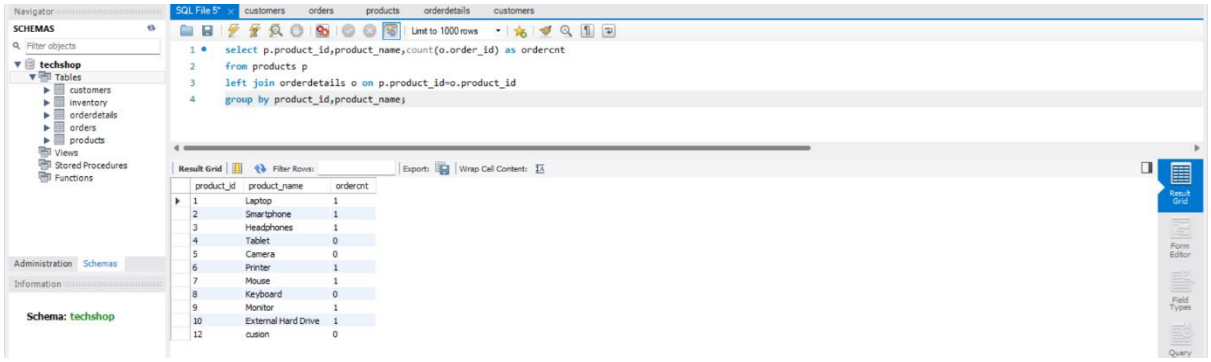
6.Write an SQL query to calculate the average order value for each customer. Include the customer's name and their average order value.



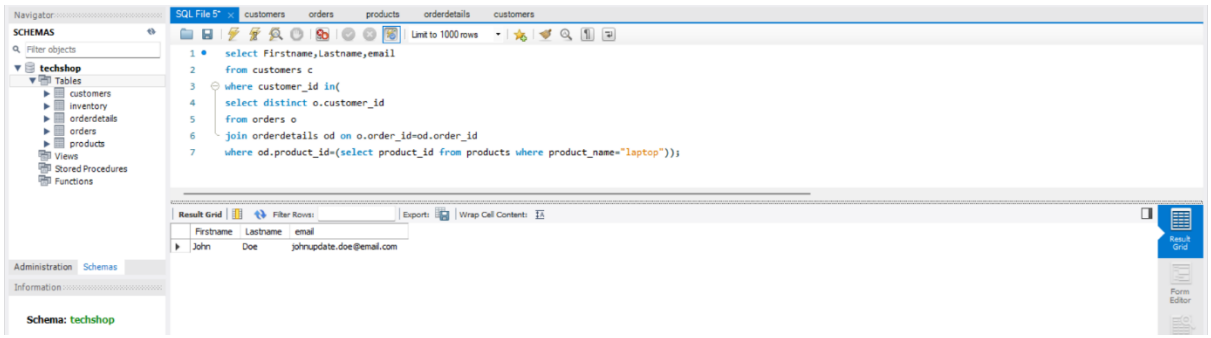
7. Write an SQL query to find the order with the highest total revenue. Include the order ID, customer information, and the total revenue.



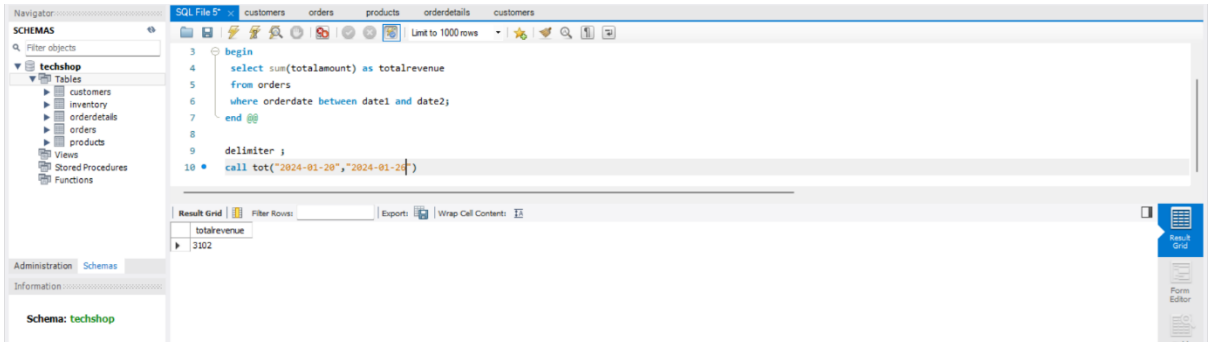
8. Write an SQL query to list electronic gadgets and the number of times each product has been ordered.



