

ASSIGNMENT-5

Ecommerce – SQL

```
MySQL 8.0 Command Line Client
mysql> use EcommerceSQL;
Database changed
mysql> CREATE TABLE customers (
  ->   customer_id INT PRIMARY KEY,
  ->   name VARCHAR(255),
  ->   email VARCHAR(255),
  ->   password VARCHAR(255)
  -> );
Query OK, 0 rows affected (4.14 sec)

mysql> CREATE TABLE products (
  ->   product_id INT PRIMARY KEY,
  ->   name VARCHAR(255),
  ->   price DECIMAL(10, 2),
  ->   description TEXT,
  ->   stockQuantity INT
  -> );
Query OK, 0 rows affected (3.15 sec)

mysql> CREATE TABLE cart (
  ->   cart_id INT PRIMARY KEY,
  ->   customer_id INT,
  ->   product_id INT,
  ->   quantity INT,
  ->   FOREIGN KEY (customer_id) REFERENCES customers(customer_id),
  ->   FOREIGN KEY (product_id) REFERENCES products(product_id)
  -> );
Query OK, 0 rows affected (2.79 sec)

mysql> CREATE TABLE orders (
  ->   order_id INT PRIMARY KEY,
  ->   customer_id INT,
  ->   order_date DATE,
  ->   total_price DECIMAL(10, 2),
  ->   shipping_address TEXT,
  ->   FOREIGN KEY (customer_id) REFERENCES customers(customer_id)
  -> );
Query OK, 0 rows affected (2.47 sec)

mysql> CREATE TABLE order_items (
  ->   order_item_id INT PRIMARY KEY,
  ->   order_id INT,
  ->   product_id INT,
  ->   quantity INT,
```

```
MySQL 8.0 Command Line Client
3 rows in set (0.00 sec)

mysql> create database EcommerceSQL;
Query OK, 1 row affected (2.99 sec)

mysql> use EcommerceSQL;
Database changed
mysql> CREATE TABLE customers (
  ->   customer_id INT PRIMARY KEY,
  ->   name VARCHAR(255),
  ->   email VARCHAR(255),
  ->   password VARCHAR(255)
  -> );
Query OK, 0 rows affected (4.14 sec)

mysql> CREATE TABLE products (
  ->   product_id INT PRIMARY KEY,
  ->   name VARCHAR(255),
  ->   price DECIMAL(10, 2),
  ->   description TEXT,
  ->   stockQuantity INT
  -> );
Query OK, 0 rows affected (3.15 sec)

mysql> CREATE TABLE cart (
  ->   cart_id INT PRIMARY KEY,
  ->   customer_id INT,
  ->   product_id INT,
  ->   quantity INT,
  ->   FOREIGN KEY (customer_id) REFERENCES customers(customer_id),
  ->   FOREIGN KEY (product_id) REFERENCES products(product_id)
  -> );
Query OK, 0 rows affected (2.79 sec)

mysql> CREATE TABLE orders (
  ->   order_id INT PRIMARY KEY,
  ->   customer_id INT,
  ->   order_date DATE,
  ->   total_price DECIMAL(10, 2),
  ->   shipping_address TEXT,
  ->   FOREIGN KEY (customer_id) REFERENCES customers(customer_id)
  -> );
Query OK, 0 rows affected (2.47 sec)
```

```
MySQL 8.0 Command Line Client
Query OK, 0 rows affected (2.47 sec)

mysql> CREATE TABLE order_items (
  ->   order_item_id INT PRIMARY KEY,
  ->   order_id INT,
  ->   product_id INT,
  ->   quantity INT,
  ->   FOREIGN KEY (order_id) REFERENCES orders(order_id),
  ->   FOREIGN KEY (product_id) REFERENCES products(product_id)
  -> );
Query OK, 0 rows affected (2.23 sec)

mysql> INSERT INTO products (product_id, name, price, description, stockQuantity)
  -> VALUES
  -> (1, 'Laptop', 800.00, 'High-performance laptop', 10),
  -> (2, 'Smartphone', 600.00, 'Latest smartphone', 15),
  -> (3, 'Tablet', 300.00, 'Portable Tablet', 20),
  -> (4, 'Headphones', 150.00, 'Noise-Canceling', 30),
  -> (5, 'TV', 900.00, '4K Smart TV', 5),
  -> (6, 'Coffee Maker', 50.00, 'Automatic Coffee Maker', 25),
  -> (7, 'Refrigerator', 700.00, 'Energy-Efficient', 10),
  -> (8, 'Microwave Oven', 80.00, 'Countertop Microwave', 15),
  -> (9, 'Blender', 70.00, 'High-Speed Blender', 20),
  -> (10, 'Vacuum Cleaner', 120.00, 'Bagless Vacuum Cleaner', 10);
Query OK, 10 rows affected (1.01 sec)
Records: 10 Duplicates: 0 Warnings: 0

mysql> 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);
ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails ('ecommercesql`.`cart`, CONSTRAINT `cart_ibfk_1` FOREIGN KEY (`customer_id`) REFERENCES `customers` (`customer_id`))
mysql> INSERT INTO customers (customer_id, name, email, password)
  -> VALUES
  -> (1, 'John Doe', 'johndoe@example.com', '123 Main St, City'),
```

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MySQL 8.0 Command Line Client
ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails ('ecommercesql`.`cart`, CONSTRAINT `cart_ibfk_1` FOREIGN KEY (`customer_id`) REFERENCES `customers` (`customer_id`))
mysql> INSERT INTO customers (customer_id, name, email, password)
  -> 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');
Query OK, 10 rows affected (5.46 sec)
Records: 10 Duplicates: 0 Warnings: 0

mysql> 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);
Query OK, 10 rows affected (0.42 sec)
Records: 10 Duplicates: 0 Warnings: 0

mysql> 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', 1000.00, '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');
```

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MySQL 8.0 Command Line Client
Records: 10 Duplicates: 0 Warnings: 0

mysql> INSERT INTO order_items (order_item_id, order_id, product_id, quantity)
-> VALUES
-> (1, 1, 1, 2),
-> (2, 1, 3, 1),
-> (3, 2, 2, 3),
-> (4, 3, 5, 2),
-> (5, 4, 4, 4),
-> (6, 4, 6, 1),
-> (7, 5, 1, 1),
-> (8, 5, 2, 2),
-> (9, 6, 10, 2),
-> (10, 6, 9, 3);
Query OK, 10 rows affected (0.53 sec)
Records: 10 Duplicates: 0 Warnings: 0

mysql> alter table order_items
-> add column item_amount int;
Query OK, 0 rows affected (3.06 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> select* from order_items;
+-----+-----+-----+-----+-----+
| order_item_id | order_id | product_id | quantity | item_amount |
+-----+-----+-----+-----+-----+
| 1 | 1 | 1 | 2 | NULL |
| 2 | 1 | 3 | 1 | NULL |
| 3 | 2 | 2 | 3 | NULL |
| 4 | 3 | 5 | 2 | NULL |
| 5 | 4 | 4 | 4 | NULL |
| 6 | 4 | 6 | 1 | NULL |
| 7 | 5 | 1 | 1 | NULL |
| 8 | 5 | 2 | 2 | NULL |
| 9 | 6 | 10 | 2 | NULL |
| 10 | 6 | 9 | 3 | NULL |
+-----+-----+-----+-----+-----+
10 rows in set (0.25 sec)

mysql> insert into order_items (item_amount) values
-> (1600.00),(300.00),(1800.00),(600.00),(50.00),(800.00),(1200.00),(240.00),(210.00);
ERROR 1364 (HY000): Field 'order_item_id' doesn't have a default value
mysql> nsert into order_items (order_item_id, order_id, product_id, quantity,item_amount)values
-> (1, 1, 1, 2,1600.00);
```

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MySQL 8.0 Command Line Client
5 rows in set (2.17 sec)

mysql> select* from order_items;
+-----+-----+-----+-----+-----+
| order_item_id | order_id | product_id | quantity | item_amount |
+-----+-----+-----+-----+-----+
| 1 | 1 | 1 | 2 | NULL |
| 2 | 1 | 3 | 1 | NULL |
| 3 | 2 | 2 | 3 | NULL |
| 4 | 3 | 5 | 2 | NULL |
| 5 | 4 | 4 | 4 | NULL |
| 6 | 4 | 6 | 1 | NULL |
| 7 | 5 | 1 | 1 | NULL |
| 8 | 5 | 2 | 2 | NULL |
| 9 | 6 | 10 | 2 | NULL |
| 10 | 6 | 9 | 3 | NULL |
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> update order_items
-> set item_amount=1600
-> where order_item id=1;
Query OK, 1 row affected (0.19 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select* from order_items;
+-----+-----+-----+-----+-----+
| order_item_id | order_id | product_id | quantity | item_amount |
+-----+-----+-----+-----+-----+
| 1 | 1 | 1 | 2 | 1600 |
| 2 | 1 | 3 | 1 | NULL |
| 3 | 2 | 2 | 3 | NULL |
| 4 | 3 | 5 | 2 | NULL |
| 5 | 4 | 4 | 4 | NULL |
| 6 | 4 | 6 | 1 | NULL |
| 7 | 5 | 1 | 1 | NULL |
| 8 | 5 | 2 | 2 | NULL |
| 9 | 6 | 10 | 2 | NULL |
| 10 | 6 | 9 | 3 | NULL |
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> update order_items
-> set item amount=300;
```

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MySQL 8.0 Command Line Client
