

## Assignment - 1

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### **1. Database Table:**

- Customers:
- Customer id (primary key)
- First Name
- Last Name
- Email
- Phone
- Address

#### **1. Customers:**

```
MySQL 8.0 Command Line Cli ... + v
+-----+
| information_schema |
| mysql |
| performance_schema |
| sakila |
| sys |
| world |
+-----+
6 rows in set (0.01 sec)

mysql> use world;
Database changed
mysql> create table customers(customerid int primary key,firstname varchar(50),lastname varchar(50),email varchar(100),phone varchar(20),address varchar(255));
Query OK, 0 rows affected (0.06 sec)

mysql> describe customers;
+-----+-----+-----+-----+-----+-----+
| Field | Type  | Null | Key  | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| customerid | int   | NO   | PRI  | NULL    |       |
| firstname  | varchar(50) | YES  |      | NULL    |       |
| lastname   | varchar(50) | YES  |      | NULL    |       |
| email      | varchar(100) | YES  |      | NULL    |       |
| phone      | varchar(20)  | YES  |      | NULL    |       |
| address    | varchar(255) | YES  |      | NULL    |       |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.01 sec)

mysql> |
```

### **2. Products:**

- Product ID (Primary Key)
- Product Name
- Description
- Price

```
mysql> create table products(productid int primary key,productname varchar(100),description varchar(255),price decimal(10, 2));
Query OK, 0 rows affected (0.03 sec)

mysql> describe products;
+-----+-----+-----+-----+-----+
| Field | Type  | Null | Key  | Default | Extra |
+-----+-----+-----+-----+-----+
| productid | int   | NO   | PRI  | NULL    |       |
| productname | varchar(100) | YES  |      | NULL    |       |
| description | varchar(255) | YES  |      | NULL    |       |
| price      | decimal(10,2) | YES  |      | NULL    |       |
+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

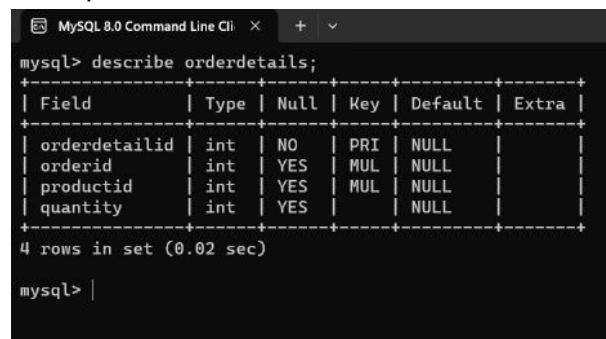
### **3. Orders:**

- OrderID (Primary Key)
- CustomerID (Foreign Key referencing Customer)
- Order Date
- Total Amount

```
mysql> create table orders(orderid int primary key,customerid int,orderdate date,totalamount decimal(10, 2),foreign key(customerid)references customers(cust  
omerid));  
Query OK, 0 rows affected (0.04 sec)  
  
mysql> describe orders  
-> ;  
+-----+-----+-----+-----+  
| Field | Type | Null | Key | Default | Extra |  
+-----+-----+-----+-----+  
| orderid | int | NO | PRI | NULL |  
| customerid | int | YES | MUL | NULL |  
| orderdate | date | YES | MUL | NULL |  
| totalamount | decimal(10,2) | YES | MUL | NULL |  
+-----+-----+-----+-----+  
4 rows in set (0.00 sec)  
  
mysql>
```

### **4. Order Details:**

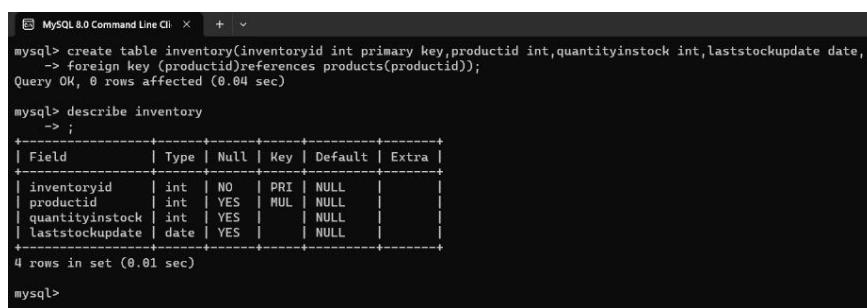
- OrderDetailsID (Primary Key)
- OrderID (Foreign Key referencing Orders)
- ProductID (Foreign Key referencing Products)
- Quality



```
MySQL 8.0 Command Line Cli X + v  
  
mysql> describe orderdetails;  
+-----+-----+-----+-----+  
| Field | Type | Null | Key | Default | Extra |  
+-----+-----+-----+-----+  
| orderdetailid | int | NO | PRI | NULL |  
| orderid | int | YES | MUL | NULL |  
| productid | int | YES | MUL | NULL |  
| quantity | int | YES | MUL | NULL |  
+-----+-----+-----+-----+  
4 rows in set (0.02 sec)  
  
mysql> |
```

### **5. Inventory:**

- InventoryID (Primary Key)
- ProductID (Foreign Key referencing Products)
- Quality InStocks
- Last Stock Update



```
MySQL 8.0 Command Line Cli X + v  
  
mysql> create table inventory(inventoryid int primary key,productid int,quantityinstock int,laststockupdate date,  
-> foreign key (productid)references products(productid));  
Query OK, 0 rows affected (0.04 sec)  
  
mysql> describe inventory  
-> ;  
+-----+-----+-----+-----+  
| Field | Type | Null | Key | Default | Extra |  
+-----+-----+-----+-----+  
| inventoryid | int | NO | PRI | NULL |  
| productid | int | YES | MUL | NULL |  
| quantityinstock | int | YES | MUL | NULL |  
| laststockupdate | date | YES | MUL | NULL |  
+-----+-----+-----+-----+  
4 rows in set (0.01 sec)  
  
mysql>
```

## **Task: 1.**

### **Data base Design:**

1. Create The Data base named “TechShop” ?

```
mysql> create database Techshop;
Query OK, 1 row affected (0.01 sec)

mysql> use Techshop;
Database changed
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sakila |
| sys |
| techshop |
| world |
+-----+
7 rows in set (0.02 sec)

mysql>
```

2. Define the Schema for te Customers, Products, Orders, OrdersDetails And Inventory Tables Based on the provided Schema?

1. Customers
2. Products
3. Orders
4. OrderDetails

#### **1. Customers:**

```
MySQL 8.0 Command Line Cli x + v
+-----+
| information_schema |
| mysql |
| performance_schema |
| sakila |
| sys |
| world |
+-----+
6 rows in set (0.01 sec)

mysql> use world;
Database changed
mysql> create table customers(customerid int primary key,firstname varchar(50),lastname varchar(50),email varchar(100),phone varchar(20),address varchar(255));
Query OK, 0 rows affected (0.06 sec)

mysql> describe customers;
+-----+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| customerid | int    | NO   | PRI | NULL    |       |
| firstname  | varchar(50) | YES  |     | NULL    |       |
| lastname   | varchar(50) | YES  |     | NULL    |       |
| email      | varchar(100) | YES  |     | NULL    |       |
| phone      | varchar(20)  | YES  |     | NULL    |       |
| address    | varchar(255) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.01 sec)

mysql>
```

## **2. Products:**

```
mysql> create table products(productid int primary key,productname varchar(100),description varchar(255),price decimal(10, 2));
Query OK, 0 rows affected (0.03 sec)

mysql> describe products;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| productid | int | NO | PRI | NULL |
| productname | varchar(100) | YES | MUL | NULL |
| description | varchar(255) | YES | MUL | NULL |
| price | decimal(10,2) | YES | MUL | NULL |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

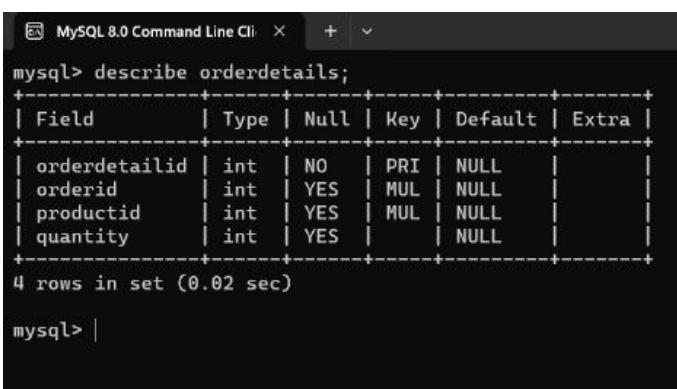
## **3. Orders:**

```
mysql> create table orders(orderid int primary key,customerid int,orderdate date,totalamount decimal(10, 2),foreign key(customerid)references customers(customerid));
Query OK, 0 rows affected (0.04 sec)

mysql> describe orders
->;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| orderid | int | NO | PRI | NULL |
| customerid | int | YES | MUL | NULL |
| orderdate | date | YES | MUL | NULL |
| totalamount | decimal(10,2) | YES | MUL | NULL |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
```

## **4. OrderDetails:**

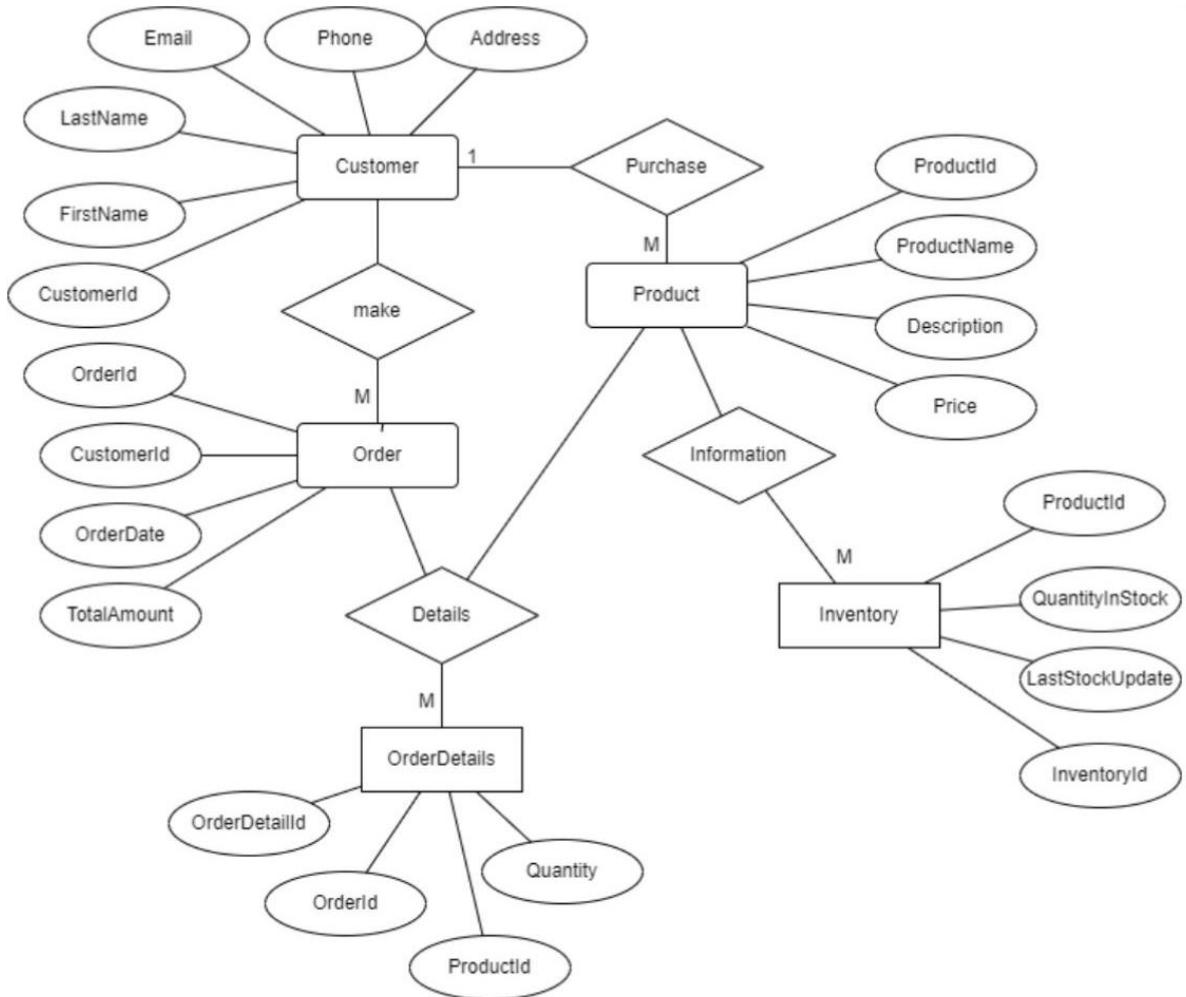


The screenshot shows the MySQL 8.0 Command Line Client interface. The command `describe orderdetails;` is entered, and the resulting table structure is displayed. The table has four columns: `orderdetailid`, `orderid`, `productid`, and `quantity`. `orderdetailid` is the primary key (PRI). `orderid` and `productid` have foreign keys (MUL) referencing the `customerid` and `productid` fields respectively in the `orders` and `products` tables.

```
mysql> describe orderdetails;
+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+
| orderdetailid | int | NO | PRI | NULL |
| orderid | int | YES | MUL | NULL |
| productid | int | YES | MUL | NULL |
| quantity | int | YES | MUL | NULL |
+-----+-----+-----+-----+
4 rows in set (0.02 sec)

mysql> |
```