9. Write an SQL query to find customers who have purchased a specific electronic gadget product. Allow users to input the product name as a parameter.

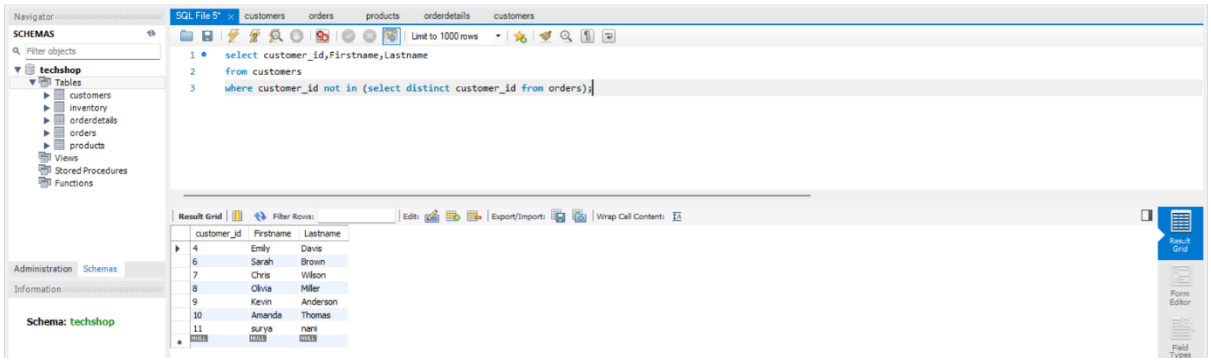


10. Write an SQL query to calculate the total revenue generated by all orders placed within a specific time period. Allow users to input the start and end dates as parameters.

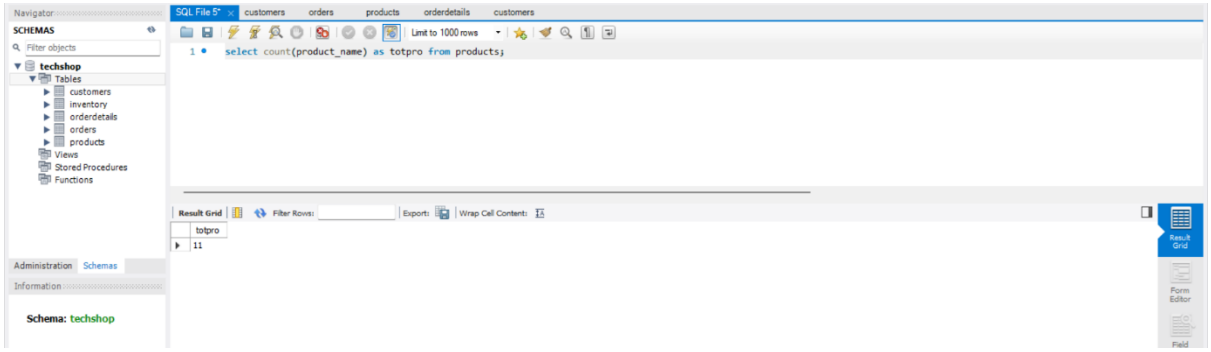


Task 4. Subquery and its type

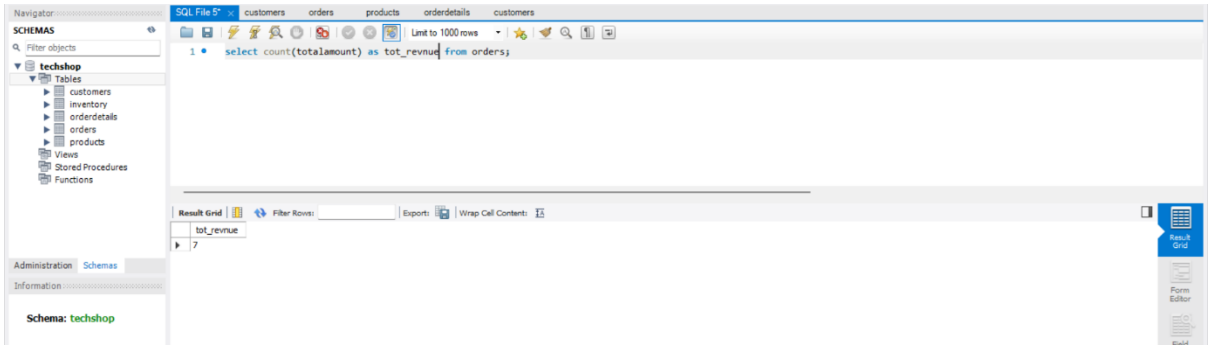
1. Write an SQL query to find out which customers have not placed any orders.



