AGALYA T

SQL CODING CHALLENGE – ECOMMERCE

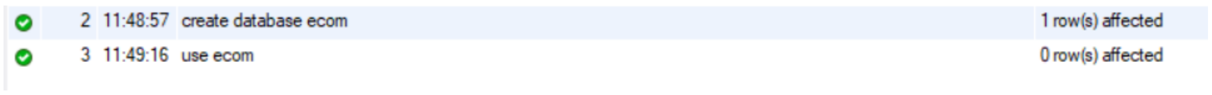
a) Creating a Database to store the Ecom tables:

Query:

create database ecom;

use ecom;

Output:



```
2  11:48:57  create database ecom    1 row(s) affected
3  11:49:16  use ecom                0 row(s) affected
```

b) Creation of SQL Tables:

1. **customers table:** • customer_id (Primary Key) • name • email • Address.

Query:

```
CREATE TABLE customers (
    customer_id INT PRIMARY KEY,
    first_name VARCHAR(50),
    last_name VARCHAR(50),
    email VARCHAR(100) UNIQUE,
    address VARCHAR(255)
);
```

2. **products table:** • product_id (Primary Key) • name • price • description • stockQuantity.

Query:

```
CREATE TABLE products (
    product_id INT PRIMARY KEY,
    name VARCHAR(100),
    description TEXT,
    price DECIMAL(10,2),
    stockQuantity INT
);
```

3. **cart table:** • cart_id (Primary Key) • customer_id (Foreign Key) • product_id (Foreign Key) • quantity.

Query:

```
CREATE TABLE cart (
    cart_id INT PRIMARY KEY AUTO_INCREMENT,
    customer_id INT,
    product_id INT,
    quantity INT,
    FOREIGN KEY (customer_id) REFERENCES customers(customer_id) ON
DELETE CASCADE,
    FOREIGN KEY (product_id) REFERENCES products(product_id) ON
DELETE CASCADE
);
```

4. **orders table:** • order_id (Primary Key) • customer_id (Foreign Key) • order_date • total_price • shipping_address.

Query:

```
CREATE TABLE orders (
    order_id INT PRIMARY KEY AUTO_INCREMENT,
    customer_id INT,
    order_date DATE,
    total_price DECIMAL(10,2),
    shipping_address VARCHAR(255),
    FOREIGN KEY (customer_id) REFERENCES customers(customer_id) ON
DELETE CASCADE);
```

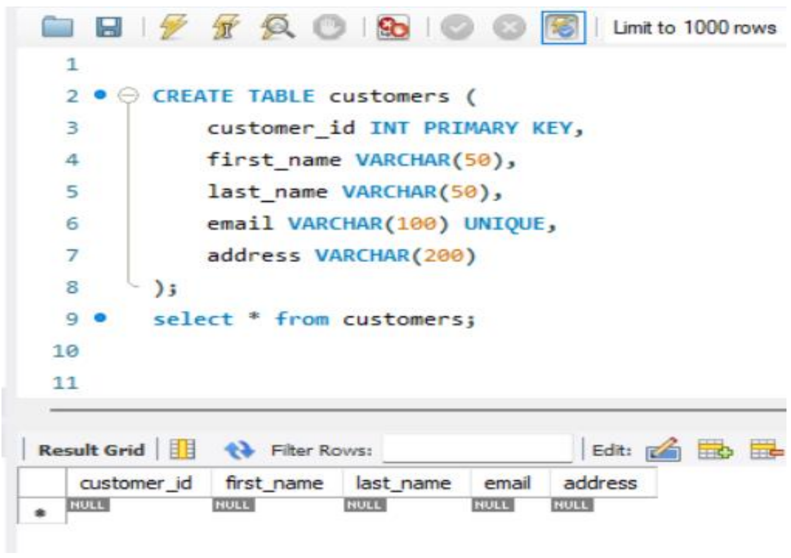
5. order_items table (to store order details): • order_item_id (Primary Key) • order_id (Foreign Key) • product_id (Foreign Key) • quantity • item_amount.

Query:

```
CREATE TABLE order_items (
    order_item_id INT PRIMARY KEY AUTO_INCREMENT,
    order_id INT,
    product_id INT,
    quantity INT,
    item_amount DECIMAL(10,2),
    FOREIGN KEY (order_id) REFERENCES orders(order_id) ON DELETE
CASCADE,
    FOREIGN KEY (product_id) REFERENCES products(product_id) ON
DELETE CASCADE
);
```

Outputs:

1. *Select * from customers;*



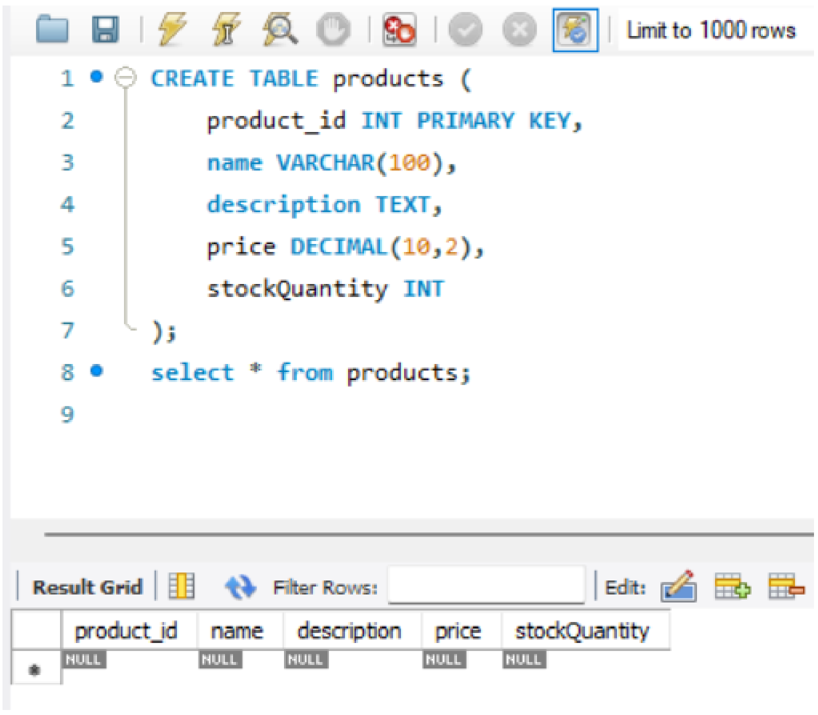
Limit to 1000 rows

```
CREATE TABLE customers (
    customer_id INT PRIMARY KEY,
    first_name VARCHAR(50),
    last_name VARCHAR(50),
    email VARCHAR(100) UNIQUE,
    address VARCHAR(200)
);
select * from customers;
```

Result Grid | Filter Rows: | Edit:

	customer_id	first_name	last_name	email	address
*	NULL	NULL	NULL	NULL	NULL

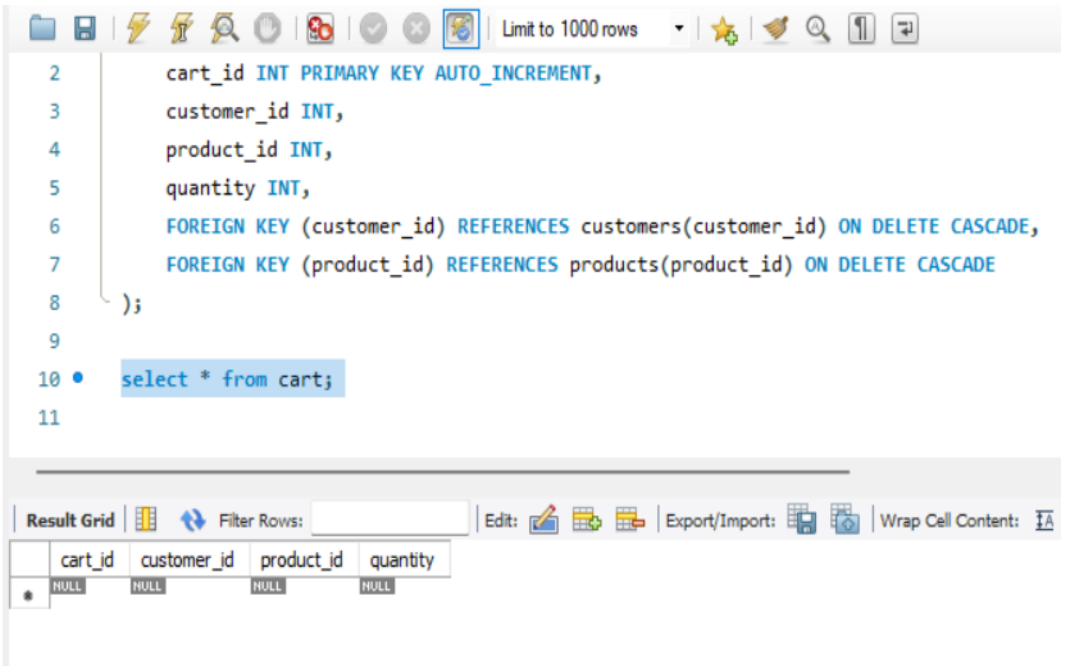
2. *Select * from products;*



```
CREATE TABLE products (
    product_id INT PRIMARY KEY,
    name VARCHAR(100),
    description TEXT,
    price DECIMAL(10,2),
    stockQuantity INT
);
select * from products;
```

product_id	name	description	price	stockQuantity
NULL	NULL	NULL	NULL	NULL

3. *Select * from cart;*

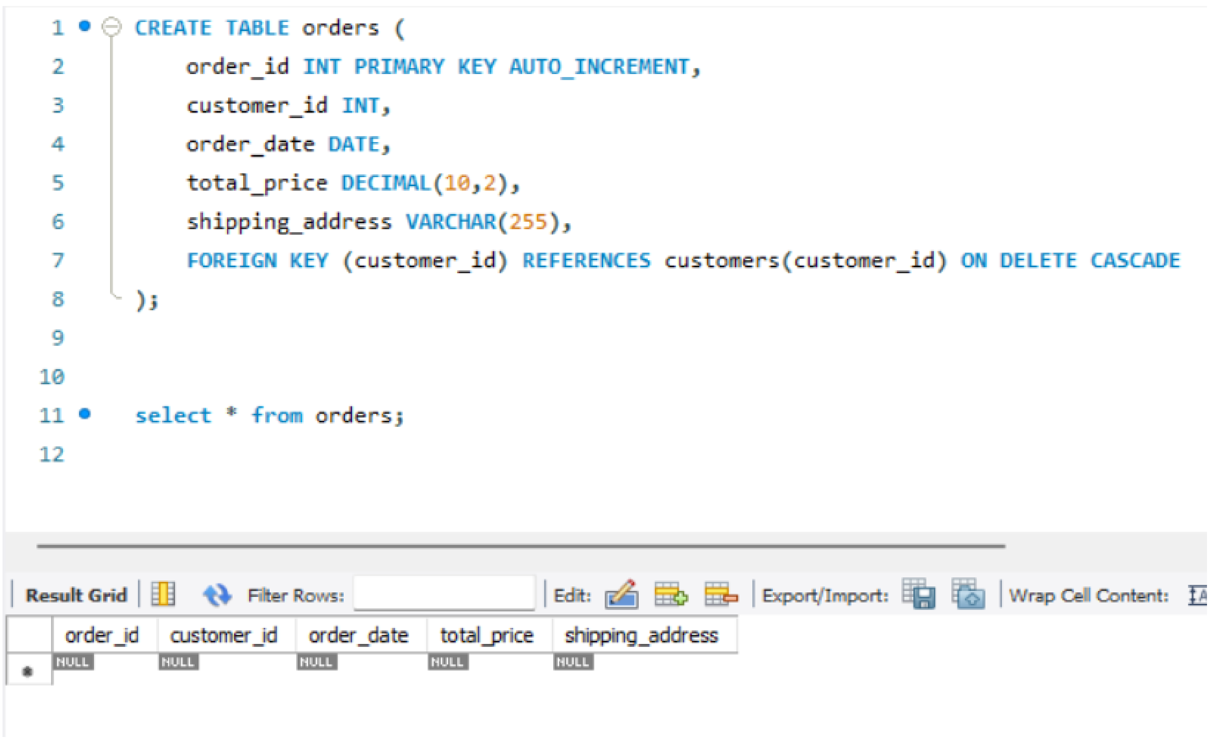


```
    cart_id INT PRIMARY KEY AUTO_INCREMENT,
    customer_id INT,
    product_id INT,
    quantity INT,
    FOREIGN KEY (customer_id) REFERENCES customers(customer_id) ON DELETE CASCADE,
    FOREIGN KEY (product_id) REFERENCES products(product_id) ON DELETE CASCADE
);

select * from cart;
```