10 rows in set (0.00 sec)

mysql> update order_items
-> set item_amount=300
-> where order_item_id=2;
Query OK, 1 row affected (0.08 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update order_items
-> set item_amount=1800
-> where order_item_id=3;
Query OK, 1 row affected (0.21 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update order_items
-> set item_amount=600
-> where order_item_id=4;
Query OK, 1 row affected (0.10 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update order_items
-> set item_amount=50
-> where order_item_id=5;
Query OK, 1 row affected (0.08 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update order_items
-> set item_amount=800
-> where order_item_id=6;
Query OK, 1 row affected (0.12 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update order_items
-> set item_amount=1200
-> where order_item_id=7;
Query OK, 1 row affected (0.14 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update order_items
-> set item_amount=210
-> where order_item_id=8;
Query OK, 1 row affected (0.16 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
MySQL 8.0 Command Line Client
mysql> select* from order_items;
+-----+-----+-----+-----+-----+
| order_item_id | order_id | product_id | quantity | item_amount |
+-----+-----+-----+-----+-----+
| 1 | 1 | 1 | 2 | 1600 |
| 2 | 1 | 3 | 1 | 300 |
| 3 | 2 | 2 | 3 | 1800 |
| 4 | 3 | 5 | 2 | 1800 |
| 5 | 4 | 4 | 4 | 600 |
| 6 | 4 | 6 | 1 | 50 |
| 7 | 5 | 1 | 1 | 800 |
| 8 | 5 | 2 | 2 | 1200 |
| 9 | 6 | 10 | 2 | 240 |
| 10 | 6 | 9 | 3 | 210 |
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select* from products;
+-----+-----+-----+-----+-----+
| product_id | name | price | description | stockQuantity |
+-----+-----+-----+-----+-----+
| 1 | Laptop | 800.00 | High-performance laptop | 10 |
| 2 | Smartphone | 600.00 | Latest smartphone | 15 |
| 3 | Tablet | 300.00 | Portable Tablet | 20 |
| 4 | Headphones | 150.00 | Noise-Canceling | 30 |
| 5 | TV | 900.00 | 4K Smart TV | 5 |
| 6 | Coffee Maker | 50.00 | Automatic Coffee Maker | 25 |
| 7 | Refrigerator | 700.00 | Energy-Efficient | 10 |
| 8 | Microwave Oven | 80.00 | Countertop Microwave | 15 |
| 9 | Blender | 70.00 | High-Speed Blender | 20 |
| 10 | Vacuum Cleaner | 120.00 | Bagless Vacuum Cleaner | 10 |
+-----+-----+-----+-----+-----+
10 rows in set (0.04 sec)

mysql> 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 |
+-----+-----+-----+-----+
```

```
MySQL 8.0 Command Line Client
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 |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select* from customers;
+-----+-----+-----+-----+
customer_id | name | email | password |
+-----+-----+-----+-----+
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 pinest,suburb |
5 | David Lee | david@example.com | 234 Cedae 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 |
+-----+-----+-----+-----+
10 rows in set (0.03 sec)

mysql> 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 pinest,suburb |
5 | 5 | 2023-05-25 | 1800.00 | 234 Cedae 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 |
+-----+-----+-----+-----+
10 rows in set (0.04 sec)
```

```
MySQL 8.0 Command Line Client
5 | 3 | 5 | 2 |
6 | 4 | 6 | 1 |
7 | 5 | 1 | 1 |
8 | 6 | 10 | 2 |
9 | 6 | 9 | 3 |
10 | 7 | 7 | 2 |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select* from customers;
+-----+-----+-----+-----+
customer_id | name | email | password |
+-----+-----+-----+-----+
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 pinest,suburb |
5 | David Lee | david@example.com | 234 Cedae 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 |
+-----+-----+-----+-----+
10 rows in set (0.03 sec)