3. Create an ERD (Entity Relationship Diagram) for the data base.?



4. Create appropriate primarykey and Foreign key constraints for referential integrity.?

**1. Customers:**

```
MySQL 8.0 Command Line Cli + v
+-----+
| information_schema
| mysql
| performance_schema
| sakila
| sys
| world
+-----+
6 rows in set (0.01 sec)

mysql> use world;
Database changed
mysql> create table customers(customerid int primary key,firstname varchar(50),lastname varchar(50),email varchar(100),phone varchar(20),address varchar(255));
Query OK, 0 rows affected (0.06 sec)

mysql> describe customers;
+-----+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| customerid | int    | NO   | PRI | NULL    |       |
| firstname   | varchar(50) | YES  |     | NULL    |       |
| lastname    | varchar(50) | YES  |     | NULL    |       |
| email        | varchar(100) | YES  |     | NULL    |       |
| phone        | varchar(20)  | YES  |     | NULL    |       |
| address      | varchar(255) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.01 sec)

mysql> |
```

**2. Products:**

```
mysql> create table products(productid int primary key,productname varchar(100),description varchar(255),price decimal(10, 2));
Query OK, 0 rows affected (0.03 sec)

mysql> describe products;
+-----+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| productid | int    | NO   | PRI | NULL    |       |
| productname | varchar(100) | YES  |     | NULL    |       |
| description | varchar(255) | YES  |     | NULL    |       |
| price      | decimal(10,2) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

**3. Orders:**

```
mysql> create table orders(orderid int primary key,customerid int,orderdate date,totalamount decimal(10, 2),foreign key(customerid)references customers(customerid));
Query OK, 0 rows affected (0.04 sec)

mysql> describe orders
-> ;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| orderid | int    | NO   | PRI | NULL    |       |
| customerid | int    | YES  | MUL | NULL    |       |
| orderdate | date   | YES  |     | NULL    |       |
| totalamount | decimal(10,2) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
```

#### **4. Order Details:**

```
MySQL 8.0 Command Line Cli + ▾  
mysql> describe orderdetails;  
+-----+-----+-----+-----+-----+  
| Field | Type | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+  
| orderdetailid | int | NO | PRI | NULL |  
| orderid | int | YES | MUL | NULL |  
| productid | int | YES | MUL | NULL |  
| quantity | int | YES | | NULL |  
+-----+-----+-----+-----+  
4 rows in set (0.02 sec)  
  
mysql> |
```

#### **5. Inventory:**

```
MySQL 8.0 Command Line Cli + ▾  
mysql> create table inventory(inventoryid int primary key,productid int,quantityinstock int,laststockupdate date,  
-> foreign key (productid)references products(productid));  
Query OK, 0 rows affected (0.04 sec)  
  
mysql> describe inventory  
-> ;  
+-----+-----+-----+-----+  
| Field | Type | Null | Key | Default | Extra |  
+-----+-----+-----+-----+  
| inventoryid | int | NO | PRI | NULL |  
| productid | int | YES | MUL | NULL |  
| quantityinstock | int | YES | | NULL |  
| laststockupdate | date | YES | | NULL |  
+-----+-----+-----+-----+  
4 rows in set (0.01 sec)  
  
mysql>
```

**6. Insert At least 10 sample records into each of the following tables.?**

- Customers
- Products
- Orders
- Orders Details
- Inventory

**1. Customers:**

```
MySQL 8.0 Command Line Cli + v

mysql> insert into customers(customerid,firstname,lastname,email,phone,address)values(4,'tittu','doe','tittu@gmail.com','2563147898','main st');
->(5,'titti','doe','titti@gmail.com','2563145698','main st');
Query OK, 2 rows affected (0.01 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> insert into customers(customerid,firstname,lastname,email,phone,address)values(6,'apple','doe','apple@gmail.com','1324567899','main st');
->(7,'tit','doe','tit@gmail.com','2565345698','main st');
Query OK, 2 rows affected (0.01 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> insert into customers(customerid,firstname,lastname,email,phone,address)values(8,'glass','doe','glass@gmail.com','2314567899','main st');
->(7,'fig','tit','fig@gmail.com','2565345652','main st');
ERROR 1062 (23000): Duplicate entry '7' for key 'customers.PRIMARY'
mysql> insert into customers(customerid,firstname,lastname,email,phone,address)values(8,'glass','doe','glass@gmail.com','2314567899','main st');
->(8,'fig','tit','fig@gmail.com','2565345698','main st');
ERROR 1062 (23000): Duplicate entry '8' for key 'customers.PRIMARY'
mysql> insert into customers(customerid,firstname,lastname,email,phone,address)values(8,'glass','doe','glass@gmail.com','2314567899','main st');
->(9,'fig','tit','fig@gmail.com','2565345652','main st');
Query OK, 2 rows affected (0.01 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> select * from customers;
+-----+-----+-----+-----+-----+
| customerid | firstname | lastname | email | phone | address |
+-----+-----+-----+-----+-----+
| 1 | monu | doe | monu@gmail.com | 1234567899 | main st |
| 2 | nonu | doe | nonu@gmail.com | 5234567899 | main st |
| 3 | abbu | doe | abbu@gmail.com | 1234567899 | main st |
| 4 | tittu | doe | tittu@gmail.com | 2563147898 | main st |
| 5 | titti | doe | titti@gmail.com | 2563145698 | main st |
| 6 | apple | doe | apple@gmail.com | 1324567899 | main st |
| 7 | tit | doe | tit@gmail.com | 2565345698 | main st |
| 8 | glass | doe | glass@gmail.com | 2314567899 | main st |
| 9 | fig | tit | fig@gmail.com | 2565345652 | main st |
| 11 | polo | doe | polo@gmail.com | 0987654321 | mainroad |
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> |
```

**2. Products:**

```
MySQL 8.0 Command Line Cli + v
2 rows in set (0.00 sec)

mysql> insert into products(productid,productname,description,price,category)values(2,'laptop','high-end','999','Electronics'),
->(3,'phone','high-end','699','Electronics');
Query OK, 2 rows affected (0.01 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> insert into products(productid,productname,description,price,category)values(4,'desk','chair','550','furniture'),
->(5,'camera','high-end','500','Electronics');
Query OK, 2 rows affected (0.01 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> insert into products(productid,productname,description,price,category)values(6,'table','stong','200','furniture'),
->(7,'headphone','high-end','200','Electronics');
Query OK, 2 rows affected (0.01 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> insert into products(productid,productname,description,price,category)values(8,'apple','fresh','20','fruits'),
->(9,'orange','fresh','20','fruits');
Query OK, 2 rows affected (0.01 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> select * from products;
+-----+-----+-----+-----+-----+
| productid | productname | description | price | category |
+-----+-----+-----+-----+-----+
| 1 | mango | king of fruits | 19.00 | NULL |
| 2 | laptop | high-end | 999.00 | Electronics |
| 3 | phone | high-end | 699.00 | Electronics |
| 4 | desk | chair | 550.00 | furniture |
| 5 | camera | high-end | 500.00 | Electronics |
| 6 | table | stong | 200.00 | furniture |
| 7 | headphone | high-end | 200.00 | Electronics |
| 8 | apple | fresh | 20.00 | fruits |
| 9 | orange | fresh | 20.00 | fruits |
| 101 | smartphone | phone | 49.00 | electronics |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> |
```

### **3. Orders:**

```
MySQL 8.0 Command Line Cli + ▾
2 rows in set (0.00 sec)

mysql> insert into orders(orderid, customerid, orderdate, totalamount) values(101, 2, '2023-12-01', 80),
-> (102, 3, '2023-12-02', 90);
Query OK, 2 rows affected (0.01 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> insert into orders(orderid, customerid, orderdate, totalamount) values(103, 3, '2023-12-03', 80),
-> (104, 4, '2023-12-04', 90);
Query OK, 2 rows affected (0.01 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> insert into orders(orderid, customerid, orderdate, totalamount) values(105, 5, '2023-12-05', 30),
-> (106, 6, '2023-12-06', 60);
Query OK, 2 rows affected (0.02 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> insert into orders(orderid, customerid, orderdate, totalamount) values(107, 7, '2023-12-07', 70),
-> (108, 8, '2023-12-08', 90);
Query OK, 2 rows affected (0.01 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> select * from orders;
+-----+-----+-----+-----+
| orderid | customerid | orderdate | totalamount |
+-----+-----+-----+-----+
|      1 |         1 | 2023-12-06 |      50.00 |
|   101 |         2 | 2023-12-01 |      80.00 |
|   102 |         3 | 2023-12-02 |      90.00 |
|   103 |         3 | 2023-12-03 |      80.00 |
|   104 |         4 | 2023-12-04 |      90.00 |
|   105 |         5 | 2023-12-05 |      30.00 |
|   106 |         6 | 2023-12-06 |      60.00 |
|   107 |         7 | 2023-12-07 |      70.00 |
|   108 |         8 | 2023-12-08 |      90.00 |
| 12345 |         1 | 2023-12-15 |      99.00 |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> |
```

### **4. Order Details:**

```
MySQL 8.0 Command Line Cli + ▾
10 rows in set (0.00 sec)

mysql> select * from orderdetails;
+-----+-----+-----+-----+
| orderdetailid | orderid | productid | quantity |
+-----+-----+-----+-----+
|         1 |       1 |        1 |        2 |
+-----+-----+-----+-----+
1 row in set (0.01 sec)

mysql> insert into orderdetails(orderdetailid, orderid, productid, quantity) values(2, 101, 1, 2),
-> (3, 102, 3, 3), (4, 103, 4, 1);
Query OK, 3 rows affected (0.01 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> insert into orderdetails(orderdetailid, orderid, productid, quantity) values(5, 104, 1, 2),
-> (6, 105, 3, 8), (7, 106, 4, 1), (8, 107, 5, 2), (9, 108, 4, 2);
Query OK, 5 rows affected (0.01 sec)
Records: 5 Duplicates: 0 Warnings: 0

mysql> select * from orderdetails;
+-----+-----+-----+-----+
| orderdetailid | orderid | productid | quantity |
+-----+-----+-----+-----+
|         1 |       1 |        1 |        2 |
|         2 |     101 |        1 |        2 |
|         3 |     102 |        3 |        3 |
|         4 |     103 |        4 |        1 |
|         5 |     104 |        1 |        2 |
|         6 |     105 |        3 |        8 |
|         7 |     106 |        4 |        1 |
|         8 |     107 |        5 |        2 |
|         9 |     108 |        4 |        2 |
+-----+-----+-----+-----+
9 rows in set (0.00 sec)

mysql> |
```

## 5. Inventory:

```
MySQL 8.0 Command Line Cli | + | - | X |
```

```
| productid | int | YES | MUL | NULL |
```

```
| quantity | int | YES | | NULL |
```

```
+-----+-----+-----+-----+
```

```
4 rows in set (0.02 sec)
```

```
mysql> select * from inventory;
```

```
+-----+-----+-----+-----+
```

```
| inventoryid | productid | quantityinstock | laststockupdate |
```

```
+-----+-----+-----+-----+
```

```
| 1 | 1 | 50 | 2023-12-01 |
```

```
+-----+-----+-----+-----+
```

```
1 row in set (0.02 sec)
```

```
mysql> insert into inventory(inventoryid,productid,quantityinstock,laststockupdate)values(2,2,50,'2023-12-02'),  
-> (3,3,50,'2023-12-03');
```

```
Query OK, 2 rows affected (0.01 sec)
```

```
Records: 2 Duplicates: 0 Warnings: 0
```

```
mysql> insert into inventory(inventoryid,productid,quantityinstock,laststockupdate)values(4,2,80,'2023-12-04'),  
-> (5,3,50,'2023-12-05'),(6,3,50,'2023-12-06'),(7,1,70,'2023-12-07'),(8,3,20,'2023-12-08'),(9,2,40,'2023-12-09');
```

```
Query OK, 6 rows affected (0.01 sec)
```

```
Records: 6 Duplicates: 0 Warnings: 0
```

```
mysql> select * from inventory;
```

```
+-----+-----+-----+-----+
```

```
| inventoryid | productid | quantityinstock | laststockupdate |
```

```
+-----+-----+-----+-----+
```

```
| 1 | 1 | 50 | 2023-12-01 |
```

```
| 2 | 2 | 50 | 2023-12-02 |
```

```
| 3 | 3 | 50 | 2023-12-03 |
```

```
| 4 | 2 | 80 | 2023-12-04 |
```

```
| 5 | 3 | 50 | 2023-12-05 |
```

```
| 6 | 3 | 50 | 2023-12-06 |
```

```
| 7 | 1 | 70 | 2023-12-07 |
```

```
| 8 | 3 | 20 | 2023-12-08 |
```

```
| 9 | 2 | 40 | 2023-12-09 |
```

```
+-----+-----+-----+-----+
```

```
9 rows in set (0.00 sec)
```

```
mysql> |
```

## Task 2: Select, Where, Between, And, Like:

1. Write An SQL query to retrieve the name and emails of all Customers ?

```
MySQL 8.0 Command Line Cli | + | - | X |
```

```
mysql> select fristname,lastname,email from customers;
```

```
+-----+-----+-----+
```

```
| fristname | lastname | email |
```

```
+-----+-----+-----+
```

```
| monu | doe | monu@gmail.com |
```

```
| nonu | doe | nonu@gmail.com |
```

```
| abbu | doe | abbu@gmail.com |
```

```
| tittu | doe | tittu@gmail.com |
```

```
| titti | doe | titti@gmail.com |
```

```
| apple | doe | apple@gmail.com |
```

```
| tit | doe | tit@gmail.com |
```

```
| glass | doe | glass@gmail.com |
```

```
| fig | tit | fig@gmail.com |
```

```
| polo | doe | polo@gmail.com |
```

```
+-----+-----+-----+
```

```
10 rows in set (0.00 sec)
```

```
mysql> |
```

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

```

MySQL 8.0 Command Line Cli  X  +  v

| customerid | int      | NO   | PRI  | NULL   |
| fristname  | varchar(50) | YES  |     | NULL   |
| lastname   | varchar(50) | YES  |     | NULL   |
| email      | varchar(100) | YES  |     | NULL   |
| phone      | varchar(20)  | YES  |     | NULL   |
| address    | varchar(255) | YES  |     | NULL   |
+-----+
6 rows in set (0.01 sec)

mysql> describe orders
-> ;
+-----+-----+-----+-----+-----+-----+
| Field    | Type     | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| orderid  | int      | NO   | PRI  | NULL   |
| customerid | int      | YES  | MUL  | NULL   |
| orderdate | date     | YES  |     | NULL   |
| totalamount | decimal(10,2) | YES  |     | NULL   |
+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)

mysql> select orders.orderid,orders.orderdate,customers.fristname,customers.lastname from orders inner join customers on orders.customerid=customers.customerid;
+-----+-----+-----+-----+
| orderid | orderdate | fristname | lastname |
+-----+-----+-----+-----+
| 1       | 2023-12-06 | monu      | doe      |
| 101     | 2023-12-01 | nonu      | doe      |
| 102     | 2023-12-02 | abbu      | doe      |
| 103     | 2023-12-03 | abbu      | doe      |
| 104     | 2023-12-04 | tittu     | doe      |
| 105     | 2023-12-05 | titti     | doe      |
| 106     | 2023-12-06 | apple     | doe      |
| 107     | 2023-12-07 | tit       | doe      |
| 108     | 2023-12-08 | glass     | doe      |
| 12345   | 2023-12-15 | monu      | doe      |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql>
```

3. Write an SQL query to insert a new customer records in to the “Customer” table. Include customer information such as name, email and address.?

```

MySQL 8.0 Command Line Cli  X  +  v

| lastname  | varchar(50) | YES |     | NULL   |
| email    | varchar(100) | YES |     | NULL   |
| phone    | varchar(20)  | YES |     | NULL   |
| address  | varchar(255) | YES |     | NULL   |
+-----+
6 rows in set (0.01 sec)

mysql> insert into customers(customerid,fristname,lastname,email,phone,address)
-> values(10,'potato','toe','potato@gamil.com','0123456789','uproad');
Query OK, 1 row affected (0.01 sec)

mysql> select * from customers;
+-----+-----+-----+-----+-----+-----+
| customerid | fristname | lastname | email        | phone      | address   |
+-----+-----+-----+-----+-----+-----+
| 1       | monu      | doe      | monu@gmail.com | 1234567899 | main st   |
| 2       | nonu      | doe      | nonu@gmail.com | 5234567899 | main st   |
| 3       | abbu      | doe      | abbu@gmail.com | 1234567899 | main st   |
| 4       | tittu     | doe      | tittu@gmail.com | 2563147898 | main st   |
| 5       | titti     | doe      | titti@gmail.com | 2563145698 | main st   |
| 6       | apple     | doe      | apple@gmail.com | 1324567899 | main st   |
| 7       | tit       | doe      | tit@gmail.com  | 2565345698 | main st   |
| 8       | glass     | doe      | glass@gmail.com | 2314567899 | main st   |
| 9       | fig       | tit      | fig@gmail.com  | 2565345652 | main st   |
| 10      | potato    | toe     | potato@gmail.com | 0123456789 | uproad   |
| 11      | polo      | doe      | polo@gmail.com | 0987654321 | mainroad  |
+-----+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql>
```

4. Write an SQL query to update the prices of all electronics gadgets in the “products” table by increasing them by 10 %.?

```
MySQL 8.0 Command Line Cli + v

mysql> select * from products;
+-----+-----+-----+-----+-----+
| productid | productname | description | price | category |
+-----+-----+-----+-----+-----+
| 1 | mango | king of fruits | 19.00 | NULL |
| 2 | laptop | high-end | 999.00 | Electronics |
| 3 | phone | high-end | 699.00 | Electronics |
| 4 | desk | chair | 558.00 | furniture |
| 5 | camera | high-end | 500.00 | Electronics |
| 6 | table | strong | 200.00 | furniture |
| 7 | headphone | high-end | 200.00 | Electronics |
| 8 | apple | fresh | 20.00 | fruits |
| 9 | orange | fresh | 20.00 | fruits |
| 101 | smartphone | phone | 49.00 | electronics |
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> update products SET price = price * 1.1 where category ='Electronics';
Query OK, 5 rows affected (0.01 sec)
Rows matched: 5 Changed: 5 Warnings: 0

mysql> select * from products;
+-----+-----+-----+-----+-----+
| productid | productname | description | price | category |
+-----+-----+-----+-----+-----+
| 1 | mango | king of fruits | 19.00 | NULL |
| 2 | laptop | high-end | 1098.90 | Electronics |
| 3 | phone | high-end | 768.90 | Electronics |
| 4 | desk | chair | 558.00 | furniture |
| 5 | camera | high-end | 550.00 | Electronics |
| 6 | table | strong | 220.00 | furniture |
| 7 | headphone | high-end | 220.00 | Electronics |
| 8 | apple | fresh | 20.00 | fruits |
| 9 | orange | fresh | 20.00 | fruits |
| 101 | smartphone | phone | 53.90 | electronics |
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql>
```

- 5 . write an SQL query to delete a specific order and its associated order details from the "order" and "Order details" table allow users to input the order id as a parameter

```
MySQL 8.0 Command Line Cli + v

mysql> Delete FROM orderdetails WHERE orderid ='108';
Query OK, 1 row affected (0.02 sec)

mysql> Delete FROM orders WHERE orderdetails ='108';
ERROR 1054 (42S22): Unknown column 'orderdetails' in 'where clause'
mysql> Delete FROM orders WHERE orderid ='108';
Query OK, 1 row affected (0.01 sec)

mysql> select * from orders;
+-----+-----+-----+-----+-----+
| orderid | customerid | orderdate | totalamount | price | quantity |
+-----+-----+-----+-----+-----+
| 1 | 1 | 2023-12-06 | NULL | NULL | NULL |
| 101 | 2 | 2023-12-01 | NULL | NULL | NULL |
| 102 | 3 | 2023-12-02 | NULL | NULL | NULL |
| 103 | 3 | 2023-12-03 | NULL | NULL | NULL |
| 104 | 4 | 2023-12-04 | NULL | NULL | NULL |
| 105 | 5 | 2023-12-05 | NULL | NULL | NULL |
| 106 | 6 | 2023-12-06 | NULL | NULL | NULL |
| 107 | 7 | 2023-12-07 | NULL | NULL | NULL |
| 109 | 9 | 2023-12-09 | NULL | NULL | NULL |
| 110 | 10 | 2023-12-10 | 240.00 | 120.00 | 2 |
| 12345 | 1 | 2023-12-15 | NULL | NULL | NULL |
+-----+-----+-----+-----+-----+
11 rows in set (0.01 sec)

mysql> select * from orderdetails;
+-----+-----+-----+-----+
| orderdetailid | orderid | productid | quantity |
+-----+-----+-----+-----+
| 1 | 1 | 1 | 2 |
| 2 | 101 | 1 | 2 |
| 3 | 102 | 3 | 3 |
| 4 | 103 | 4 | 1 |
| 5 | 104 | 1 | 2 |
| 6 | 105 | 3 | 8 |
| 7 | 106 | 4 | 1 |
| 8 | 107 | 5 | 2 |
+-----+-----+-----+-----+
8 rows in set (0.00 sec)
```

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.?