cart_id	customer_id	product_id	quantity
NULL	NULL	NULL	NULL

4. *Select * from orders;*



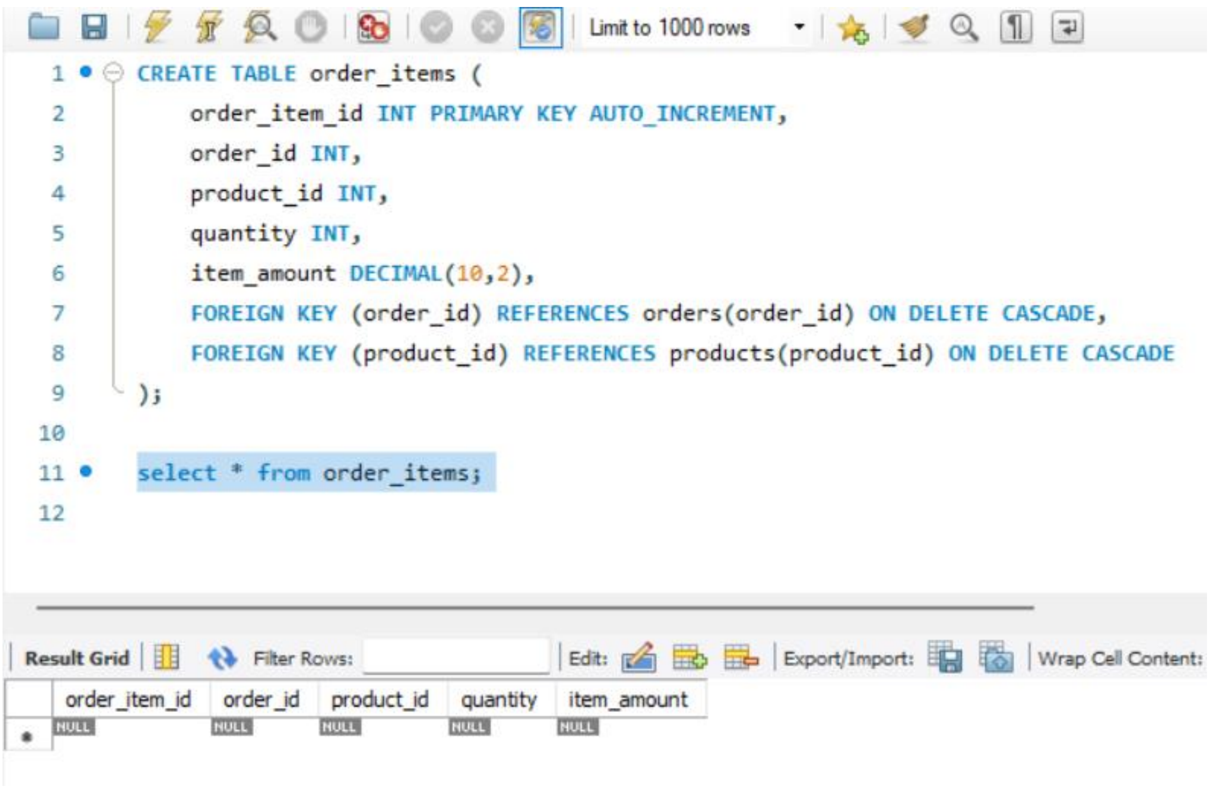
```
CREATE TABLE orders (
    order_id INT PRIMARY KEY AUTO_INCREMENT,
    customer_id INT,
    order_date DATE,
    total_price DECIMAL(10,2),
    shipping_address VARCHAR(255),
    FOREIGN KEY (customer_id) REFERENCES customers(customer_id) ON DELETE CASCADE
);


select * from orders;

```

order_id	customer_id	order_date	total_price	shipping_address
NULL	NULL	NULL	NULL	NULL

5. *Select * from order_items;*



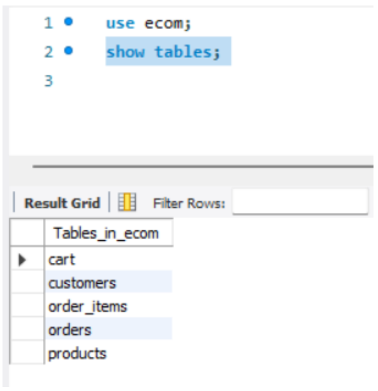
```
CREATE TABLE order_items (
    order_item_id INT PRIMARY KEY AUTO_INCREMENT,
    order_id INT,
    product_id INT,
    quantity INT,
    item_amount DECIMAL(10,2),
    FOREIGN KEY (order_id) REFERENCES orders(order_id) ON DELETE CASCADE,
    FOREIGN KEY (product_id) REFERENCES products(product_id) ON DELETE CASCADE
);

select * from order_items;

```

order_item_id	order_id	product_id	quantity	item_amount
NULL	NULL	NULL	NULL	NULL

Tables in Ecom Database:



```
use ecom;
show tables;
```

```
Tables_in_ecom
cart
customers
order_items
orders
products
```

c) Inserting Records into the Tables:

1. Insert data into Customers Table -

Query:

INSERT INTO customers (customer_id, first_name, last_name, email, address) VALUES

(1, 'John', 'Doe', 'johndoe@example.com', '123 Main St, City'),

(2, 'Jane', 'Smith', 'janesmith@example.com', '456 Elm St, Town'),

(3, 'Robert', 'Johnson', 'robert@example.com', '789 Oak St, Village'),

(4, 'Sarah', 'Brown', 'sarah@example.com', '101 Pine St, Suburb'),

(5, 'David', 'Lee', 'david@example.com', '234 Cedar St, District'),

(6, 'Laura', 'Hall', 'laura@example.com', '567 Birch St, County'),

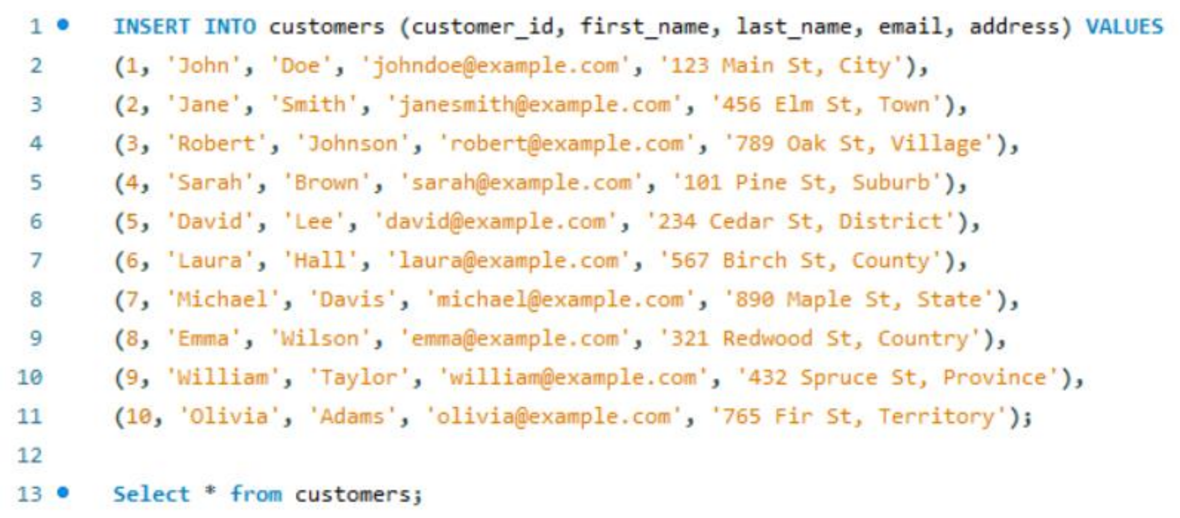
(7, 'Michael', 'Davis', 'michael@example.com', '890 Maple St, State'),

(8, 'Emma', 'Wilson', 'emma@example.com', '321 Redwood St, Country'),

(9, 'William', 'Taylor', 'william@example.com', '432 Spruce St, Province'),

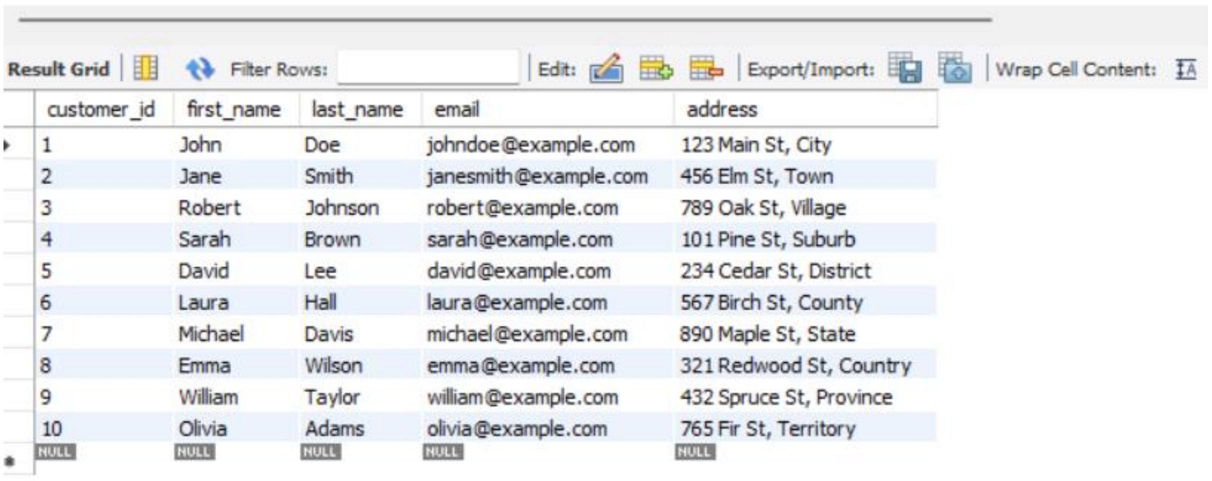
(10, 'Olivia', 'Adams', 'olivia@example.com', '765 Fir St, Territory');

Output:



```
INSERT INTO customers (customer_id, first_name, last_name, email, address) VALUES
(1, 'John', 'Doe', 'johndoe@example.com', '123 Main St, City'),
(2, 'Jane', 'Smith', 'janesmith@example.com', '456 Elm St, Town'),
(3, 'Robert', 'Johnson', 'robert@example.com', '789 Oak St, Village'),
(4, 'Sarah', 'Brown', 'sarah@example.com', '101 Pine St, Suburb'),
(5, 'David', 'Lee', 'david@example.com', '234 Cedar St, District'),
(6, 'Laura', 'Hall', 'laura@example.com', '567 Birch St, County'),
(7, 'Michael', 'Davis', 'michael@example.com', '890 Maple St, State'),
(8, 'Emma', 'Wilson', 'emma@example.com', '321 Redwood St, Country'),
(9, 'William', 'Taylor', 'william@example.com', '432 Spruce St, Province'),
(10, 'Olivia', 'Adams', 'olivia@example.com', '765 Fir St, Territory');

Select * from customers;
```



customer_id	first_name	last_name	email	address
1	John	Doe	johndoe@example.com	123 Main St, City
2	Jane	Smith	janesmith@example.com	456 Elm St, Town
3	Robert	Johnson	robert@example.com	789 Oak St, Village
4	Sarah	Brown	sarah@example.com	101 Pine St, Suburb
5	David	Lee	david@example.com	234 Cedar St, District
6	Laura	Hall	laura@example.com	567 Birch St, County
7	Michael	Davis	michael@example.com	890 Maple St, State
8	Emma	Wilson	emma@example.com	321 Redwood St, Country
9	William	Taylor	william@example.com	432 Spruce St, Province
10	Olivia	Adams	olivia@example.com	765 Fir St, Territory
NULL	NULL	NULL	NULL	NULL