mysql> 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 pinest,suburb |
5 | 5 | 2023-05-25 | 1800.00 | 234 Cedae 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 |
+-----+-----+-----+-----+
10 rows in set (0.04 sec)

mysql>
```

```
MySQL 8.0 Command Line Client
10 rows in set (0.04 sec)

mysql> UPDATE products
-> SET price = 800
-> WHERE name = 'Refrigerator';
Query OK, 1 row affected (0.15 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from products;
+-----+-----+-----+-----+-----+
| product_id | name       | price | description          | stockQuantity |
+-----+-----+-----+-----+-----+
| 1 | Laptop    | 800.00 | High-performance Laptop | 10 |
| 2 | Smartphone | 600.00 | Latest smartphone      | 15 |
| 3 | Tablet    | 300.00 | Portable Tablet        | 20 |
| 4 | Headphones | 150.00 | Noise-Canceling        | 30 |
| 5 | TV        | 900.00 | 4K Smart TV            | 5 |
| 6 | Coffee Maker | 50.00 | Automatic Coffee Maker | 25 |
| 7 | Refrigerator | 800.00 | Energy-Efficient       | 10 |
| 8 | Microwave Oven | 80.00 | Countertop Microwave   | 15 |
| 9 | Blender    | 70.00 | High-Speed Blender     | 20 |
| 10 | Vacuum Cleaner | 120.00 | Bagless Vacuum Cleaner | 10 |
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> DELETE FROM cart
-> WHERE customer_id = 8;
Query OK, 0 rows affected (0.06 sec)

mysql> 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 |
+-----+-----+-----+-----+
```

```
MySQL 8.0 Command Line Client

mysql> SELECT * FROM products
-> WHERE price < 100;
+-----+-----+-----+-----+-----+
| product_id | name       | price | description          | stockQuantity |
+-----+-----+-----+-----+-----+
| 6 | Coffee Maker | 50.00 | Automatic Coffee Maker | 25 |
| 8 | Microwave Oven | 80.00 | Countertop Microwave   | 15 |
| 9 | Blender    | 70.00 | High-Speed Blender     | 20 |
+-----+-----+-----+-----+-----+
3 rows in set (0.06 sec)

mysql> SELECT * FROM products
-> WHERE stockQuantity > 5;
+-----+-----+-----+-----+-----+
| product_id | name       | price | description          | stockQuantity |
+-----+-----+-----+-----+-----+
| 1 | Laptop    | 800.00 | High-performance Laptop | 10 |
| 2 | Smartphone | 600.00 | Latest smartphone      | 15 |
| 3 | Tablet    | 300.00 | Portable Tablet        | 20 |
| 4 | Headphones | 150.00 | Noise-Canceling        | 30 |
| 6 | Coffee Maker | 50.00 | Automatic Coffee Maker | 25 |
| 7 | Refrigerator | 800.00 | Energy-Efficient       | 10 |
| 8 | Microwave Oven | 80.00 | Countertop Microwave   | 15 |
| 9 | Blender    | 70.00 | High-Speed Blender     | 20 |
| 10 | Vacuum Cleaner | 120.00 | Bagless Vacuum Cleaner | 10 |
+-----+-----+-----+-----+-----+
9 rows in set (0.02 sec)

mysql> 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 |
+-----+-----+-----+-----+-----+
2 rows in set (0.02 sec)

mysql>
```

```
MySQL 8.0 Command Line Client
mysql> SELECT * FROM products
-> WHERE name LIKE '%r%';
+-----+-----+-----+-----+-----+
| product_id | name       | price | description          | stockQuantity |
+-----+-----+-----+-----+-----+
| 6          | Coffee Maker | 50.00 | Automatic Coffee Maker | 25            |
| 7          | Refrigerator | 800.00 | Energy-Efficient      | 10            |
| 9          | Blender     | 70.00 | High-Speed Blender    | 20            |
| 10         | Vacuum Cleaner | 120.00 | Bagless Vacuum Cleaner | 10            |
+-----+-----+-----+-----+-----+
4 rows in set (0.18 sec)

mysql> SELECT * FROM cart
-> WHERE customer_id = 5;
+-----+-----+-----+-----+
| cart_id | customer_id | product_id | quantity |
+-----+-----+-----+-----+
| 7       | 5           | 1         | 1        |
+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> SELECT DISTINCT customers.