```
MySQL 8.0 Command Line Cli x + v

mysql> select * from orders;
+-----+-----+-----+-----+
| orderid | customerid | orderdate | totalamount |
+-----+-----+-----+-----+
| 1 | 1 | 2023-12-06 | 50.00 |
| 101 | 2 | 2023-12-01 | 80.00 |
| 102 | 3 | 2023-12-02 | 90.00 |
| 103 | 3 | 2023-12-03 | 80.00 |
| 104 | 4 | 2023-12-04 | 90.00 |
| 105 | 5 | 2023-12-05 | 30.00 |
| 106 | 6 | 2023-12-06 | 60.00 |
| 107 | 7 | 2023-12-07 | 70.00 |
| 108 | 8 | 2023-12-08 | 90.00 |
| 12345 | 1 | 2023-12-15 | 99.00 |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> insert into orders(orderid,customerid,orderdate,totalamount)values(109,9,'2023-12-09',150);
Query OK, 1 row affected (0.01 sec)

mysql> select * from orders;
+-----+-----+-----+-----+
| orderid | customerid | orderdate | totalamount |
+-----+-----+-----+-----+
| 1 | 1 | 2023-12-06 | 50.00 |
| 101 | 2 | 2023-12-01 | 80.00 |
| 102 | 3 | 2023-12-02 | 90.00 |
| 103 | 3 | 2023-12-03 | 80.00 |
| 104 | 4 | 2023-12-04 | 90.00 |
| 105 | 5 | 2023-12-05 | 30.00 |
| 106 | 6 | 2023-12-06 | 60.00 |
| 107 | 7 | 2023-12-07 | 70.00 |
| 108 | 8 | 2023-12-08 | 90.00 |
| 109 | 9 | 2023-12-09 | 150.00 |
| 12345 | 1 | 2023-12-15 | 99.00 |
+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql> |
```

7. Write an SQL Query to update the contact information. (e.g., email and address) of a specific Customer in the “Customer” table. Allow users to input the customer ID and new contact information.?

```
MySQL 8.0 Command Line Cli x + v

+-----+-----+-----+-----+-----+
| 1 | monu | doe | monu@gmail.com | 1234567899 | main st |
| 2 | nonu | doe | nonu@gmail.com | 5234567899 | main st |
| 3 | abbu | doe | abbu@gmail.com | 1234567899 | main st |
| 4 | tittu | doe | tittu@gmail.com | 2563147898 | main st |
| 5 | titti | doe | titti@gmail.com | 2563145698 | main st |
| 6 | apple | doe | apple@gmail.com | 1324567899 | main st |
| 7 | tit | doe | tit@gmail.com | 2565345698 | main st |
| 8 | glass | doe | glass@gmail.com | 2314567899 | main st |
| 9 | fig | tit | fig@gmail.com | 2565345652 | main st |
| 10 | potato | toe | potato@gmail.com | 0123456789 | uproad |
| 11 | polo | doe | polo@gmail.com | 0987654321 | mainroad |
+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql> UPDATE customers SET email='abc@gmail.com',address='chennai' WHERE customerid=1;
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 'abc@gmail.com',address='chennai' WHERE customerid=1' at line 1
mysql> UPDATE customers SET email='abc@gmail.com',address='chennai' WHERE customerid=1;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from customers;
+-----+-----+-----+-----+-----+
| customerid | fristname | lastname | email | phone | address |
+-----+-----+-----+-----+-----+
| 1 | monu | doe | abc@gmail.com | 1234567899 | chennai |
| 2 | nonu | doe | nonu@gmail.com | 5234567899 | main st |
| 3 | abbu | doe | abbu@gmail.com | 1234567899 | main st |
| 4 | tittu | doe | tittu@gmail.com | 2563147898 | main st |
| 5 | titti | doe | titti@gmail.com | 2563145698 | main st |
| 6 | apple | doe | apple@gmail.com | 1324567899 | main st |
| 7 | tit | doe | tit@gmail.com | 2565345698 | main st |
| 8 | glass | doe | glass@gmail.com | 2314567899 | main st |
| 9 | fig | tit | fig@gmail.com | 2565345652 | main st |
| 10 | potato | toe | potato@gmail.com | 0123456789 | uproad |
| 11 | polo | doe | polo@gmail.com | 0987654321 | mainroad |
+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql>
```

8. Write an SQL query to recalculate and update the total cost of each order in the “Orders” table based on the prices and quantites in the “Ordersdetails” tables.?

```
MySQL 8.0 Command Line Cli + ^

mysql> update orders SET totalamount =(SELECT SUM(quantity*price) FROM orderdetails WHERE orderid =orders.orderid)WHERE
-> EXISTS (SELECT 1 FROM orderdetails WHERE orderid=orders.orderid);
Query OK, 4 rows affected (0.01 sec)
Rows matched: 8 Changed: 4 Warnings: 0

mysql> select * from orders;
+-----+-----+-----+-----+-----+
| orderid | customerid | orderdate | totalamount | price | quantity |
+-----+-----+-----+-----+-----+
| 1 | 1 | 2023-12-06 | 250.00 | 125.00 | 2 |
| 101 | 2 | 2023-12-01 | 250.00 | 125.00 | 2 |
| 102 | 3 | 2023-12-02 | 375.00 | 125.00 | 2 |
| 103 | 3 | 2023-12-03 | 125.00 | 125.00 | 2 |
| 104 | 4 | 2023-12-04 | 250.00 | 125.00 | 2 |
| 105 | 5 | 2023-12-05 | 1000.00 | 125.00 | 2 |
| 106 | 6 | 2023-12-06 | 125.00 | 125.00 | 2 |
| 107 | 7 | 2023-12-07 | 250.00 | 125.00 | 2 |
| 109 | 9 | 2023-12-09 | 250.00 | 125.00 | 2 |
| 110 | 10 | 2023-12-10 | 240.00 | 120.00 | 2 |
| 12345 | 1 | 2023-12-15 | 250.00 | 125.00 | 2 |
+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql> select * from orderdetails;
+-----+-----+-----+-----+
| orderdetailid | orderid | productid | quantity |
+-----+-----+-----+-----+
| 1 | 1 | 1 | 2 |
| 2 | 101 | 1 | 2 |
| 3 | 102 | 3 | 3 |
| 4 | 103 | 4 | 1 |
| 5 | 104 | 1 | 2 |
| 6 | 105 | 3 | 8 |
| 7 | 106 | 4 | 1 |
| 8 | 107 | 5 | 2 |
+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql>
```

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

```
MySQL 8.0 Command Line Cli + ^ x

+-----+-----+-----+
9 rows in set (0.00 sec)

mysql> delete from orderdetails WHERE orderid in (SELECT orderid from orders WHERE customerid=@11); Delete from orders WHERE customerid=@11;
Query OK, 0 rows affected (0.01 sec)

Query OK, 0 rows affected (0.00 sec)

mysql> select * from orderdetails;
+-----+-----+-----+-----+
| orderdetailid | orderid | productid | quantity |
+-----+-----+-----+-----+
| 1 | 1 | 1 | 2 |
| 2 | 101 | 1 | 2 |
| 3 | 102 | 3 | 3 |
| 4 | 103 | 4 | 1 |
| 5 | 104 | 1 | 2 |
| 6 | 105 | 3 | 8 |
| 7 | 106 | 4 | 1 |
| 8 | 107 | 5 | 2 |
| 9 | 108 | 4 | 2 |
+-----+-----+-----+-----+
9 rows in set (0.00 sec)

mysql> select * from customers;
+-----+-----+-----+-----+-----+
| customerid | fristname | lastname | email | phone | address |
+-----+-----+-----+-----+-----+
| 1 | monu | doe | abc@gmail.com | 1234567899 | chennai |
| 2 | nonu | doe | nonu@gmail.com | 5234567899 | main st |
| 3 | abbu | doe | abbu@gmail.com | 1234567899 | main st |
| 4 | tittu | doe | tittu@gmail.com | 2563145698 | main st |
| 5 | titti | doe | titti@gmail.com | 2563145698 | main st |
| 6 | apple | doe | apple@gmail.com | 1324567899 | main st |
| 7 | tit | doe | tit@gmail.com | 2565345698 | main st |
| 8 | glass | doe | glass@gmail.com | 2314567899 | main st |
| 9 | fig | tit | fig@gmail.com | 2565345652 | main st |
| 10 | potato | toe | potato@gmail.com | 0123456789 | uproad |
| 11 | polo | doe | polo@gmail.com | 0987654321 | mainroad |
+-----+-----+-----+-----+-----+
```

10. Write an OSQl query to insert a new electronic gadget product into the “Products” table  
Including product name, category, price, and any other relevant details.?

```
MySQL 8.0 Command Line Cli  +  ~
ERROR 1054 (42S22): Unknown column 'oder.quantity' in 'field list'
mysql> select * from products;
+-----+-----+-----+-----+-----+
| productid | productname | description | price | category |
+-----+-----+-----+-----+-----+
| 1 | mango | king of fruits | 19.00 | NULL |
| 2 | laptop | high-end | 1098.98 | Electronics |
| 3 | phone | high-end | 768.98 | Electronics |
| 4 | desk | chair | 558.00 | furniture |
| 5 | camera | high-end | 550.00 | Electronics |
| 6 | table | stong | 200.00 | furniture |
| 7 | headphone | high-end | 220.00 | Electronics |
| 8 | apple | fresh | 20.00 | fruits |
| 9 | orange | fresh | 20.00 | fruits |
| 101 | smartphone | phone | 53.98 | electronics |
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> insert into products (productid,productname,description,price,category) values(10,'smartwatch','high-end','400','Electronics');
Query OK, 1 row affected (0.01 sec)

mysql> select * from products;
+-----+-----+-----+-----+-----+
| productid | productname | description | price | category |
+-----+-----+-----+-----+-----+
| 1 | mango | king of fruits | 19.00 | NULL |
| 2 | laptop | high-end | 1098.98 | Electronics |
| 3 | phone | high-end | 768.98 | Electronics |
| 4 | desk | chair | 558.00 | furniture |
| 5 | camera | high-end | 550.00 | Electronics |
| 6 | table | stong | 200.00 | furniture |
| 7 | headphone | high-end | 220.00 | Electronics |
| 8 | apple | fresh | 20.00 | fruits |
| 9 | orange | fresh | 20.00 | fruits |
| 10 | smartwatch | high-end | 400.00 | Electronics |
| 101 | smartphone | phone | 53.98 | electronics |
+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql> |
```

11. Write an SQL query to update the status of a specific order in the “Order” table (e.g., from “pending” to “Shipped”). Allow user to input the order ID and the new status.

```
MySQL 8.0 Command Line Cli  +  ~
mysql> select * from orders;
+-----+-----+-----+-----+-----+-----+-----+-----+
| orderid | customerid | orderdate | totalamount | price | quantity | status |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 2023-12-06 | 250.00 | 125.00 | 2 | NULL |
| 101 | 2 | 2023-12-01 | 250.00 | 125.00 | 2 | NULL |
| 102 | 3 | 2023-12-02 | 375.00 | 125.00 | 2 | NULL |
| 103 | 3 | 2023-12-03 | 125.00 | 125.00 | 2 | NULL |
| 104 | 4 | 2023-12-04 | 250.00 | 125.00 | 2 | NULL |
| 105 | 5 | 2023-12-05 | 1000.00 | 125.00 | 2 | NULL |
| 106 | 6 | 2023-12-06 | 125.00 | 125.00 | 2 | NULL |
| 107 | 7 | 2023-12-07 | 250.00 | 125.00 | 2 | Shipped |
| 109 | 9 | 2023-12-09 | 250.00 | 125.00 | 2 | NULL |
| 110 | 10 | 2023-12-10 | 240.00 | 120.00 | 2 | NULL |
| 12345 | 1 | 2023-12-15 | 250.00 | 125.00 | 2 | Shipped |
+-----+-----+-----+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql> update orders SET status = 'shipped' WHERE orderid = '101' AND status is NULL;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from orders;
+-----+-----+-----+-----+-----+-----+-----+-----+
| orderid | customerid | orderdate | totalamount | price | quantity | status |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 2023-12-06 | 250.00 | 125.00 | 2 | NULL |
| 101 | 2 | 2023-12-01 | 250.00 | 125.00 | 2 | shipped |
| 102 | 3 | 2023-12-02 | 375.00 | 125.00 | 2 | NULL |
| 103 | 3 | 2023-12-03 | 125.00 | 125.00 | 2 | NULL |
| 104 | 4 | 2023-12-04 | 250.00 | 125.00 | 2 | NULL |
| 105 | 5 | 2023-12-05 | 1000.00 | 125.00 | 2 | NULL |
| 106 | 6 | 2023-12-06 | 125.00 | 125.00 | 2 | NULL |
| 107 | 7 | 2023-12-07 | 250.00 | 125.00 | 2 | Shipped |
| 109 | 9 | 2023-12-09 | 250.00 | 125.00 | 2 | NULL |
| 110 | 10 | 2023-12-10 | 240.00 | 120.00 | 2 | NULL |
| 12345 | 1 | 2023-12-15 | 250.00 | 125.00 | 2 | Shipped |
+-----+-----+-----+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)
```