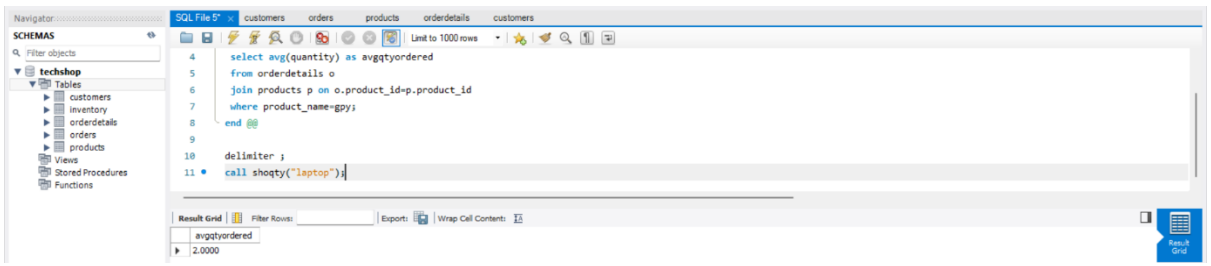
2. Write an SQL query to find the total number of products available for sale



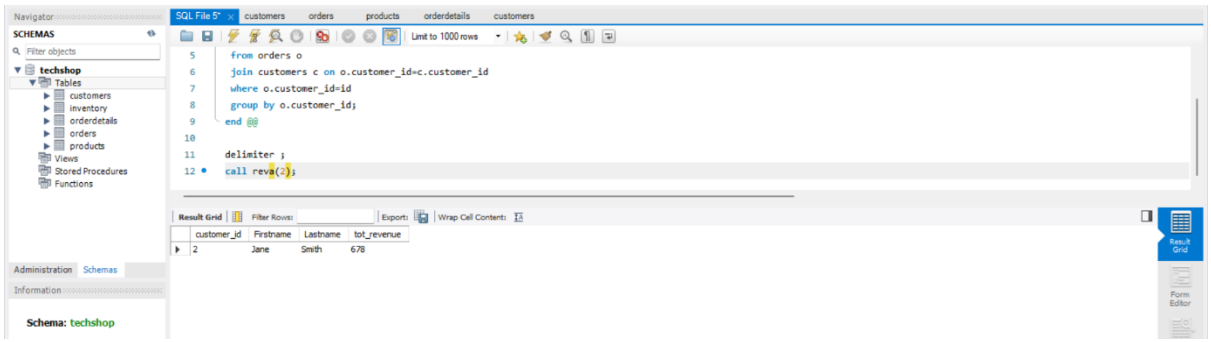
3. Write an SQL query to calculate the total revenue generated by TechShop.



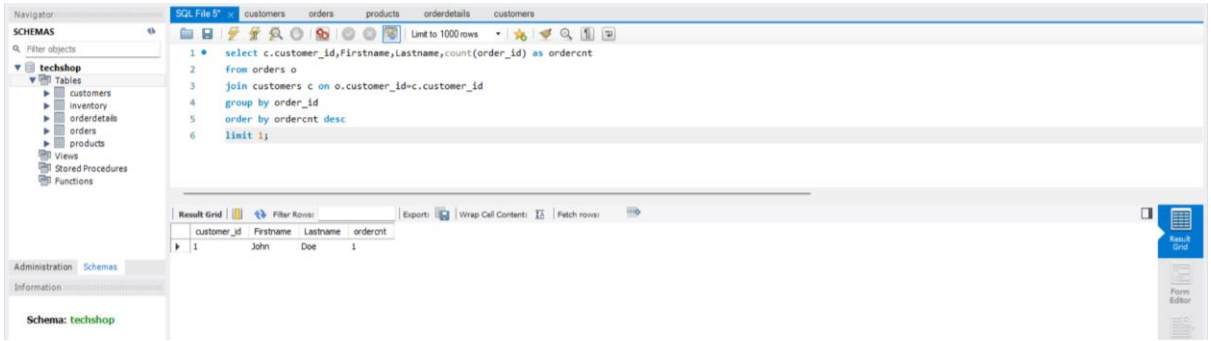
4. Write an SQL query to calculate the average quantity ordered for products in a specific category. Allow users to input the category name as a parameter.