2. **Insert data into products table –**

Query:

INSERT INTO products (product_id, name, description, price, stockQuantity) VALUES

(1, 'Laptop', 'High-performance laptop', 800.00, 10),

(2, 'Smartphone', 'Latest smartphone', 600.00, 15),

(3, 'Tablet', 'Portable tablet', 300.00, 20),

(4, 'Headphones', 'Noise-canceling', 150.00, 30),

(5, 'TV', '4K Smart TV', 900.00, 5),

(6, 'Coffee Maker', 'Automatic coffee maker', 50.00, 25),

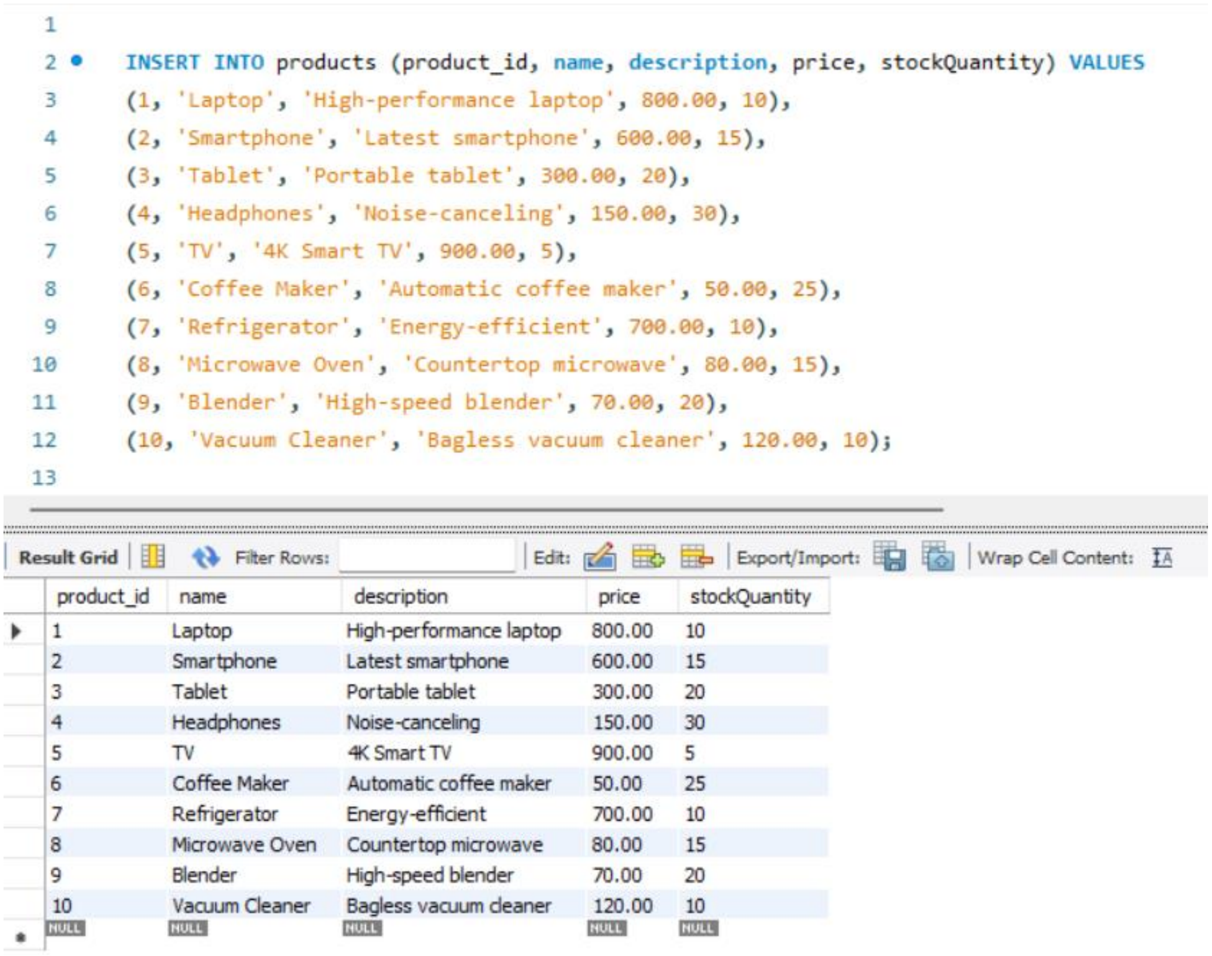
(7, 'Refrigerator', 'Energy-efficient', 700.00, 10),

(8, 'Microwave Oven', 'Countertop microwave', 80.00, 15),

(9, 'Blender', 'High-speed blender', 70.00, 20),

(10, 'Vacuum Cleaner', 'Bagless vacuum cleaner', 120.00, 10);

Output:



```
INSERT INTO products (product_id, name, description, price, stockQuantity) VALUES
(1, 'Laptop', 'High-performance laptop', 800.00, 10),
(2, 'Smartphone', 'Latest smartphone', 600.00, 15),
(3, 'Tablet', 'Portable tablet', 300.00, 20),
(4, 'Headphones', 'Noise-canceling', 150.00, 30),
(5, 'TV', '4K Smart TV', 900.00, 5),
(6, 'Coffee Maker', 'Automatic coffee maker', 50.00, 25),
(7, 'Refrigerator', 'Energy-efficient', 700.00, 10),
(8, 'Microwave Oven', 'Countertop microwave', 80.00, 15),
(9, 'Blender', 'High-speed blender', 70.00, 20),
(10, 'Vacuum Cleaner', 'Bagless vacuum cleaner', 120.00, 10);
```

product_id	name	description	price	stockQuantity
1	Laptop	High-performance laptop	800.00	10
2	Smartphone	Latest smartphone	600.00	15
3	Tablet	Portable tablet	300.00	20
4	Headphones	Noise-canceling	150.00	30
5	TV	4K Smart TV	900.00	5
6	Coffee Maker	Automatic coffee maker	50.00	25
7	Refrigerator	Energy-efficient	700.00	10
8	Microwave Oven	Countertop microwave	80.00	15
9	Blender	High-speed blender	70.00	20
10	Vacuum Cleaner	Bagless vacuum cleaner	120.00	10
NULL	NULL	NULL	NULL	NULL

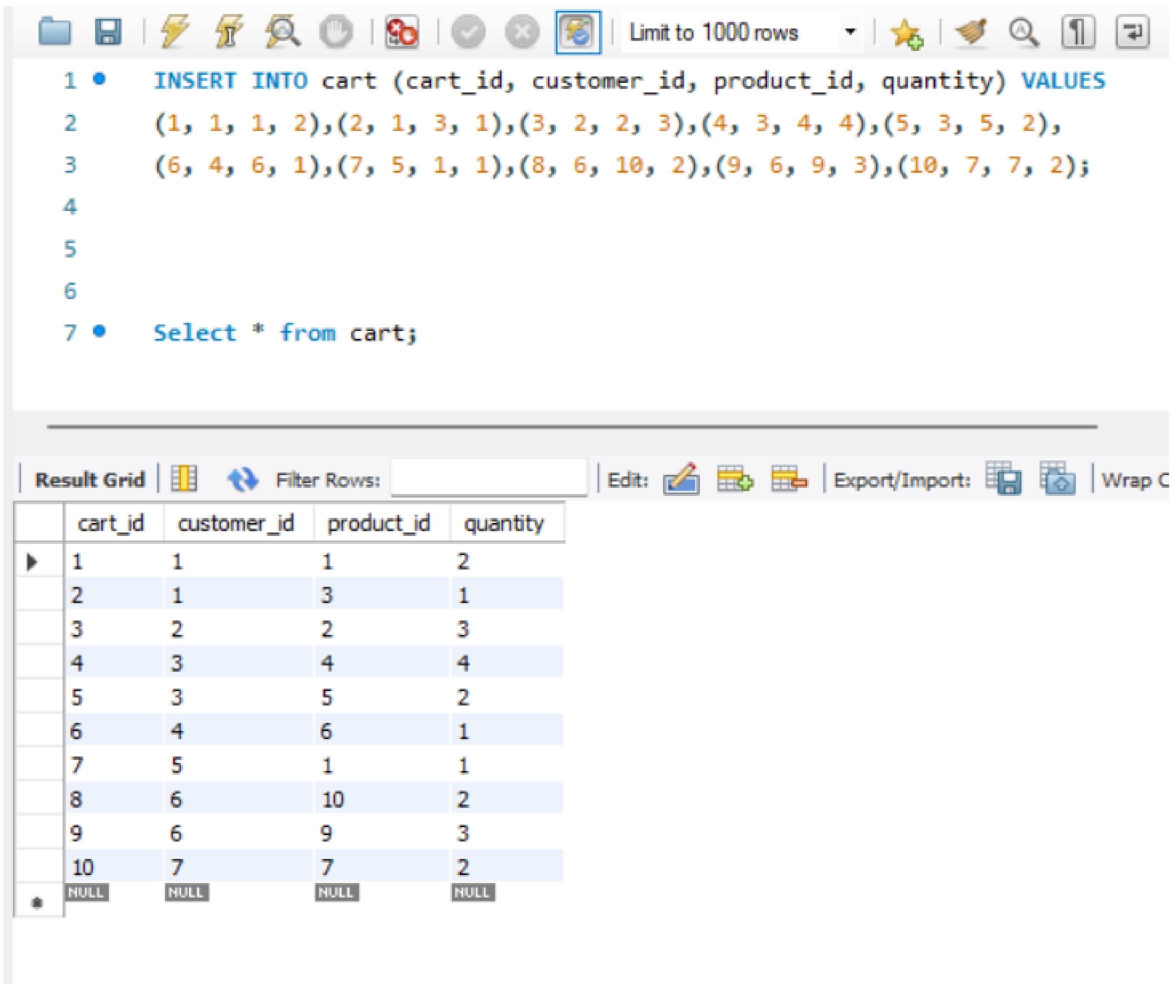
3. **Insert data into cart table –**

Query:

INSERT INTO cart (cart_id, customer_id, product_id, quantity) VALUES

(1, 1, 1, 2),(2, 1, 3, 1),(3, 2, 2, 3),(4, 3, 4, 4),(5, 3, 5, 2),(6, 4, 6, 1),(7, 5, 1, 1),(8, 6, 10, 2),(9, 6, 9, 3),(10, 7, 7, 2);

Output:



```
INSERT INTO cart (cart_id, customer_id, product_id, quantity) VALUES
(1, 1, 1, 2),(2, 1, 3, 1),(3, 2, 2, 3),(4, 3, 4, 4),(5, 3, 5, 2),
(6, 4, 6, 1),(7, 5, 1, 1),(8, 6, 10, 2),(9, 6, 9, 3),(10, 7, 7, 2);



Select * from cart;
```

cart_id	customer_id	product_id	quantity
1	1	1	2
2	1	3	1
3	2	2	3
4	3	4	4
5	3	5	2
6	4	6	1
7	5	1	1
8	6	10	2
9	6	9	3
10	7	7	2
NULL	NULL	NULL	NULL

4. **Insert data into orders table –**

Query:

INSERT INTO orders (order_id, customer_id, order_date, total_price, shipping_address) VALUES