```

MySQL> update orders SET status = 'shipped' WHERE orderid = '102' AND status is NULL;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MySQL> select * from orders;
+-----+-----+-----+-----+-----+-----+-----+
| orderid | customerid | orderdate | totalamount | price | quantity | status |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 2023-12-06 | 250.00 | 125.00 | 2 | NULL |
| 101 | 2 | 2023-12-01 | 250.00 | 125.00 | 2 | shipped |
| 102 | 3 | 2023-12-02 | 375.00 | 125.00 | 2 | shipped |
| 103 | 3 | 2023-12-03 | 125.00 | 125.00 | 2 | NULL |
| 104 | 4 | 2023-12-04 | 250.00 | 125.00 | 2 | NULL |
| 105 | 5 | 2023-12-05 | 1000.00 | 125.00 | 2 | NULL |
| 106 | 6 | 2023-12-06 | 125.00 | 125.00 | 2 | NULL |
| 107 | 7 | 2023-12-07 | 250.00 | 125.00 | 2 | Shipped |
| 109 | 9 | 2023-12-09 | 250.00 | 125.00 | 2 | NULL |
| 110 | 10 | 2023-12-10 | 240.00 | 120.00 | 2 | NULL |
| 12345 | 1 | 2023-12-15 | 250.00 | 125.00 | 2 | Shipped |
+-----+-----+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)

MySQL> update orders SET status = 'pending' WHERE orderid = '103' AND status is NULL;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MySQL> update orders SET status = 'pending' WHERE orderid = '104' AND status is NULL;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MySQL> update orders SET status = 'pending' WHERE orderid = '105' AND status is NULL;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MySQL> update orders SET status = 'pending' WHERE orderid = '106' AND status is NULL;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MySQL> select * from orders;

```

```

MySQL> select * from orders;
+-----+-----+-----+-----+-----+-----+-----+
| orderid | customerid | orderdate | totalamount | price | quantity | status |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 2023-12-06 | 250.00 | 125.00 | 2 | NULL |
| 101 | 2 | 2023-12-01 | 250.00 | 125.00 | 2 | shipped |
| 102 | 3 | 2023-12-02 | 375.00 | 125.00 | 2 | shipped |
| 103 | 3 | 2023-12-03 | 125.00 | 125.00 | 2 | pending |
| 104 | 4 | 2023-12-04 | 250.00 | 125.00 | 2 | pending |
| 105 | 5 | 2023-12-05 | 1000.00 | 125.00 | 2 | pending |
| 106 | 6 | 2023-12-06 | 125.00 | 125.00 | 2 | pending |
| 107 | 7 | 2023-12-07 | 250.00 | 125.00 | 2 | Shipped |
| 109 | 9 | 2023-12-09 | 250.00 | 125.00 | 2 | NULL |
| 110 | 10 | 2023-12-10 | 240.00 | 120.00 | 2 | NULL |
| 12345 | 1 | 2023-12-15 | 250.00 | 125.00 | 2 | Shipped |
+-----+-----+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)

MySQL> UPDATE orders SET status ='Shipped' WHERE orderid = '106' AND status = 'pending';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MySQL> select * from orders;
+-----+-----+-----+-----+-----+-----+-----+
| orderid | customerid | orderdate | totalamount | price | quantity | status |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 2023-12-06 | 250.00 | 125.00 | 2 | NULL |
| 101 | 2 | 2023-12-01 | 250.00 | 125.00 | 2 | shipped |
| 102 | 3 | 2023-12-02 | 375.00 | 125.00 | 2 | shipped |
| 103 | 3 | 2023-12-03 | 125.00 | 125.00 | 2 | pending |
| 104 | 4 | 2023-12-04 | 250.00 | 125.00 | 2 | pending |
| 105 | 5 | 2023-12-05 | 1000.00 | 125.00 | 2 | pending |
| 106 | 6 | 2023-12-06 | 125.00 | 125.00 | 2 | Shipped |
| 107 | 7 | 2023-12-07 | 250.00 | 125.00 | 2 | Shipped |
| 109 | 9 | 2023-12-09 | 250.00 | 125.00 | 2 | NULL |
| 110 | 10 | 2023-12-10 | 240.00 | 120.00 | 2 | NULL |
| 12345 | 1 | 2023-12-15 | 250.00 | 125.00 | 2 | Shipped |
+-----+-----+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)

```

12. Write an SQL Query to calculate and update the number of order placed by each customer in the “Customers” table based on the date in the “order” table.

```

MySQL 8.0 Command Line Cli + - X
+-----+
| 1 | monu   | doe    | abc@gmail.com | 1234567899 | chennai | 1 |
| 2 | nonu   | doe    | nonu@gmail.com | 5234567899 | main st | 1 |
| 3 | abbu   | doe    | abbu@gmail.com | 1234567899 | main st | 1 |
| 4 | tittu  | doe    | tittu@gmail.com | 2563147898 | main st | 1 |
| 5 | titti   | doe    | titti@gmail.com | 2563145698 | main st | 1 |
| 6 | apple   | doe    | apple@gmail.com | 1324567899 | main st | 1 |
| 7 | tit    | doe    | tit@gmail.com | 2565345698 | main st | 1 |
| 8 | glass   | doe    | glass@gmail.com | 2314567899 | main st | 1 |
| 9 | fig     | tit    | fig@gmail.com | 2565345652 | main st | 1 |
| 10 | potato  | toe    | potato@gmail.com | 0123456789 | uproad | 1 |
| 11 | polo   | doe    | polo@gmail.com | 0987654321 | mainroad | 1 |
+-----+
11 rows in set (0.00 sec)

mysql> update set NumberOfOrders =(SELECT COUNT(orderid) FROM orders WHERE orders.customerid=customers.customerid);
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 'et NumberOfOrders =(SELECT COUNT(orderid) FROM orders WHERE orders.customerid=' at line 1
mysql> update customers set NumberOfOrders =(SELECT COUNT(orderid) FROM orders WHERE orders.customerid=customers.customerid);
Query OK, 4 rows affected (0.01 sec)
Rows matched: 11 Changed: 4 Warnings: 0

mysql> select * from customers;
+-----+
| customerid | fristname | lastname | email      | phone      | address    | NumberOfOrders |
+-----+
| 1 | monu   | doe    | abc@gmail.com | 1234567899 | chennai | 2 |
| 2 | nonu   | doe    | nonu@gmail.com | 5234567899 | main st | 1 |
| 3 | abbu   | doe    | abbu@gmail.com | 1234567899 | main st | 2 |
| 4 | tittu  | doe    | tittu@gmail.com | 2563147898 | main st | 1 |
| 5 | titti   | doe    | titti@gmail.com | 2563145698 | main st | 1 |
| 6 | apple   | doe    | apple@gmail.com | 1324567899 | main st | 1 |
| 7 | tit    | doe    | tit@gmail.com | 2565345698 | main st | 1 |
| 8 | glass   | doe    | glass@gmail.com | 2314567899 | main st | 0 |
| 9 | fig     | tit    | fig@gmail.com | 2565345652 | main st | 1 |
| 10 | potato  | toe    | potato@gmail.com | 0123456789 | uproad | 1 |
| 11 | polo   | doe    | polo@gmail.com | 0987654321 | mainroad | 0 |
+-----+
11 rows in set (0.00 sec)

mysql>
```

### Task 3:

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

```

MySQL 8.0 Command Line Cli + - X
+-----+
| customerid | fristname | lastname | email      | phone      | address    | NumberOfOrders |
+-----+
| 1 | monu   | doe    | abc@gmail.com | 1234567899 | chennai | 2 |
| 2 | nonu   | doe    | nonu@gmail.com | 5234567899 | main st | 1 |
| 3 | abbu   | doe    | abbu@gmail.com | 1234567899 | main st | 2 |
| 4 | tittu  | doe    | tittu@gmail.com | 2563147898 | main st | 1 |
| 5 | titti   | doe    | titti@gmail.com | 2563145698 | main st | 1 |
| 6 | apple   | doe    | apple@gmail.com | 1324567899 | main st | 1 |
| 7 | tit    | doe    | tit@gmail.com | 2565345698 | main st | 1 |
| 8 | glass   | doe    | glass@gmail.com | 2314567899 | main st | 0 |
| 9 | fig     | tit    | fig@gmail.com | 2565345652 | main st | 1 |
| 10 | potato  | toe    | potato@gmail.com | 0123456789 | uproad | 1 |
| 11 | polo   | doe    | polo@gmail.com | 0987654321 | mainroad | 0 |
+-----+
11 rows in set (0.00 sec)

mysql> SELECT orders.orderid,orders.orderdate,customers.fristname,customers.lastname,customers.email,
-> customers.phone,customers.address FROM orders JOIN customers ON orders.customerid=customers.customerid;
ERROR 1054 (42S22): Unknown column 'customer.fristname' in 'field list'
mysql> SELECT orders.orderid,orders.orderdate,customers.fristname,customers.lastname,customers.email,
-> customers.phone,customers.address FROM orders JOIN customers ON orders.customerid=customers.customerid;
+-----+
| orderid | orderdate | fristname | lastname | email      | phone      | address |
+-----+
| 1 | 2023-12-06 | monu   | doe    | abc@gmail.com | 1234567899 | chennai |
| 101 | 2023-12-01 | nonu   | doe    | nonu@gmail.com | 5234567899 | main st |
| 102 | 2023-12-02 | abbu   | doe    | abbu@gmail.com | 1234567899 | main st |
| 103 | 2023-12-03 | abbu   | doe    | abbu@gmail.com | 1234567899 | main st |
| 104 | 2023-12-04 | tittu  | doe    | tittu@gmail.com | 2563147898 | main st |
| 105 | 2023-12-05 | titti   | doe    | titti@gmail.com | 2563145698 | main st |
| 106 | 2023-12-06 | apple   | doe    | apple@gmail.com | 1324567899 | main st |
| 107 | 2023-12-07 | tit    | doe    | tit@gmail.com | 2565345698 | main st |
| 109 | 2023-12-09 | fig     | tit    | fig@gmail.com | 2565345652 | main st |
| 110 | 2023-12-10 | potato  | toe    | potato@gmail.com | 0123456789 | uproad |
| 12345 | 2023-12-15 | monu   | doe    | abc@gmail.com | 1234567899 | chennai |
+-----+
11 rows in set (0.00 sec)

mysql>
```

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

```

MySQL 8.0 Command Line Cli + - X
+-----+
| 7 | headphone | high-end | 220.00 | Electronics |
| 8 | apple     | fresh    | 20.00  | fruits      |
| 9 | orange    | fresh    | 20.00  | fruits      |
| 10 | smartwatch | high-end | 400.00 | Electronics |
| 101 | smartphone | phone   | 53.90  | electronics |
+-----+
11 rows in set (0.01 sec)