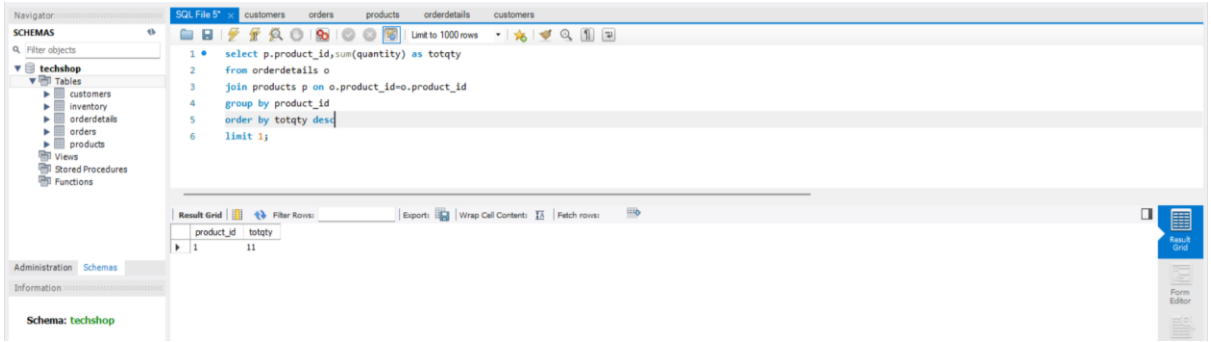
5. Write an SQL query to calculate the total revenue generated by a specific customer. Allow users to input the customer ID as a parameter.



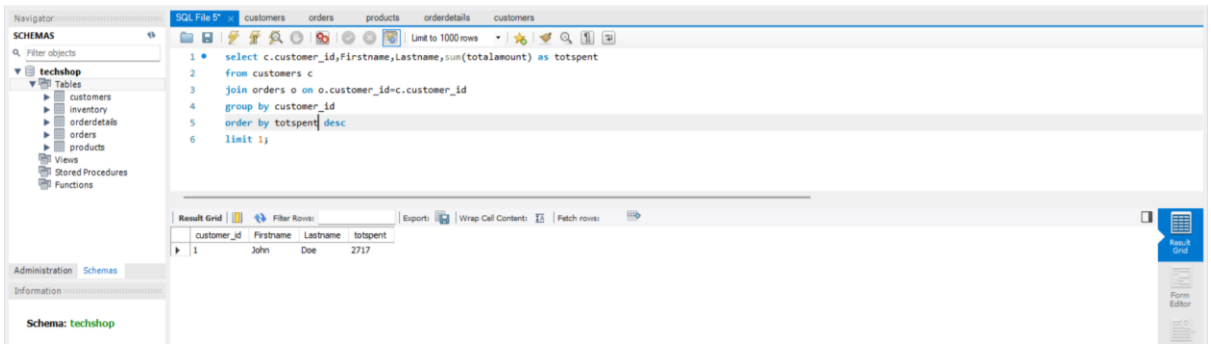
6. Write an SQL query to find the customers who have placed the most orders. List their names and the number of orders they've placed.



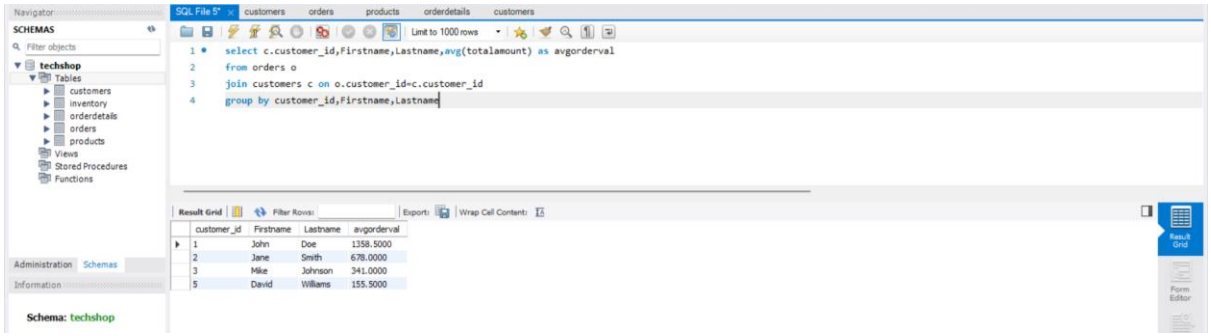
7. Write an SQL query to find the most popular product category, which is the one with the highest total quantity ordered across all orders.



8. Write an SQL query to find the customer who has spent the most money (highest total revenue) on electronic gadgets. List their name and total spending.



9. Write an SQL query to calculate the average order value (total revenue divided by the number of orders) for all customers.



10. Write an SQL query to find the total number of orders placed by each customer and list their names along with the order count.