(1, 1, '2023-01-05', 1200.00, '123 Main St, City'),

(2, 2, '2023-02-10', 900.00, '456 Elm St, Town'),

(3, 3, '2023-03-15', 300.00, '789 Oak St, Village'),

(4, 4, '2023-04-20', 150.00, '101 Pine St, Suburb'),

(5, 5, '2023-05-25', 1800.00, '234 Cedar St, District'),

(6, 6, '2023-06-30', 400.00, '567 Birch St, County'),

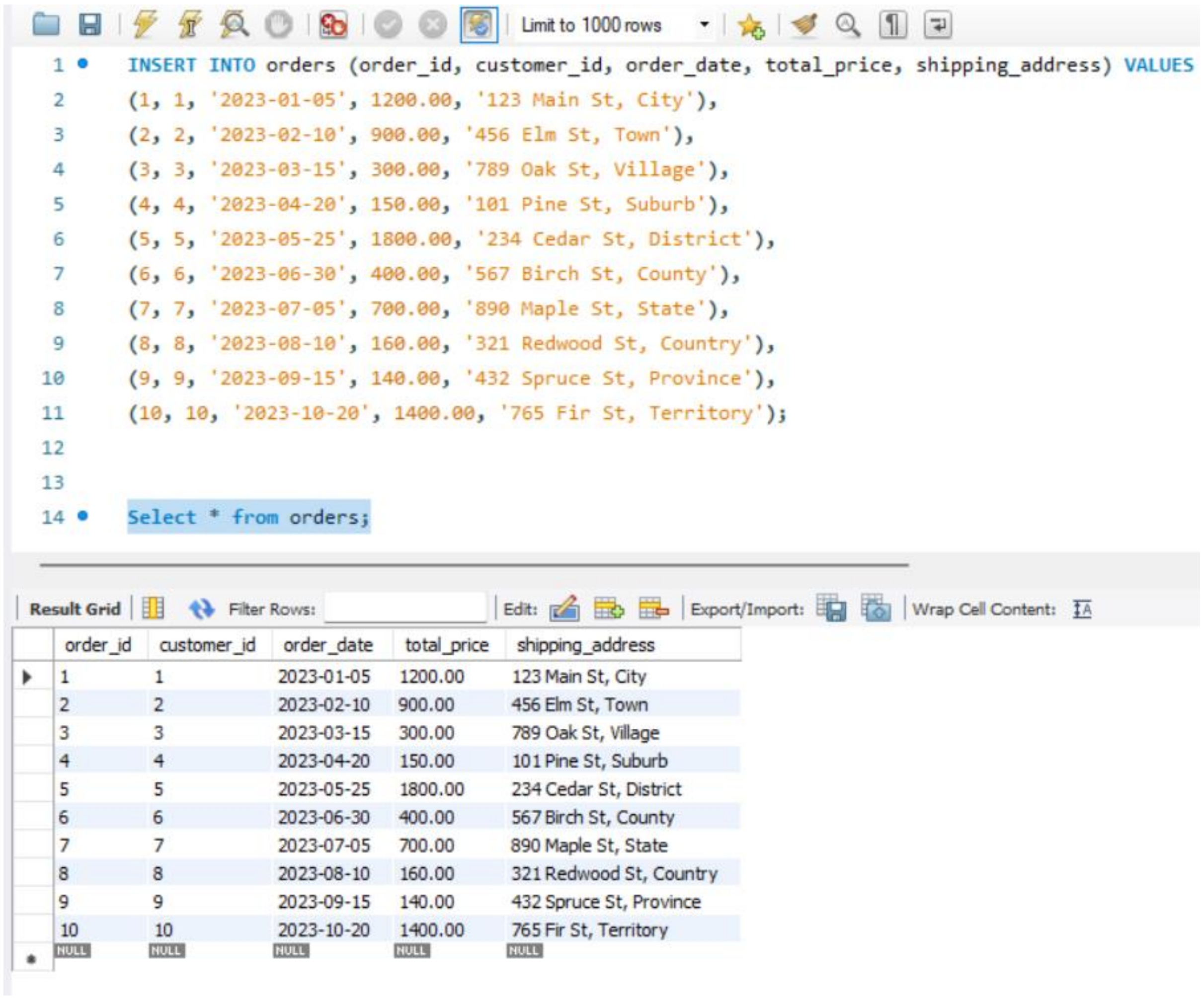
(7, 7, '2023-07-05', 700.00, '890 Maple St, State'),

(8, 8, '2023-08-10', 160.00, '321 Redwood St, Country'),

(9, 9, '2023-09-15', 140.00, '432 Spruce St, Province'),

(10, 10, '2023-10-20', 1400.00, '765 Fir St, Territory');

Output:



```
INSERT INTO orders (order_id, customer_id, order_date, total_price, shipping_address) VALUES
(1, 1, '2023-01-05', 1200.00, '123 Main St, City'),
(2, 2, '2023-02-10', 900.00, '456 Elm St, Town'),
(3, 3, '2023-03-15', 300.00, '789 Oak St, Village'),
(4, 4, '2023-04-20', 150.00, '101 Pine St, Suburb'),
(5, 5, '2023-05-25', 1800.00, '234 Cedar St, District'),
(6, 6, '2023-06-30', 400.00, '567 Birch St, County'),
(7, 7, '2023-07-05', 700.00, '890 Maple St, State'),
(8, 8, '2023-08-10', 160.00, '321 Redwood St, Country'),
(9, 9, '2023-09-15', 140.00, '432 Spruce St, Province'),
(10, 10, '2023-10-20', 1400.00, '765 Fir St, Territory');


Select * from orders;
```

order_id	customer_id	order_date	total_price	shipping_address
1	1	2023-01-05	1200.00	123 Main St, City
2	2	2023-02-10	900.00	456 Elm St, Town
3	3	2023-03-15	300.00	789 Oak St, Village
4	4	2023-04-20	150.00	101 Pine St, Suburb
5	5	2023-05-25	1800.00	234 Cedar St, District
6	6	2023-06-30	400.00	567 Birch St, County
7	7	2023-07-05	700.00	890 Maple St, State
8	8	2023-08-10	160.00	321 Redwood St, Country
9	9	2023-09-15	140.00	432 Spruce St, Province
10	10	2023-10-20	1400.00	765 Fir St, Territory
NULL	NULL	NULL	NULL	NULL

5. **Insert data into order_items table –**

Query:

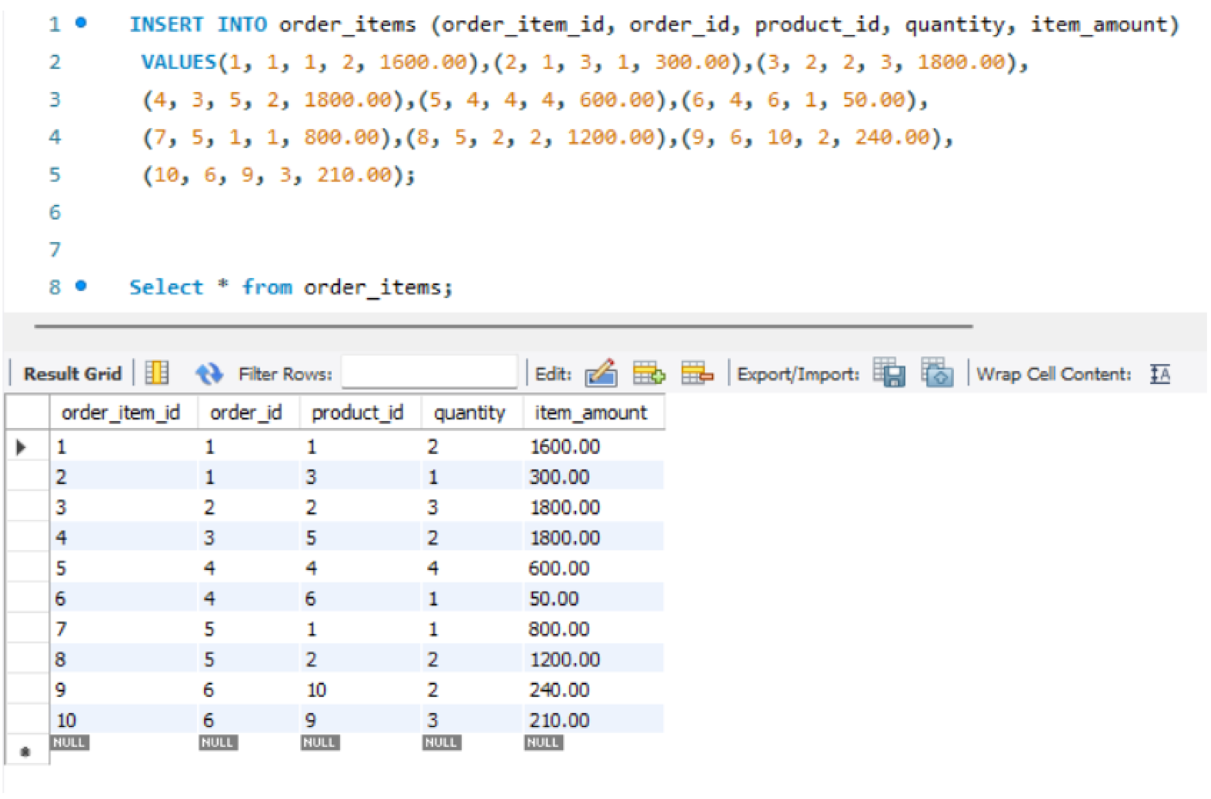
INSERT INTO order_items (order_item_id, order_id, product_id, quantity, item_amount) VALUES

(1, 1, 1, 2, 1600.00),(2, 1, 3, 1, 300.00),(3, 2, 2, 3, 1800.00),(4, 3, 5, 2, 1800.00),

(5, 4, 4, 4, 600.00),(6, 4, 6, 1, 50.00),(7, 5, 1, 1, 800.00),(8, 5, 2, 2, 1200.00),

(9, 6, 10, 2, 240.00),(10, 6, 9, 3, 210.00);

Output:



```sql
INSERT INTO order_items (order_item_id, order_id, product_id, quantity, item_amount)
 VALUES(1, 1, 1, 2, 1600.00),(2, 1, 3, 1, 300.00),(3, 2, 2, 3, 1800.00),
 (4, 3, 5, 2, 1800.00),(5, 4, 4, 4, 600.00),(6, 4, 6, 1, 50.00),
 (7, 5, 1, 1, 800.00),(8, 5, 2, 2, 1200.00),(9, 6, 10, 2, 240.00),
 (10, 6, 9, 3, 210.00);


Select * from order_items;
```

order_item_id	order_id	product_id	quantity	item_amount
1	1	1	2	1600.00
2	1	3	1	300.00
3	2	2	3	1800.00
4	3	5	2	1800.00
5	4	4	4	600.00
6	4	6	1	50.00
7	5	1	1	800.00
8	5	2	2	1200.00
9	6	10	2	240.00
10	6	9	3	210.00
NULL	NULL	NULL	NULL	NULL

d) SQL CHALLENGES:

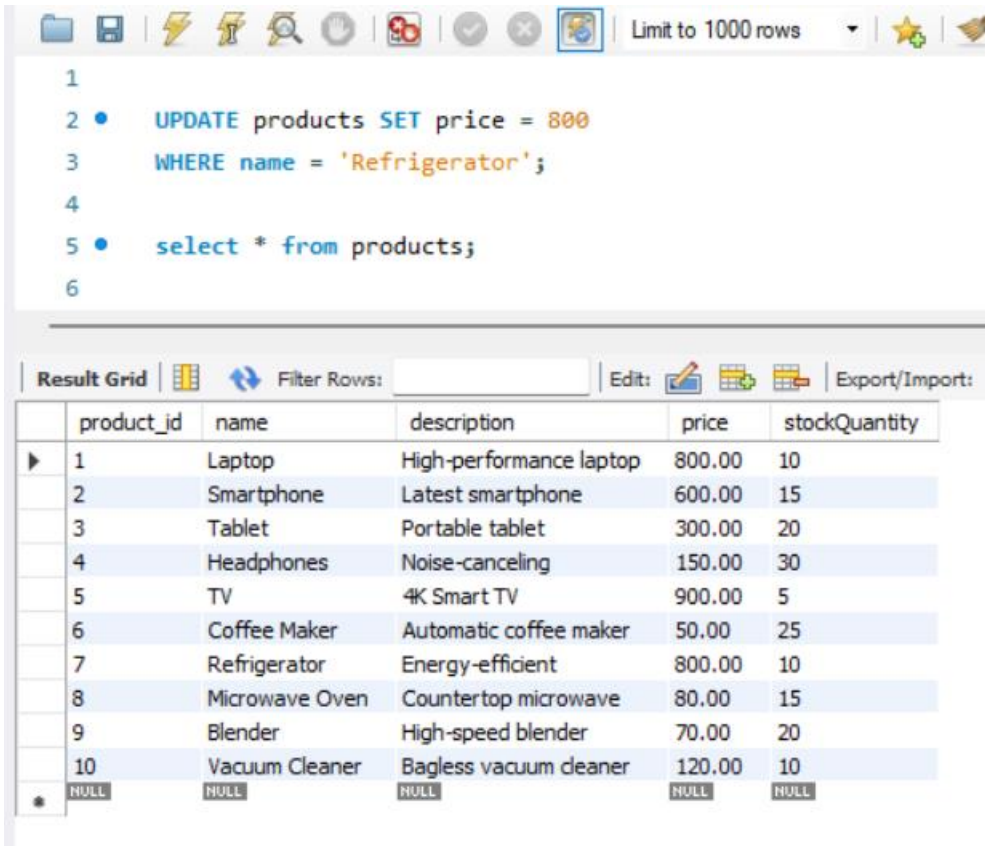
1. **Update refrigerator product price to 800.**