-> FROM customers
-> JOIN orders ON customers.customer_id = orders.customer_id
-> WHERE EXTRACT(YEAR FROM orders.order_date) = 2023;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'FROM customer
s
JOIN orders ON customers.customer_id = orders.customer_id
WHERE E' at line 2
mysql> SELECT DISTINCT customers.*
-> FROM customers
-> JOIN orders ON customers.customer_id = orders.customer_id
-> WHERE EXTRACT(YEAR FROM orders.order_date) = 2023;
+-----+-----+-----+-----+
| customer_id | name       | email          | password |
+-----+-----+-----+-----+
| 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 pinest,suburb |
| 5           | David Lee  | david@example.com | 234 Cedae 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 |
+-----+-----+-----+-----+
```

```
MySQL 8.0 Command Line Client
mysql> SELECT products.name, MIN(products.stockQuantity) AS min_stock
-> FROM products
-> GROUP BY products.name;
+-----+-----+
| name       | min_stock |
+-----+-----+
| Laptop     | 10        |
| Smartphone | 15        |
| Tablet     | 20        |
| Headphones | 30        |
| TV         | 5         |
| Coffee Maker | 25       |
| Refrigerator | 10       |
| Microwave Oven | 15      |
| Blender     | 20        |
| Vacuum Cleaner | 10      |
+-----+-----+
10 rows in set (0.11 sec)

mysql> SELECT customers.customer_id, customers.name, SUM(orders.total_price) AS total_spent
-> FROM customers
-> LEFT JOIN orders ON customers.customer_id = orders.customer_id
-> GROUP BY customers.customer_id, customers.name;
+-----+-----+-----+
| customer_id | 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     |
+-----+-----+-----+
10 rows in set (0.03 sec)

mysql>
```

```
MySQL 8.0 Command Line Client

mysql> SELECT customers.customer_id, customers.name, AVG(orders.total_price) AS avg_order_amount
-> FROM customers
-> LEFT JOIN orders ON customers.customer_id = orders.customer_id
-> GROUP BY customers.customer_id, customers.name;
+-----+-----+-----+
| customer_id | name           | avg_order_amount |
+-----+-----+-----+
| 1 | John Doe      | 1200.000000      |
| 2 | Jane Smith    | 900.000000       |
| 3 | Robert Johnson| 300.000000       |
| 4 | Sarah Brown   | 150.000000       |
| 5 | David Lee     | 1800.000000      |
| 6 | Laura Hall    | 400.000000       |
| 7 | Michael Davis | 700.000000       |
| 8 | Emma Wilson   | 160.000000       |
| 9 | William Taylor| 140.000000       |
| 10 | Olivia Adams  | 1400.000000      |
+-----+-----+-----+
10 rows in set (0.02 sec)

mysql> SELECT customers.customer_id, customers.name, COUNT(orders.order_id) AS order_count
-> FROM customers
-> LEFT JOIN orders ON customers.customer_id = orders.customer_id
-> GROUP BY customers.customer_id, customers.name;
+-----+-----+-----+
| customer_id | 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           |
+-----+-----+-----+
10 rows in set (0.05 sec)

mysql>
```

```
MySQL 8.0 Command Line Client

10 rows in set (0.05 sec)

mysql> SELECT customers.customer_id, customers.name, MAX(orders.total_price) AS max_order_amount
-> FROM customers
-> LEFT JOIN orders ON customers.customer_id = orders.customer_id
-> GROUP BY customers.customer_id, customers.name;
+-----+-----+-----+
| customer_id | 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         |
+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> SELECT DISTINCT customers.*
-> FROM customers
-> JOIN orders ON customers.customer_id = orders.customer_id
-> WHERE orders.total_price > 1000;
+-----+-----+-----+-----+
| customer_id | name           | email              | password |
+-----+-----+-----+-----+