mysql> select * from orders;
+-----+
| orderid | customerid | orderdate | totalamount | price | quantity | status |
+-----+
| 1        | 1           | 2023-12-06 | 250.00 | 125.00 | 2         | NULL   |
| 101     | 2           | 2023-12-01 | 250.00 | 125.00 | 2         | shipped |
| 102     | 3           | 2023-12-02 | 375.00 | 125.00 | 2         | shipped |
| 103     | 3           | 2023-12-03 | 125.00 | 125.00 | 2         | pending  |
| 104     | 4           | 2023-12-04 | 250.00 | 125.00 | 2         | pending  |
| 105     | 5           | 2023-12-05 | 1000.00 | 125.00 | 2         | pending  |
| 106     | 6           | 2023-12-06 | 125.00 | 125.00 | 2         | Shipped |
| 107     | 7           | 2023-12-07 | 250.00 | 125.00 | 2         | Shipped |
| 109     | 9           | 2023-12-09 | 250.00 | 125.00 | 2         | NULL    |
| 110     | 10          | 2023-12-10 | 200.00 | 120.00 | 2         | NULL    |
| 12345   | 1           | 2023-12-15 | 250.00 | 125.00 | 2         | Shipped |
+-----+
11 rows in set (0.00 sec)

mysql> SELECT p.productname, SUM(pd.quantity*p.price) AS totalamount FROM orderdetails od JOIN products p ON od.productid = p.productid WHERE
-> p.category = 'Electronics' GROUP BY p.productname;
ERROR 1054 (42S22): Unknown column 'pd.quantity' in 'field list'
mysql> SELECT p.productname, SUM(od.quantity*p.price) AS totalamount FROM orderdetails od JOIN products p ON od.productid = p.productid WHERE
-> p.category = 'Electronics' GROUP BY p.productname;
+-----+
| productname | totalamount |
+-----+
| phone       | 8457.90   |
| camera      | 1100.00   |
+-----+
2 rows in set (0.01 sec)

mysql>
```

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

```

MySQL 8.0 Command Line Cli + - X
+-----+
| 104 | 4 | 2023-12-04 | 250.00 | 125.00 | 2 | pending |
| 105 | 5 | 2023-12-05 | 1000.00 | 125.00 | 2 | pending |
| 106 | 6 | 2023-12-06 | 125.00 | 125.00 | 2 | Shipped |
| 107 | 7 | 2023-12-07 | 250.00 | 125.00 | 2 | Shipped |
| 109 | 9 | 2023-12-09 | 250.00 | 125.00 | 2 | NULL    |
| 110 | 10 | 2023-12-10 | 200.00 | 120.00 | 2 | NULL    |
| 12345 | 1 | 2023-12-15 | 250.00 | 125.00 | 2 | Shipped |
+-----+
11 rows in set (0.00 sec)

mysql> SELECT p.productname, SUM(pd.quantity*p.price) AS totalamount FROM orderdetails od JOIN products p ON od.productid = p.productid WHERE
-> p.category = 'Electronics' GROUP BY p.productname;
ERROR 1054 (42S22): Unknown column 'pd.quantity' in 'field list'
mysql> SELECT p.productname, SUM(od.quantity*p.price) AS totalamount FROM orderdetails od JOIN products p ON od.productid = p.productid WHERE
-> p.category = 'Electronics' GROUP BY p.productname;
+-----+
| productname | totalamount |
+-----+
| phone       | 8457.90   |
| camera      | 1100.00   |
+-----+
2 rows in set (0.01 sec)

mysql> SELECT firstname, lastname, email, phone, address FROM customers WHERE customerid in (SELECT DISTINCT customerid FROM orders);
+-----+
| firstname | lastname | email      | phone      | address   |
+-----+
| monu     | doe      | abc@gmail.com | 1234567899 | chennai   |
| nonu    | doe      | nonu@gmail.com | 5234567899 | main st   |
| abbu    | doe      | abbu@gmail.com | 1234567899 | main st   |
| tittu   | doe      | tittu@gmail.com | 2563147898 | main st   |
| titti   | doe      | titti@gmail.com | 2563145698 | main st   |
| apple   | doe      | apple@gmail.com | 1324567899 | main st   |
| tit    | doe      | tit@gmail.com | 2565345698 | main st   |
| fig    | tit      | fig@gmail.com | 2565345652 | main st   |
| potato  | toe      | potato@gmail.com | 6123456789 | uproad   |
+-----+
9 rows in set (0.00 sec)

mysql>
```

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

```
MySQL 8.0 Command Line Cli + v
+-----+-----+-----+-----+
| 1 | mango | king of fruits | 19.00 | NULL |
| 2 | laptop | high-end | 1098.90 | Electronics |
| 3 | phone | high-end | 768.90 | Electronics |
| 4 | desk | chair | 550.00 | furniture |
| 5 | camera | high-end | 550.00 | Electronics |
| 6 | table | stong | 200.00 | furniture |
| 7 | headphone | high-end | 220.00 | Electronics |
| 8 | apple | fresh | 20.00 | fruits |
| 9 | orange | fresh | 20.00 | fruits |
| 10 | smartwatch | high-end | 400.00 | Electronics |
| 101 | smartphone | phone | 53.90 | electronics |
+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql> select * from orderdetails;
+-----+-----+-----+-----+
| orderdetailid | orderid | productid | quantity |
+-----+-----+-----+-----+
| 1 | 1 | 1 | 2 |
| 2 | 101 | 1 | 2 |
| 3 | 102 | 3 | 3 |
| 4 | 103 | 4 | 1 |
| 5 | 104 | 1 | 2 |
| 6 | 105 | 3 | 8 |
| 7 | 106 | 4 | 1 |
| 8 | 107 | 5 | 2 |
+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> SELECT p.productname, SUM(od.quantity) AS TotalQuantityOrdered FROM orderdetails od JOIN products p ON od.productid=p.productid WHERE
-> p.category = 'Electronics' GROUP BY p.productname ORDER BY TotalQuantityOrdered DESC LIMIT 1;
+-----+-----+
| productname | TotalQuantityOrdered |
+-----+-----+
| phone | 11 |
+-----+-----+
1 row in set (0.01 sec)

mysql> |
```

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

```
MySQL 8.0 Command Line Cli + v
11 rows in set (0.00 sec)

mysql> select * from orderdetails;
+-----+-----+-----+-----+
| orderdetailid | orderid | productid | quantity |
+-----+-----+-----+-----+
| 1 | 1 | 1 | 2 |
| 2 | 101 | 1 | 2 |
| 3 | 102 | 3 | 3 |
| 4 | 103 | 4 | 1 |
| 5 | 104 | 1 | 2 |
| 6 | 105 | 3 | 8 |
| 7 | 106 | 4 | 1 |
| 8 | 107 | 5 | 2 |
+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> SELECT p.productname, SUM(od.quantity) AS TotalQuantityOrdered FROM orderdetails od JOIN products p ON od.productid=p.productid WHERE
-> p.category = 'Electronics' GROUP BY p.productname ORDER BY TotalQuantityOrdered DESC LIMIT 1;
+-----+-----+
| productname | TotalQuantityOrdered |
+-----+-----+
| phone | 11 |
+-----+-----+
1 row in set (0.01 sec)

mysql> SELECT productname, category FROM products WHERE category = 'Electronics';
+-----+-----+
| productname | category |
+-----+-----+
| laptop | Electronics |
| phone | Electronics |
| camera | Electronics |
| headphone | Electronics |
| smartwatch | Electronics |
| smartphone | electronics |
+-----+-----+
6 rows in set (0.00 sec)

mysql> |
```

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

```
MySQL 8.0 Command Line Cli + - X

mysql> SELECT p.productname,SUM(od.quantity) AS TotalQuantityOrdered FROM orderdetails od JOIN products p ON od.productid=p.productid WHERE
-> p.category = 'Electronics' GROUP BY p.productname ORDER BY TotalQuantityOrdered DESC LIMIT 1;
+-----+
| productname | TotalQuantityOrdered |
+-----+
| phone       |           11 |
+-----+
1 row in set (0.01 sec)

mysql> SELECT productname,category FROM products WHERE category = 'Electronics';
+-----+
| productname | category |
+-----+
| laptop      | Electronics |
| phone       | Electronics |
| camera      | Electronics |
| headphone   | Electronics |
| smartwatch  | Electronics |
| smartphone | electronics |
+-----+
6 rows in set (0.00 sec)

mysql> SELECT c.fristname,c.lastname,AVG(od.quantity * p.price) AS AverageOrderValue FROM customers c JOIN orders o ON c.customerid = o.customerid
-> JOIN orderdetails od ON o.orderid = od.orderid JOIN products p ON od.productid = p.productid
-> GROUP BY c.fristname, c.lastname;
+-----+
| fristname | lastname | AverageOrderValue |
+-----+
| monu     | doe      |    38.000000 |
| nonu     | doe      |    38.000000 |
| abbu     | doe      | 1428.350000 |
| tittu    | doe      |    38.000000 |
| titti    | doe      | 6151.200000 |
| apple    | doe      |    558.000000 |
| tit      | doe      | 1100.000000 |
+-----+
7 rows in set (0.00 sec)

mysql>
```

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

```
MySQL 8.0 Command Line Cli + - X

+-----+
|      5 | titti   | doe    | titti@gmail.com | 2563145698 | main st |      1 |
|      6 | apple   | doe    | apple@gmail.com | 1324567899 | main st |      1 |
|      7 | tit     | doe    | tit@gmail.com  | 2565345698 | main st |      1 |
|      8 | glass   | doe    | glass@gmail.com | 2314567899 | main st |      0 |
|      9 | fig     | tit    | fig@gmail.com  | 2565345652 | main st |      1 |
|     10 | potato  | toe   | potato@gmail.com | 6123456789 | uproad |      1 |
|     11 | polo    | doe    | polo@gmail.com | 6987654321 | mainroad |      0 |
|     12 | raja    | kumar  | raja@gmail.com | 6213564789 | hyderabad |      3 |
+-----+
12 rows in set (0.00 sec)

mysql> select * FROM orders;
+-----+
| orderid | customerid | orderdate | totalamount | price | quantity | status |
+-----+
|      1 |          1 | 2023-12-06 |    250.00 | 125.00 |        2 | NULL   |
| 101 |          2 | 2023-12-01 |    250.00 | 125.00 |        2 | shipped |
| 102 |          3 | 2023-12-02 |    375.00 | 125.00 |        2 | shipped |
| 103 |          3 | 2023-12-03 |    125.00 | 125.00 |        2 | pending  |
| 104 |          4 | 2023-12-04 |    250.00 | 125.00 |        2 | pending  |
| 105 |          5 | 2023-12-05 |    1000.00 | 125.00 |        2 | pending  |
| 106 |          6 | 2023-12-06 |    125.00 | 125.00 |        2 | Shipped |
| 107 |          7 | 2023-12-07 |    250.00 | 125.00 |        2 | Shipped |
| 109 |          9 | 2023-12-09 |    250.00 | 125.00 |        2 | NULL   |
| 110 |         10 | 2023-12-10 |    240.00 | 120.00 |        2 | NULL   |
| 12345 |         1 | 2023-12-15 |    250.00 | 125.00 |        2 | Shipped |
+-----+
11 rows in set (0.00 sec)

mysql> SELECT o.orderid,c.fristname,c.lastname,c.email,c.phone,c.address,MAX(o.totalamount) AS HighestTotalAmount FROM orders o
-> JOIN customers c ON o.customerid=c.customerid GROUP BY o.orderid,c.fristname,c.lastname,c.email,c.phone,c.address
-> ORDER BY HighestTotalAmount DESC LIMIT 1;
+-----+
| orderid | fristname | lastname | email      | phone      | address | HighestTotalAmount |
+-----+
|     105 | titti     | doe      | titti@gmail.com | 2563145698 | main st |          1000.00 |
+-----+
1 row in set (0.00 sec)

mysql>
```

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

```
MySQL 8.0 Command Line Cli | + -v
+-----+-----+-----+-----+
| 2 | laptop | high-end | 1098.90 | Electronics |
| 3 | phone  | high-end | 768.90 | Electronics |
| 4 | desk   | chair    | 558.00 | furniture |
| 5 | camera | high-end | 550.00 | Electronics |
| 6 | table  | strong   | 260.00 | furniture |
| 7 | headphone | high-end | 220.00 | Electronics |
| 8 | apple  | fresh    | 20.00  | fruits   |
| 9 | orange | fresh    | 20.00  | fruits   |
| 10 | smartwatch | high-end | 400.00 | Electronics |
| 101 | smartphone | phone    | 53.90  | electronics |
+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql> select * from orderdetails;
+-----+-----+-----+-----+
| orderdetailid | orderid | productid | quantity |
+-----+-----+-----+-----+
| 1 | 1 | 1 | 2 |
| 2 | 101 | 1 | 2 |
| 3 | 102 | 3 | 3 |
| 4 | 103 | 4 | 1 |
| 5 | 104 | 1 | 2 |
| 6 | 105 | 3 | 8 |
| 7 | 106 | 4 | 1 |
| 8 | 107 | 5 | 2 |
+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> SELECT p.productname,COUNT(od.orderid) AS NumberOfOrders FROM products p
-> JOIN orderdetails od ON p.productid = od.productid
-> WHERE p.category = 'Electronics' GROUP BY p.productname;
+-----+-----+
| productname | NumberOfOrders |
+-----+-----+
| phone       | 2 |
| camera      | 1 |
+-----+-----+
2 rows in set (0.00 sec)

mysql> |
```

9. Write an SQL query to find customer who have purchased a specific electronic gadgets product. Allow user to input the product name as a parameter.