Query:

UPDATE products SET price = 800

WHERE name = 'Refrigerator';

Result:



```
UPDATE products SET price = 800
WHERE name = 'Refrigerator';

select * from products;
```

product_id	name	description	price	stockQuantity
1	Laptop	High-performance laptop	800.00	10
2	Smartphone	Latest smartphone	600.00	15
3	Tablet	Portable tablet	300.00	20
4	Headphones	Noise-canceling	150.00	30
5	TV	4K Smart TV	900.00	5
6	Coffee Maker	Automatic coffee maker	50.00	25
7	Refrigerator	Energy-efficient	800.00	10
8	Microwave Oven	Countertop microwave	80.00	15
9	Blender	High-speed blender	70.00	20
10	Vacuum Cleaner	Bagless vacuum cleaner	120.00	10
NULL	NULL	NULL	NULL	NULL

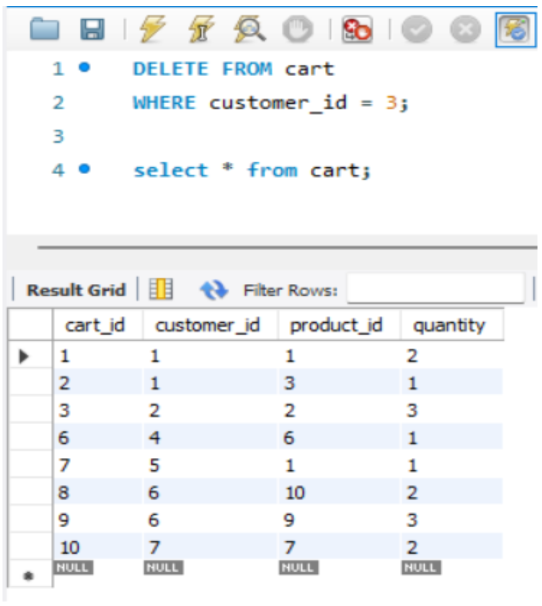
2. **Remove all cart items for a specific customer. (eg : Customer_id = 3)**

Query:

DELETE FROM cart WHERE customer_id = 3;

Result:

Note: Removing all cart items for Customer – 3.



```
DELETE FROM cart
WHERE customer_id = 3;

select * from cart;
```

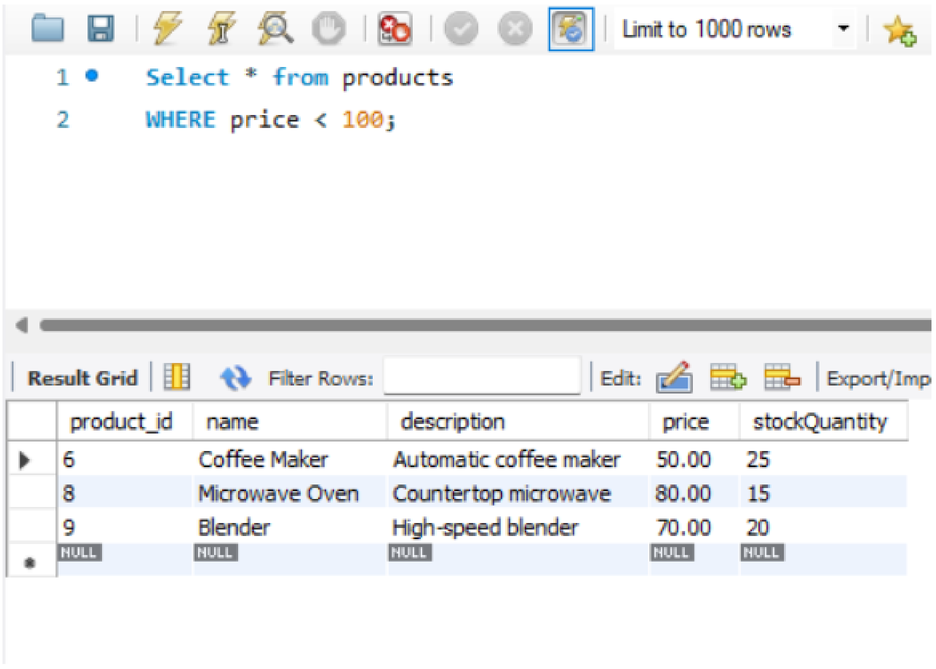
cart_id	customer_id	product_id	quantity
1	1	1	2
2	1	3	1
3	2	2	3
6	4	6	1
7	5	1	1
8	6	10	2
9	6	9	3
10	7	7	2
NULL	NULL	NULL	NULL

3. **Retrieve Products Priced Below $100.**

Query:

*Select * from products WHERE price < 100;*

Result:



```
Select * from products
WHERE price < 100;
```

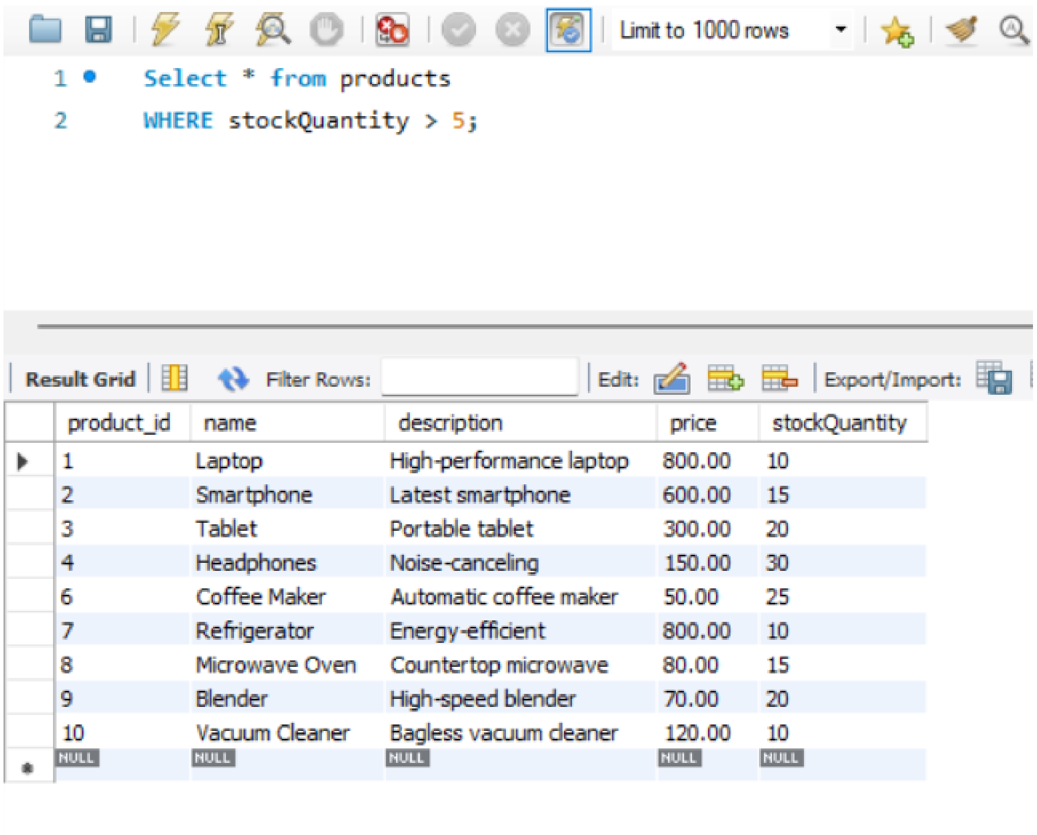
product_id	name	description	price	stockQuantity
6	Coffee Maker	Automatic coffee maker	50.00	25
8	Microwave Oven	Countertop microwave	80.00	15
9	Blender	High-speed blender	70.00	20
NULL	NULL	NULL	NULL	NULL

4. **Find Products with Stock Quantity Greater Than 5.**

Query:

*Select * from products WHERE stockQuantity > 5;*

Result:



```
Select * from products
WHERE stockQuantity > 5;
```

product_id	name	description	price	stockQuantity
1	Laptop	High-performance laptop	800.00	10
2	Smartphone	Latest smartphone	600.00	15
3	Tablet	Portable tablet	300.00	20
4	Headphones	Noise-canceling	150.00	30
6	Coffee Maker	Automatic coffee maker	50.00	25
7	Refrigerator	Energy-efficient	800.00	10
8	Microwave Oven	Countertop microwave	80.00	15
9	Blender	High-speed blender	70.00	20
10	Vacuum Cleaner	Bagless vacuum cleaner	120.00	10
NULL	NULL	NULL	NULL	NULL

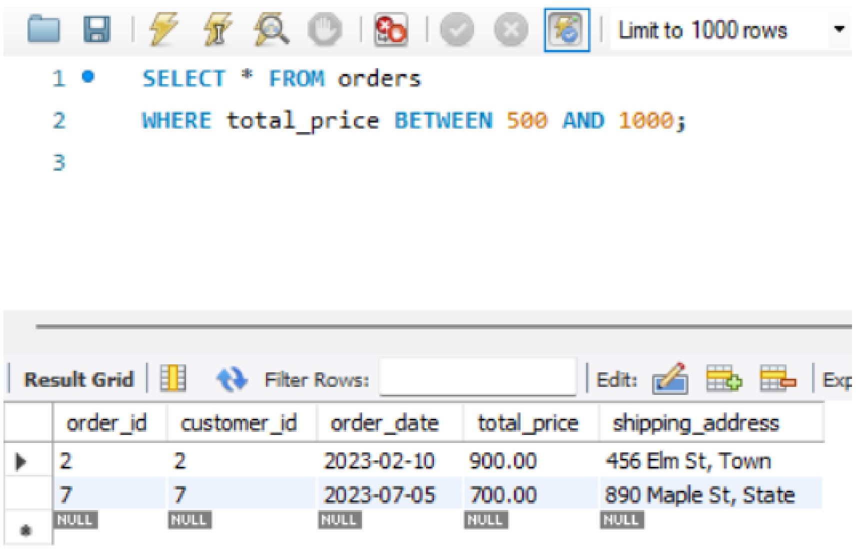
5. **Retrieve Orders with Total Amount Between $500 and $1000.**

Query:

*SELECT * FROM orders*

WHERE total_price BETWEEN 500 AND 1000;

Result:



```
SELECT * FROM orders
WHERE total_price BETWEEN 500 AND 1000;
```

order_id	customer_id	order_date	total_price	shipping_address
2	2	2023-02-10	900.00	456 Elm St, Town
7	7	2023-07-05	700.00	890 Maple St, State
NULL	NULL	NULL	NULL	NULL

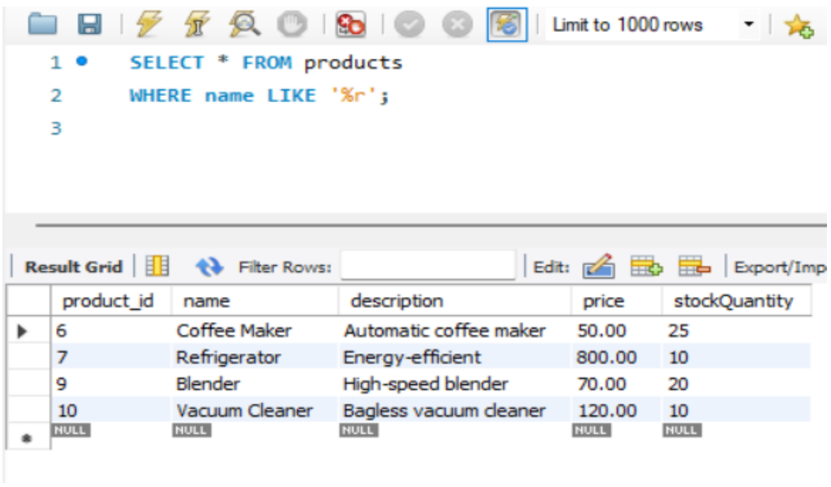
6. **Find Products which name end with letter 'r'.**