| 1 | John Doe      | johndoe@example.com | 123 Main St,City |
| 5 | David Lee     | david@example.com   | 234 Cedae St,District |
| 10 | Olivia Adams  | olivia@example.com  | 765 Fir St,Territory |
+-----+-----+-----+-----+
3 rows in set (0.04 sec)

mysql>
```



```
MySQL 8.0 Command Line Client
3 rows in set (0.04 sec)

mysql> SELECT * FROM products
-> WHERE product_id NOT IN (SELECT product_id FROM cart);
+-----+-----+-----+-----+-----+
| product_id | name       | price | description      | stockQuantity |
+-----+-----+-----+-----+-----+
| 8          | Microwave Oven | 80.00 | Countertop Microwave | 15            |
+-----+-----+-----+-----+-----+
1 row in set (0.08 sec)

mysql> SELECT * FROM customers
-> WHERE customer_id NOT IN (SELECT DISTINCT customer_id FROM orders);
Empty set (0.02 sec)

mysql> SELECT *,
-> (total_price / (SELECT SUM(total_price) FROM orders)) * 100 AS revenue_percentage
-> FROM orders;
+-----+-----+-----+-----+-----+-----+
| order_id | customer_id | order_date | total_price | shipping_address | revenue_percentage |
+-----+-----+-----+-----+-----+-----+
| 1        | 1           | 2023-01-05 | 1200.00    | 123 Main St,City | 16.783217          |
| 2        | 2           | 2023-02-10 | 900.00     | 456 Elm St,Town | 12.587413          |
| 3        | 3           | 2023-03-15 | 300.00     | 789 Oak St,village | 4.195804          |
| 4        | 4           | 2023-04-20 | 150.00     | 181 pinest,suburb | 2.097902           |
| 5        | 5           | 2023-05-25 | 1800.00    | 234 Cedae St,District | 25.174825         |
| 6        | 6           | 2023-06-30 | 400.00     | 567 Birch St,County | 5.594406          |
| 7        | 7           | 2023-07-05 | 700.00     | 890 Maple St,State | 9.790210           |
| 8        | 8           | 2023-08-10 | 160.00     | 321 Redwood St,Country | 2.237762          |
| 9        | 9           | 2023-09-15 | 140.00     | 432 Spruce St,Province | 1.958042          |
| 10       | 10          | 2023-10-20 | 1400.00    | 765 Fir St,Territory | 19.580420         |
+-----+-----+-----+-----+-----+-----+
10 rows in set (0.19 sec)

mysql>
```

```
MySQL 8.0 Command Line Client

mysql> SELECT * FROM products
-> WHERE stockQuantity < (SELECT AVG(stockQuantity) FROM products);
+-----+-----+-----+-----+-----+
| product_id | name       | price | description      | stockQuantity |
+-----+-----+-----+-----+-----+
| 1          | Laptop    | 800.00 | High-performance laptop | 10            |
| 2          | Smartphone | 600.00 | Latest smartphone    | 15            |
| 5          | TV        | 900.00 | 4K Smart TV         | 5             |
| 7          | Refrigerator | 800.00 | Energy-Efficient    | 10            |
| 8          | Microwave Oven | 80.00 | Countertop Microwave | 15            |
| 10         | Vacuum Cleaner | 120.00 | Bagless Vacuum Cleaner | 10            |
+-----+-----+-----+-----+-----+
6 rows in set (0.04 sec)

mysql> SELECT DISTINCT customers.*
-> FROM customers
-> JOIN orders ON customers.customer_id = orders.customer_id
-> WHERE orders.total_price > (SELECT AVG(total_price) FROM orders);
+-----+-----+-----+-----+
| customer_id | name       | email                | password |
+-----+-----+-----+-----+
| 1           | John Doe   | johndoe@example.com  | 123 Main St,City |
| 2           | Jane Smith | janesmith@example.com | 456 Elm St,Town |
| 5           | David Lee  | david@example.com     | 234 Cedae St,District |
| 10          | Olivia Adams | olivia@example.com    | 765 Fir St,Territory |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
```