```
MySQL 8.0 Command Line Cli | + -v
-> WHERE p.category = 'Electronics' GROUP BY p.productname;
+-----+-----+
| productname | NumberOfOrders |
+-----+-----+
| phone       | 2 |
| camera      | 1 |
+-----+-----+
2 rows in set (0.00 sec)

mysql> select * from customers;
+-----+-----+-----+-----+-----+-----+-----+
| customerid | fristname | lastname | email     | phone     | address   | NumberOfOrders |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | monu   | doe     | abc@gmail.com | 1234567899 | chennai  | 2 |
| 2 | nonu   | doe     | nonu@gmail.com | 5234567899 | main st  | 1 |
| 3 | abbu   | doe     | abbu@gmail.com | 1234567899 | main st  | 2 |
| 4 | tittu  | doe     | tittu@gmail.com | 2563147898 | main st  | 1 |
| 5 | titti   | doe     | titti@gmail.com | 2563145698 | main st  | 1 |
| 6 | apple   | doe     | apple@gmail.com | 1324567899 | main st  | 1 |
| 7 | tit    | doe     | tit@gmail.com | 2565345698 | main st  | 1 |
| 8 | glass   | doe     | glass@gmail.com | 2314567899 | main st  | 0 |
| 9 | fig    | tit     | fig@gmail.com | 2565345652 | main st  | 1 |
| 10 | potato  | toe    | potato@gmail.com | 0123456789 | uproad   | 1 |
| 11 | polo   | doe     | polo@gmail.com | 0987654321 | mainroad | 0 |
| 12 | raja   | kumar   | raja@gmail.com | 0213564789 | hyderabad | 3 |
+-----+-----+-----+-----+-----+-----+-----+
12 rows in set (0.00 sec)

mysql> SELECT DISTINCT c.fristname,c.lastname,c.email,c.phone,c.address FROM customers c JOIN
-> orders o ON c.customerid = o.customerid JOIN orderdetails od ON o.orderid = od.orderid
-> JOIN products p ON od.productid = p.productid WHERE p.productname = 'phone';
+-----+-----+-----+-----+
| fristname | lastname | email     | phone     | address   |
+-----+-----+-----+-----+
| abbu     | doe     | abbu@gmail.com | 1234567899 | main st  |
| titti    | doe     | titti@gmail.com | 2563145698 | main st  |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> |
```

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

```
MySQL 8.0 Command Line Cli  +  v
mysql> select * FROM orders;
+-----+-----+-----+-----+-----+-----+-----+
| orderid | customerid | orderdate | totalamount | price | quantity | status |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 2023-12-06 | 250.00 | 125.00 | 2 | NULL |
| 101 | 2 | 2023-12-01 | 250.00 | 125.00 | 2 | shipped |
| 102 | 3 | 2023-12-02 | 375.00 | 125.00 | 2 | shipped |
| 103 | 3 | 2023-12-03 | 125.00 | 125.00 | 2 | pending |
| 104 | 4 | 2023-12-04 | 250.00 | 125.00 | 2 | pending |
| 105 | 5 | 2023-12-05 | 1000.00 | 125.00 | 2 | pending |
| 106 | 6 | 2023-12-06 | 125.00 | 125.00 | 2 | Shipped |
| 107 | 7 | 2023-12-07 | 250.00 | 125.00 | 2 | Shipped |
| 109 | 9 | 2023-12-09 | 250.00 | 125.00 | 2 | NULL |
| 110 | 10 | 2023-12-10 | 240.00 | 120.00 | 2 | NULL |
| 12345 | 1 | 2023-12-15 | 250.00 | 125.00 | 2 | Shipped |
+-----+-----+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql> SELECT SUM(totalamount) AS TotalGeneratedAmount FROM orders WHERE orderdate
-> BETWEEN '2023-12-01' AND '2023-12-06';
+-----+
| TotalGeneratedAmount |
+-----+
| 2375.00 |
+-----+
1 row in set (0.00 sec)

mysql> |
```

#### Task 4:

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

```
MySQL 8.0 Command Line Cli  +  v
mysql> SELECT SUM(totalamount) AS TotalGeneratedAmount FROM orders WHERE orderdate
-> BETWEEN '2023-12-01' AND '2023-12-06';
+-----+
| TotalGeneratedAmount |
+-----+
| 2375.00 |
+-----+
1 row in set (0.00 sec)

mysql> select * from customers;
+-----+-----+-----+-----+-----+-----+
| customerid | fristname | lastname | email | phone | address | NumberofOrders |
+-----+-----+-----+-----+-----+-----+
| 1 | monu | doe | abc@gmail.com | 1234567899 | chennai | 2 |
| 2 | nonu | doe | nonu@gmail.com | 5234567899 | main st | 1 |
| 3 | abbu | doe | abbu@gmail.com | 1234567899 | main st | 2 |
| 4 | tittu | doe | tittu@gmail.com | 2563147898 | main st | 1 |
| 5 | titti | doe | titti@gmail.com | 2563145698 | main st | 1 |
| 6 | apple | doe | apple@gmail.com | 1324567899 | main st | 1 |
| 7 | tit | doe | tit@gmail.com | 2565345698 | main st | 1 |
| 8 | glass | doe | glass@gmail.com | 2314567899 | main st | 0 |
| 9 | fig | tit | fig@gmail.com | 2565345652 | main st | 1 |
| 10 | potato | toe | potato@gmail.com | 0123456789 | uproad | 1 |
| 11 | polo | doe | polo@gmail.com | 0987654321 | mainroad | 0 |
| 12 | raja | kumar | raja@gmail.com | 0213564789 | hyderabad | 3 |
+-----+-----+-----+-----+-----+-----+
12 rows in set (0.00 sec)

mysql> SELECT * FROM customers WHERE customerid NOT IN (SELECT DISTINCT customerid FROM orders);
+-----+-----+-----+-----+-----+-----+
| customerid | fristname | lastname | email | phone | address | NumberofOrders |
+-----+-----+-----+-----+-----+-----+
| 8 | glass | doe | glass@gmail.com | 2314567899 | main st | 0 |
| 11 | polo | doe | polo@gmail.com | 0987654321 | mainroad | 0 |
| 12 | raja | kumar | raja@gmail.com | 0213564789 | hyderabad | 3 |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)

mysql> |
```

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

```
MySQL 8.0 Command Line Cli + ▾
mysql> select * from products;
+-----+-----+-----+-----+-----+
| productid | productname | description | price | category |
+-----+-----+-----+-----+-----+
| 1 | mango | king of fruits | 19.00 | NULL |
| 2 | laptop | high-end | 1098.90 | Electronics |
| 3 | phone | high-end | 768.90 | Electronics |
| 4 | desk | chair | 550.00 | furniture |
| 5 | camera | high-end | 550.00 | Electronics |
| 6 | table | stong | 200.00 | furniture |
| 7 | headphone | high-end | 220.00 | Electronics |
| 8 | apple | fresh | 20.00 | fruits |
| 9 | orange | fresh | 20.00 | fruits |
| 10 | smartwatch | high-end | 400.00 | Electronics |
| 101 | smartphone | phone | 53.90 | electronics |
+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql> SELECT COUNT(*) AS TotalProducts FROM products;
+-----+
| TotalProducts |
+-----+
| 11 |
+-----+
1 row in set (0.04 sec)

mysql>
```

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

```
MySQL 8.0 Command Line Cli + ▾
mysql> select * from products;
+-----+-----+-----+-----+-----+
| productid | productname | description | price | category |
+-----+-----+-----+-----+-----+
| 1 | mango | king of fruits | 19.00 | NULL |
| 2 | laptop | high-end | 1098.90 | Electronics |
| 3 | phone | high-end | 768.90 | Electronics |
| 4 | desk | chair | 550.00 | furniture |
| 5 | camera | high-end | 550.00 | Electronics |
| 6 | table | stong | 200.00 | furniture |
| 7 | headphone | high-end | 220.00 | Electronics |
| 8 | apple | fresh | 20.00 | fruits |
| 9 | orange | fresh | 20.00 | fruits |
| 10 | smartwatch | high-end | 400.00 | Electronics |
| 101 | smartphone | phone | 53.90 | electronics |
+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql> SELECT COUNT(*) AS TotalProducts FROM products;
+-----+
| TotalProducts |
+-----+
| 11 |
+-----+
1 row in set (0.04 sec)

mysql> SELECT SUM(totalamount) AS TotalGeneratedAmount FROM orders;
+-----+
| TotalGeneratedAmount |
+-----+
| 3365.00 |
+-----+
1 row in set (0.00 sec)

mysql>
```

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.

```
MySQL 8.0 Command Line Cli  +  ~
+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql> SELECT COUNT(*) AS TotalProducts FROM products;
+-----+
| TotalProducts |
+-----+
|      11 |
+-----+
1 row in set (0.04 sec)

mysql> SELECT SUM(totalamount) AS TotalGeneratedAmount FROM orders;
+-----+
| TotalGeneratedAmount |
+-----+
|      3365.00 |
+-----+
1 row in set (0.00 sec)

mysql> SELECT AVG(sub.quantity) AS AverageQuantityOrdered FROM
    -> (SELECT od.quantity FROM orderdetails od JOIN
    -> products p ON od.productid = p.productid WHERE p.category = 'fruits') AS sub;
+-----+
| AverageQuantityOrdered |
+-----+
|          NULL |
+-----+
1 row in set (0.00 sec)

mysql> SELECT AVG(sub.quantity) AS AverageQuantityOrdered FROM
    -> (SELECT od.quantity FROM orderdetails od JOIN
    -> products p ON od.productid = p.productid WHERE p.category = 'Electronics') AS sub;
+-----+
| AverageQuantityOrdered |
+-----+
|        4.3333 |
+-----+
1 row in set (0.00 sec)

mysql>
```

5. Write an SQL query to calculate the total revenue generated by a specific customer. allow users.