Query:

*SELECT * FROM products*

WHERE name LIKE '%r';

Result:



Limit to 1000 rows

```
SELECT * FROM products
WHERE name LIKE '%r';
```

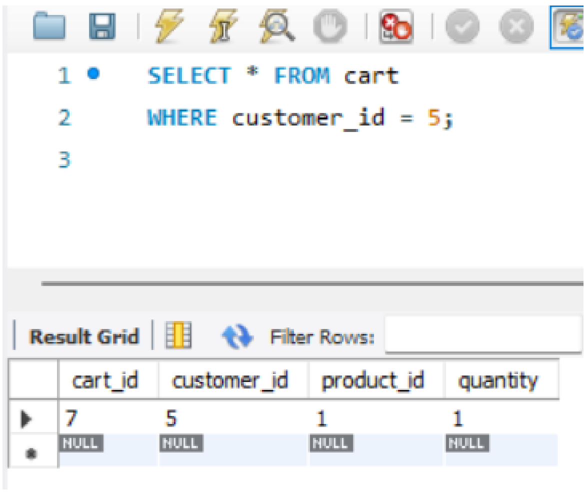
product_id	name	description	price	stockQuantity
6	Coffee Maker	Automatic coffee maker	50.00	25
7	Refrigerator	Energy-efficient	800.00	10
9	Blender	High-speed blender	70.00	20
10	Vacuum Cleaner	Bagless vacuum cleaner	120.00	10
NULL	NULL	NULL	NULL	NULL

7. **Retrieve Cart Items for Customer 5.**

Query:

*SELECT * FROM cart WHERE customer_id = 5;*

Result:



```
SELECT * FROM cart
WHERE customer_id = 5;
```

cart_id	customer_id	product_id	quantity
7	5	1	1
NULL	NULL	NULL	NULL

8. Find Customers Who Placed Orders in 2023.

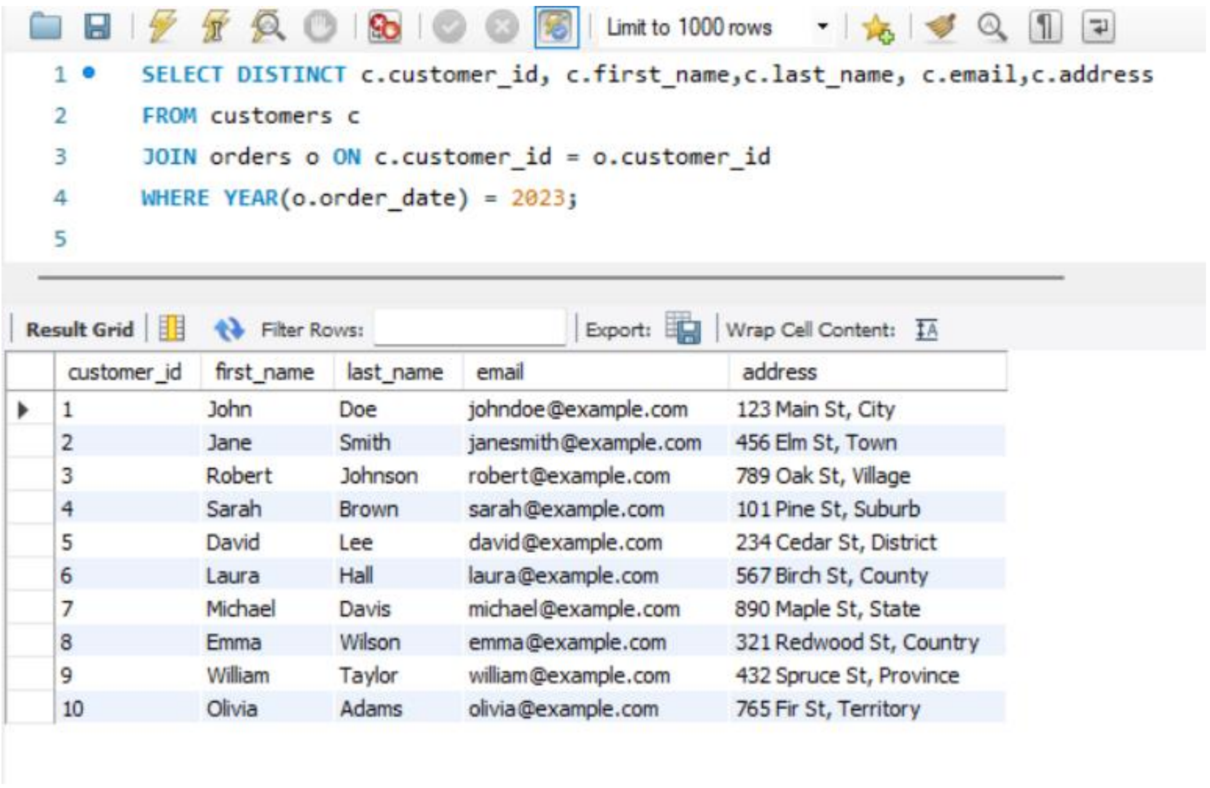
Query:

SELECT DISTINCT c.customer_id, c.first_name,c.last_name, c.email,c.address FROM customers c

JOIN orders o ON c.customer_id = o.customer_id

WHERE YEAR(o.order_date) = 2023;

Result:



Limit to 1000 rows

```
SELECT DISTINCT c.customer_id, c.first_name,c.last_name, c.email,c.address
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
WHERE YEAR(o.order_date) = 2023;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer_id	first_name	last_name	email	address
1	John	Doe	johndoe@example.com	123 Main St, City
2	Jane	Smith	janesmith@example.com	456 Elm St, Town
3	Robert	Johnson	robert@example.com	789 Oak St, Village
4	Sarah	Brown	sarah@example.com	101 Pine St, Suburb
5	David	Lee	david@example.com	234 Cedar St, District
6	Laura	Hall	laura@example.com	567 Birch St, County
7	Michael	Davis	michael@example.com	890 Maple St, State
8	Emma	Wilson	emma@example.com	321 Redwood St, Country
9	William	Taylor	william@example.com	432 Spruce St, Province
10	Olivia	Adams	olivia@example.com	765 Fir St, Territory

9. Determine the Minimum Stock Quantity for Each Product Category.

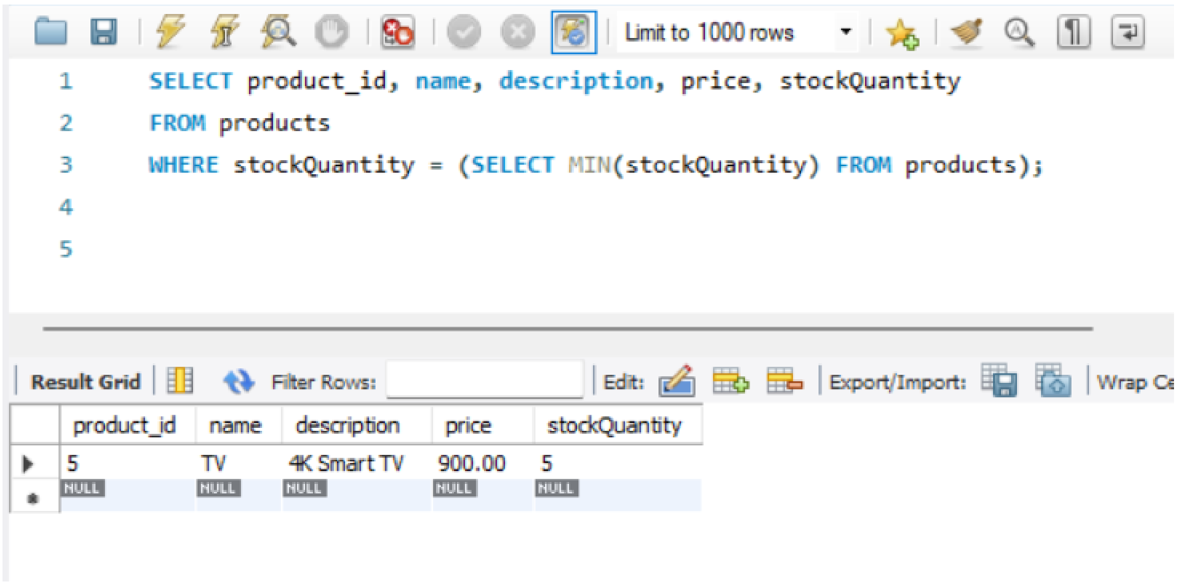
Query:

SELECT product_id, name, description, price, stockQuantity

FROM products

WHERE stockQuantity = (SELECT MIN(stockQuantity) FROM products);

Result:



```
SELECT product_id, name, description, price, stockQuantity
FROM products
WHERE stockQuantity = (SELECT MIN(stockQuantity) FROM products);
```

product_id	name	description	price	stockQuantity
5	TV	4K Smart TV	900.00	5
NULL	NULL	NULL	NULL	NULL

10.Calculate the Total Amount Spent by Each Customer.

Query:

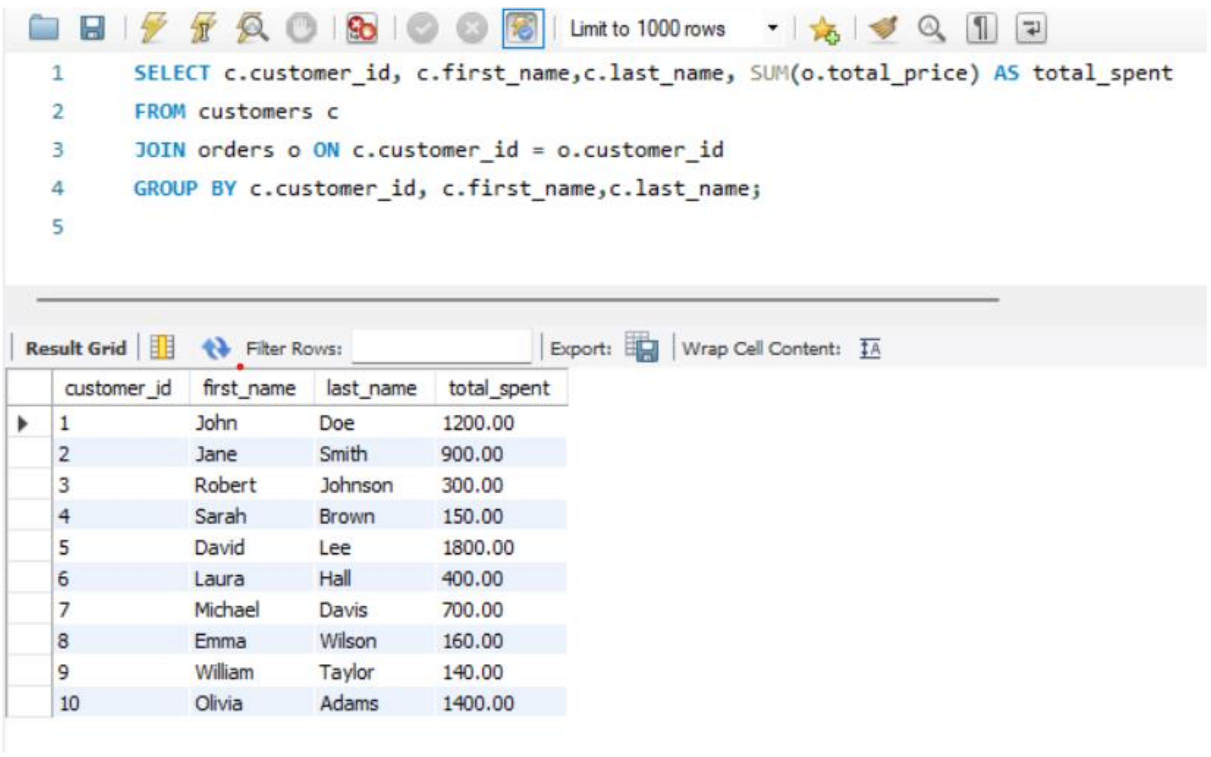
SELECT c.customer_id, c.first_name,c.last_name, SUM(o.total_price) AS total_spent

FROM customers c

JOIN orders o ON c.customer_id = o.customer_id

GROUP BY c.customer_id, , c.first_name,c.last_name;

Result:



```
SELECT c.customer_id, c.first_name,c.last_name, SUM(o.total_price) AS total_spent
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
GROUP BY c.customer_id, c.first_name,c.last_name;
```

customer_id	first_name	last_name	total_spent
1	John	Doe	1200.00
2	Jane	Smith	900.00
3	Robert	Johnson	300.00
4	Sarah	Brown	150.00
5	David	Lee	1800.00
6	Laura	Hall	400.00
7	Michael	Davis	700.00
8	Emma	Wilson	160.00
9	William	Taylor	140.00
10	Olivia	Adams	1400.00

11.Find the Average Order Amount for Each Customer.

Query:

SELECT c.customer_id, c.first_name,c.last_name, AVG(o.total_price) AS avg_order_amount

FROM customers c

JOIN orders o ON c.customer_id = o.customer_id

GROUP BY c.customer_id;

Result:

12.Count the Number of Orders Placed by Each Customer.

Query:

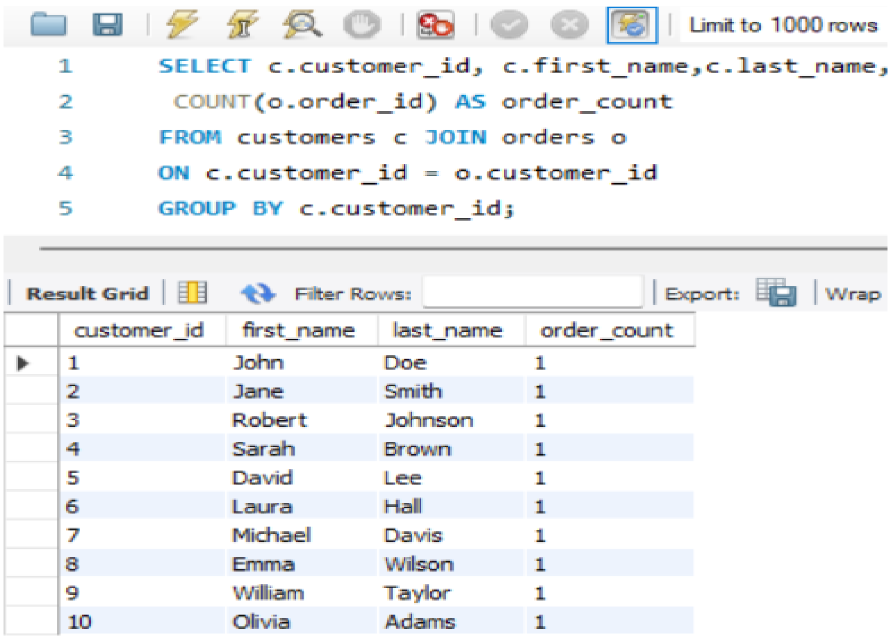
SELECT c.customer_id, c.first_name,c.last_name,

COUNT(o.order_id) AS order_count

FROM customers c JOIN orders o ON c.customer_id = o.customer_id

GROUP BY c.customer_id;

Result:



```
SELECT c.customer_id, c.first_name,c.last_name,
 COUNT(o.order_id) AS order_count
FROM customers c JOIN orders o
ON c.customer_id = o.customer_id
GROUP BY c.customer_id;
```

customer_id	first_name	last_name	order_count
1	John	Doe	1
2	Jane	Smith	1
3	Robert	Johnson	1
4	Sarah	Brown	1
5	David	Lee	1
6	Laura	Hall	1
7	Michael	Davis	1
8	Emma	Wilson	1
9	William	Taylor	1
10	Olivia	Adams	1

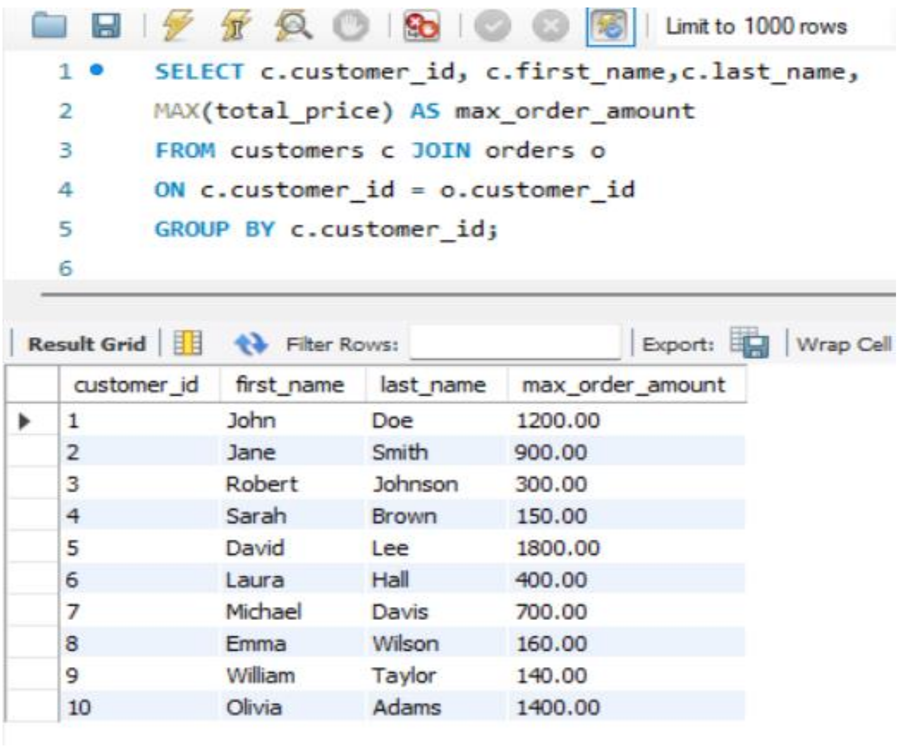
13.Find the Maximum Order Amount for Each Customer

Query:

SELECT c.customer_id, c.first_name,c.last_name, MAX(total_price) AS max_order_amount FROM customers c JOIN orders o

ON c.customer_id = o.customer_id GROUP BY c.customer_id;

Result:



```
SELECT c.customer_id, c.first_name,c.last_name,
MAX(total_price) AS max_order_amount
FROM customers c JOIN orders o
ON c.customer_id = o.customer_id
GROUP BY c.customer_id;
```

customer_id	first_name	last_name	max_order_amount
1	John	Doe	1200.00
2	Jane	Smith	900.00
3	Robert	Johnson	300.00
4	Sarah	Brown	150.00
5	David	Lee	1800.00
6	Laura	Hall	400.00
7	Michael	Davis	700.00
8	Emma	Wilson	160.00
9	William	Taylor	140.00
10	Olivia	Adams	1400.00

14.Get Customers Who Placed Orders Totaling Over $1000.

Query:

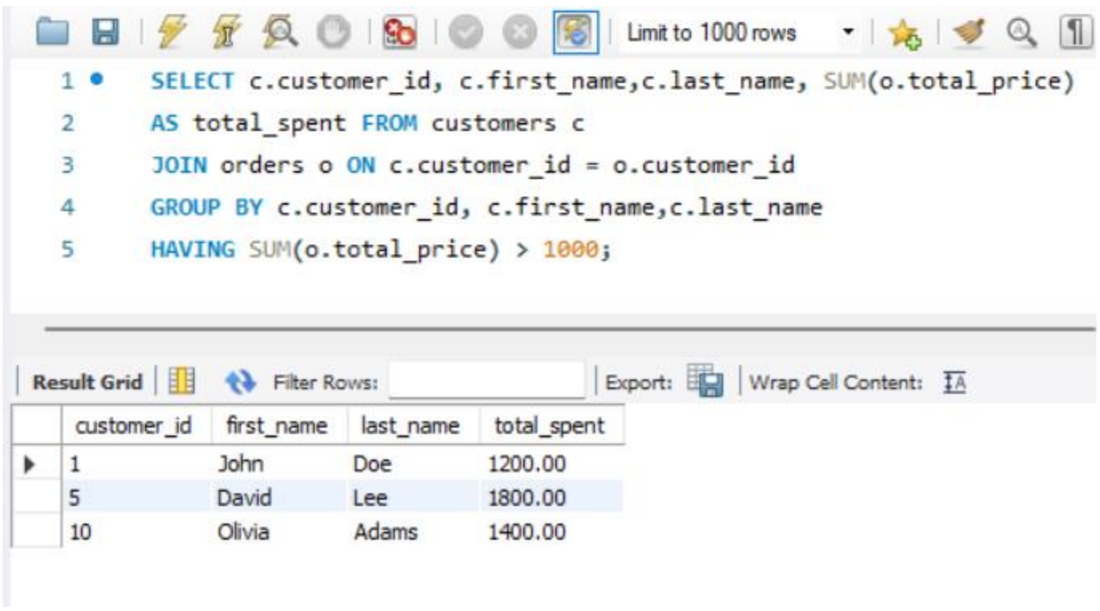
SELECT c.customer_id, c.first_name,c.last_name, SUM(o.total_price) AS total_spent FROM customers c

JOIN orders o ON c.customer_id = o.customer_id

GROUP BY c.customer_id, c.first_name,c.last_name

HAVING SUM(o.total_price) > 1000;

Result:



```
SELECT c.customer_id, c.first_name,c.last_name, SUM(o.total_price)
AS total_spent FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
GROUP BY c.customer_id, c.first_name,c.last_name
HAVING SUM(o.total_price) > 1000;
```

customer_id	first_name	last_name	total_spent
1	John	Doe	1200.00
5	David	Lee	1800.00
10	Olivia	Adams	1400.00

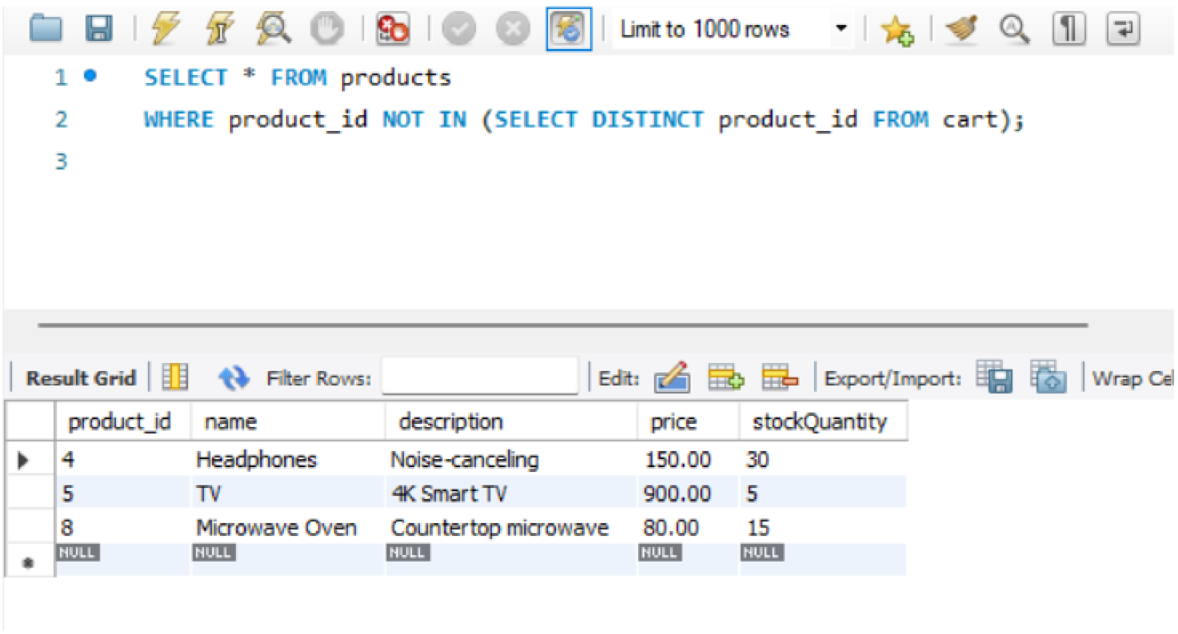
15.Subquery to Find Products Not in the Cart.

Query:

*SELECT * FROM products*

WHERE product_id NOT IN (SELECT DISTINCT product_id FROM cart);

Result:



```
SELECT * FROM products
WHERE product_id NOT IN (SELECT DISTINCT product_id FROM cart);
```

product_id	name	description	price	stockQuantity
4	Headphones	Noise-canceling	150.00	30
5	TV	4K Smart TV	900.00	5
8	Microwave Oven	Countertop microwave	80.00	15
NULL	NULL	NULL	NULL	NULL

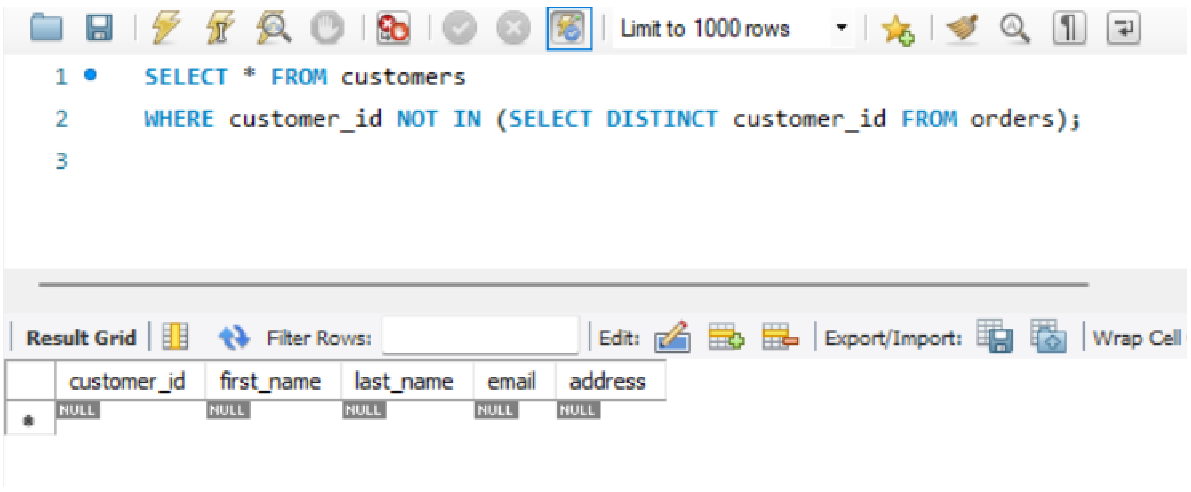
16.Subquery to Find Customers Who Haven't Placed Orders.

Query:

*SELECT * FROM customers*

WHERE customer_id NOT IN (SELECT DISTINCT customer_id FROM orders);

Result:



```
SELECT * FROM customers
WHERE customer_id NOT IN (SELECT DISTINCT customer_id FROM orders);
```

customer_id	first_name	last_name	email	address
NULL	NULL	NULL	NULL	NULL

17.Subquery to Calculate the Percentage of Total Revenue for a Product.

Query:

SELECT p.product_id, p.name,

*(SUM(oi.quantity * p.price) / (SELECT SUM(total_price) FROM orders) * 100) AS revenue_percentage*

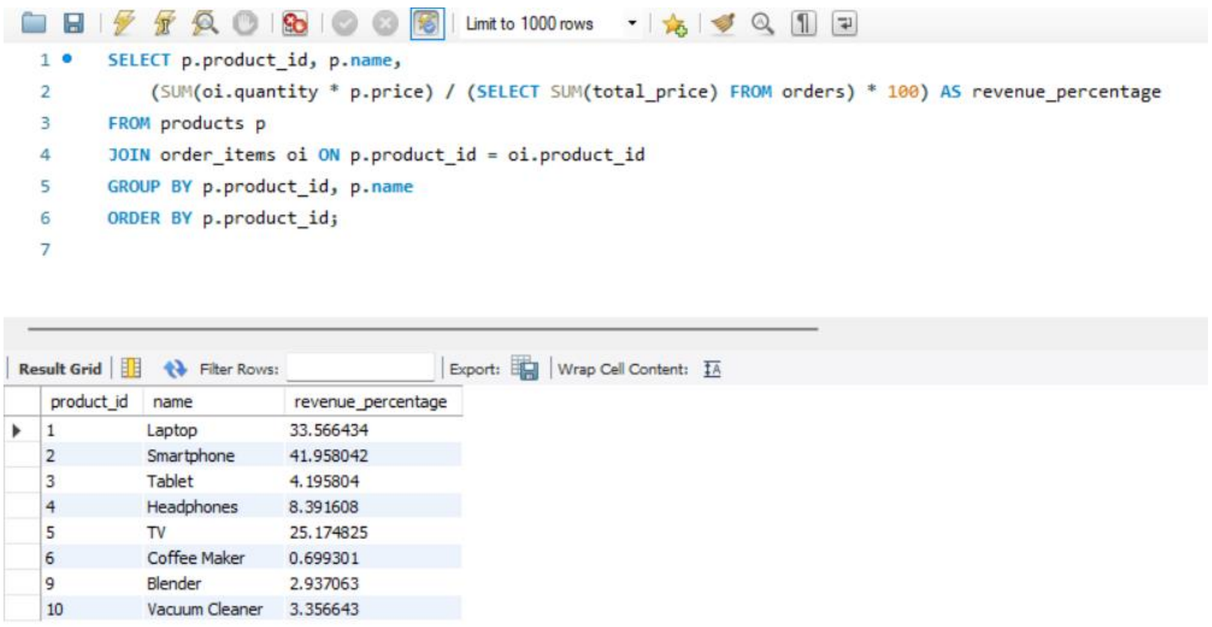
FROM products p

JOIN order_items oi ON p.product_id = oi.product_id

GROUP BY p.product_id, p.name

ORDER BY p.product_id;

Result:



Limit to 1000 rows

```
SELECT p.product_id, p.name,
    (SUM(oi.quantity * p.price) / (SELECT SUM(total_price) FROM orders) * 100) AS revenue_percentage
FROM products p
JOIN order_items oi ON p.product_id = oi.product_id
GROUP BY p.product_id, p.name
ORDER BY p.product_id;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

product_id	name	revenue_percentage
1	Laptop	33.566434
2	Smartphone	41.958042
3	Tablet	4.195804
4	Headphones	8.391608
5	TV	25.174825
6	Coffee Maker	0.699301
9	Blender	2.937063
10	Vacuum Cleaner	3.356643

18.Subquery to Find Products with Low Stock.

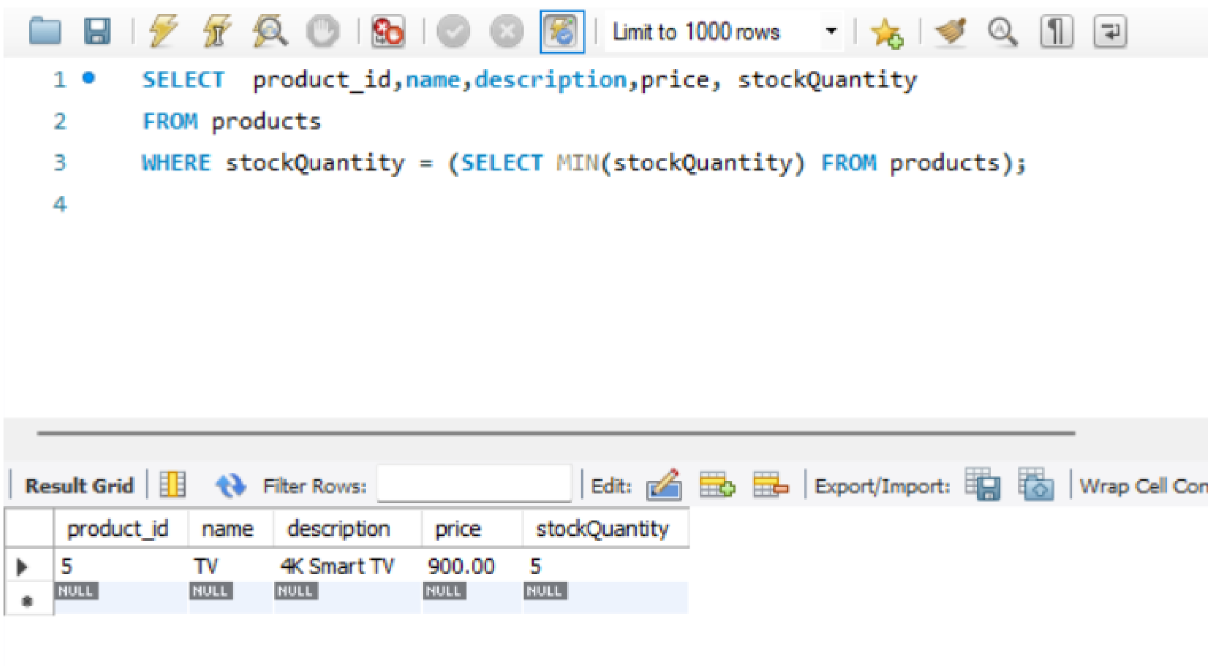
Query:

SELECT name, stockQuantity

FROM products

WHERE stockQuantity = (SELECT MIN(stockQuantity) FROM products);

Result:



```
SELECT  product_id,name,description,price, stockQuantity
FROM products
WHERE stockQuantity = (SELECT MIN(stockQuantity) FROM products);
```

product_id	name	description	price	stockQuantity
5	TV	4K Smart TV	900.00	5
NULL	NULL	NULL	NULL	NULL

19.Subquery to Find Customers Who Placed High-Value Orders.

Query:

SELECT customer_id, first_name,last_name, email

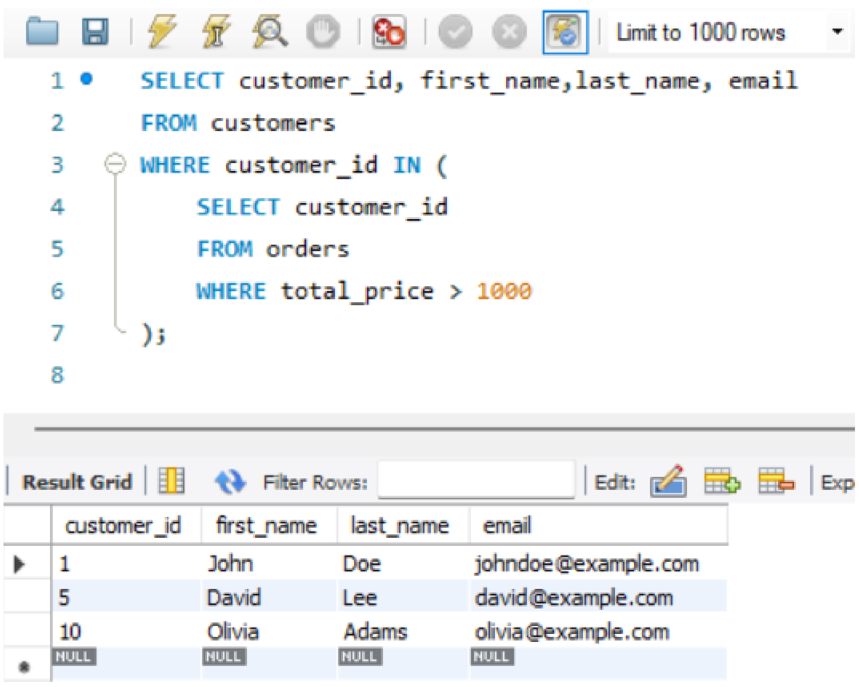
FROM customers

WHERE customer_id IN (SELECT customer_id FROM orders

WHERE total_price > 1000);

Result:

Note: Assuming that the Order Values which are above $1000 is considered as the High-Value orders.



```
SELECT customer_id, first_name,last_name, email
FROM customers
WHERE customer_id IN (
    SELECT customer_id
    FROM orders
    WHERE total_price > 1000
);
```

customer_id	first_name	last_name	email
1	John	Doe	johndoe@example.com
5	David	Lee	david@example.com
10	Olivia	Adams	olivia@example.com
NULL	NULL	NULL	NULL