```
MySQL 8.0 Command Line Cli  +  ~
+-----+
| AverageQuantityOrdered |
+-----+
|        4.3333 |
+-----+
1 row in set (0.00 sec)

mysql> select * from customers;
+-----+-----+-----+-----+-----+-----+
| customerid | fristname | lastname | email           | phone          | address        | NumberofOrders |
+-----+-----+-----+-----+-----+-----+
|      1 | monu   | doe     | abc@gmail.com | 1234567899 | chennai       | 2             |
|      2 | nonu   | doe     | nonu@gmail.com | 5234567899 | main st       | 1             |
|      3 | abbu   | doe     | abbu@gmail.com | 1234567899 | main st       | 2             |
|      4 | tittu  | doe     | tittu@gmail.com | 2563147898 | main st       | 1             |
|      5 | titti   | doe     | titti@gmail.com | 2563145698 | main st       | 1             |
|      6 | apple   | doe     | apple@gmail.com | 1324567899 | main st       | 1             |
|      7 | tit    | doe     | tit@gamil.com | 2565345698 | main st       | 1             |
|      8 | glass   | doe     | glass@gmail.com | 2314567899 | main st       | 0             |
|      9 | fig    | tit     | fig@gamil.com | 2565345652 | main st       | 1             |
|     10 | potato  | toe    | potato@gamil.com | 0123456789 | upload         | 1             |
|     11 | polo   | doe     | polo@gmail.com | 0987654321 | mainroad      | 0             |
|     12 | raja   | kumar   | raja@gmail.com | 0213564789 | hyderabad     | 3             |
+-----+-----+-----+-----+-----+-----+
12 rows in set (0.00 sec)

mysql> SELECT SUM(o.totalamount) AS TotalGeneratedAmount FROM orders o WHERE o.customerid = (SELECT customerid FROM
    -> customers WHERE customerid = '1');
ERROR 1054 (42S22): Unknown column 'o.customerid' in 'where clause'
mysql> SELECT SUM(o.totalamount) AS TotalGeneratedAmount FROM orders o WHERE o.customerid = (SELECT customerid FROM
    -> customers WHERE customerid = '1');
+-----+
| TotalGeneratedAmount |
+-----+
|      500.00 |
+-----+
1 row in set (0.01 sec)

mysql>
```

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.

```
MySQL 8.0 Command Line Cli | + - 
mysql> select * from customers;
+-----+-----+-----+-----+-----+-----+-----+
| customerid | fristname | lastname | email | phone | address | NumberofOrders |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | monu | doe | abc@gmail.com | 1234567899 | chennai | 2 |
| 2 | nonu | doe | nonu@gmail.com | 5234567899 | main st | 1 |
| 3 | abbu | doe | abbu@gmail.com | 1234567899 | main st | 2 |
| 4 | tittu | doe | tittu@gmail.com | 2563147899 | main st | 1 |
| 5 | titti | doe | titti@gmail.com | 2563145698 | main st | 1 |
| 6 | apple | doe | apple@gmail.com | 1324567899 | main st | 1 |
| 7 | tit | doe | tit@gmail.com | 2565345698 | main st | 1 |
| 8 | glass | doe | glass@gmail.com | 2314567899 | main st | 0 |
| 9 | fig | tit | fig@gmail.com | 2565345652 | main st | 1 |
| 10 | potato | toe | potato@gmail.com | 0123456789 | uproad | 1 |
| 11 | polo | doe | polo@gmail.com | 0987654321 | mainroad | 0 |
| 12 | raja | kumar | raja@gmail.com | 0213564789 | hyderabad | 3 |
+-----+-----+-----+-----+-----+-----+-----+
12 rows in set (0.00 sec)

mysql> SELECT c.fristname, c.lastname, COUNT(o.orderid) AS NumberofOrdersPlaced FROM
    > customers c JOIN orders o ON c.customerid = o.customerid GROUP BY c.fristname,
    > c.lastname ORDER BY NumberofOrdersPlaced DESC LIMIT 1;
+-----+-----+-----+
| fristname | lastname | NumberofOrdersPlaced |
+-----+-----+-----+
| monu | doe | 2 |
+-----+-----+-----+
1 row in set (0.01 sec)

mysql> |
```

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.

```
MySQL 8.0 Command Line Cli | + - 
+-----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 2023-12-06 | 250.00 | 125.00 | 2 | NULL |
| 101 | 2 | 2023-12-01 | 250.00 | 125.00 | 2 | shipped |
| 102 | 3 | 2023-12-02 | 375.00 | 125.00 | 2 | shipped |
| 103 | 3 | 2023-12-03 | 125.00 | 125.00 | 2 | pending |
| 104 | 4 | 2023-12-04 | 250.00 | 125.00 | 2 | pending |
| 105 | 5 | 2023-12-05 | 1800.00 | 125.00 | 2 | pending |
| 106 | 6 | 2023-12-06 | 125.00 | 125.00 | 2 | Shipped |
| 107 | 7 | 2023-12-07 | 250.00 | 125.00 | 2 | Shipped |
| 109 | 9 | 2023-12-09 | 250.00 | 125.00 | 2 | NULL |
| 110 | 10 | 2023-12-10 | 240.00 | 120.00 | 2 | NULL |
| 12345 | 1 | 2023-12-15 | 250.00 | 125.00 | 2 | Shipped |
+-----+-----+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql> select * from orderdetails;
+-----+-----+-----+-----+
| orderdetailid | orderid | productid | quantity |
+-----+-----+-----+-----+
| 1 | 1 | 1 | 2 |
| 2 | 101 | 1 | 2 |
| 3 | 102 | 3 | 3 |
| 4 | 103 | 4 | 1 |
| 5 | 104 | 1 | 2 |
| 6 | 105 | 3 | 8 |
| 7 | 106 | 4 | 1 |
| 8 | 107 | 5 | 2 |
+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> SELECT p.category, SUM(od.quantity) AS TotalQuantityOrdered FROM products p
    > JOIN orderdetails od ON p.productid = od.productid GROUP BY
    > p.category ORDER BY TotalQuantityOrdered DESC LIMIT 1;
+-----+-----+
| category | TotalQuantityOrdered |
+-----+-----+
| Electronics | 13 |
+-----+-----+
1 row in set (0.00 sec)

mysql>
```

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.

```
MySQL 8.0 Command Line Cli + ~
| 102 | 3 | 2023-12-02 | 375.00 | 125.00 | 2 | shipped |
| 103 | 3 | 2023-12-03 | 125.00 | 125.00 | 2 | pending |
| 104 | 4 | 2023-12-04 | 250.00 | 125.00 | 2 | pending |
| 105 | 5 | 2023-12-05 | 1000.00 | 125.00 | 2 | pending |
| 106 | 6 | 2023-12-06 | 125.00 | 125.00 | 2 | Shipped |
| 107 | 7 | 2023-12-07 | 250.00 | 125.00 | 2 | Shipped |
| 109 | 9 | 2023-12-09 | 250.00 | 125.00 | 2 | NULL |
| 110 | 10 | 2023-12-10 | 240.00 | 120.00 | 2 | NULL |
| 12345 | 1 | 2023-12-15 | 250.00 | 125.00 | 2 | Shipped |
+-----+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql> select * from orderdetails;
+-----+-----+-----+-----+
| orderdetailid | orderid | productid | quantity |
+-----+-----+-----+-----+
| 1 | 1 | 1 | 2 |
| 2 | 101 | 1 | 2 |
| 3 | 102 | 3 | 3 |
| 4 | 103 | 4 | 1 |
| 5 | 104 | 1 | 2 |
| 6 | 105 | 3 | 8 |
| 7 | 106 | 4 | 1 |
| 8 | 107 | 5 | 2 |
+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> SELECT c.firstname, c.lastname, SUM(od.quantity * p.price) AS TotalSpending
-> FROM customers c JOIN orders o ON c.customerid = o.customerid
-> JOIN orderdetails od ON o.orderid = od.orderid
-> JOIN products p ON od.productid = p.productid WHERE p.category = 'Electronics'
-> GROUP BY c.firstname, c.lastname ORDER BY TotalSpending DESC LIMIT 1;
+-----+-----+-----+
| firstname | lastname | TotalSpending |
+-----+-----+-----+
| titti | doe | 6151.20 |
+-----+-----+-----+
1 row in set (0.00 sec)

mysql> |
```

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

```
MySQL 8.0 Command Line Cli + ~
mysql> SELECT c.firstname, c.lastname, SUM(od.quantity * p.price) AS TotalSpending
-> FROM customers c JOIN orders o ON c.customerid = o.customerid
-> JOIN orderdetails od ON o.orderid = od.orderid
-> JOIN products p ON od.productid = p.productid WHERE p.category = 'Electronics'
-> GROUP BY c.firstname, c.lastname ORDER BY TotalSpending DESC LIMIT 1;
+-----+-----+-----+
| firstname | lastname | TotalSpending |
+-----+-----+-----+
| titti | doe | 6151.20 |
+-----+-----+-----+
1 row in set (0.00 sec)

mysql> select * from orders;
+-----+-----+-----+-----+-----+-----+
| orderid | customerid | orderdate | totalamount | price | quantity | status |
+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 2023-12-06 | 250.00 | 125.00 | 2 | NULL |
| 101 | 2 | 2023-12-01 | 250.00 | 125.00 | 2 | shipped |
| 102 | 3 | 2023-12-02 | 375.00 | 125.00 | 2 | shipped |
| 103 | 3 | 2023-12-03 | 125.00 | 125.00 | 2 | pending |
| 104 | 4 | 2023-12-04 | 250.00 | 125.00 | 2 | pending |
| 105 | 5 | 2023-12-05 | 1000.00 | 125.00 | 2 | pending |
| 106 | 6 | 2023-12-06 | 125.00 | 125.00 | 2 | Shipped |
| 107 | 7 | 2023-12-07 | 250.00 | 125.00 | 2 | Shipped |
| 109 | 9 | 2023-12-09 | 250.00 | 125.00 | 2 | NULL |
| 110 | 10 | 2023-12-10 | 240.00 | 120.00 | 2 | NULL |
| 12345 | 1 | 2023-12-15 | 250.00 | 125.00 | 2 | Shipped |
+-----+-----+-----+-----+
11 rows in set (0.00 sec)

mysql> SELECT AVG(totalamount) AS AverageOrderValue FROM (SELECT SUM(totalamount)
-> AS totalamount FROM orders GROUP BY orderid) AS SubQuery;
+-----+
| AverageOrderValue |
+-----+
| 305.90909091 |
+-----+
1 row in set (0.01 sec)

mysql>
```

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.

```
MySQL 8.0 Command Line Cli  +  ▾

mysql> select * from orderdetails;
+-----+-----+-----+-----+
| orderdetailid | orderid | productid | quantity |
+-----+-----+-----+-----+
| 1 | 1 | 1 | 2 |
| 2 | 101 | 1 | 2 |
| 3 | 102 | 3 | 3 |
| 4 | 103 | 4 | 1 |
| 5 | 104 | 1 | 2 |
| 6 | 105 | 3 | 8 |
| 7 | 106 | 4 | 1 |
| 8 | 107 | 5 | 2 |
+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> SELECT c.fristname, c.lastname, COUNT(o.orderid) AS OrderCount FROM customers c LEFT JOIN
-> orders o ON c.customerid = o.customerid GROUP BY c.fristname, c.lastname;
ERROR 1630 (42000): FUNCTION world.COUNT does not exist. Check the 'Function Name Parsing and Resolution' section in the Reference Manual
mysql> SELECT c.fristname, c.lastname, COUNT(o.orderid) AS OrderCount FROM customers c LEFT JOIN
-> orders o ON c.customerid = o.customerid GROUP BY c.fristname, c.lastname;
+-----+-----+-----+
| fristname | lastname | OrderCount |
+-----+-----+-----+
| monu | doe | 2 |
| nonu | doe | 1 |
| abbu | doe | 2 |
| tittu | doe | 1 |
| titti | doe | 1 |
| apple | doe | 1 |
| tit | doe | 1 |
| glass | doe | 0 |
| fig | tit | 1 |
| potato | toe | 1 |
| polo | doe | 0 |
| raja | kumar | 0 |
+-----+-----+-----+
12 rows in set (0.00 sec)

mysql> |
```