Assignment SQL-1

Task-1. Database Design

1.Create the database named “TechShop”.

```
mysql> create database TechShop;
Query OK, 1 row affected (0.05 sec)

mysql> show databases;
```

2.Define the schema

Customers

```
mysql> create table Customers(CustomerId int primary key,FirstName text,LastName text,Email Varchar(20),Phone bigint,Address text);
                                                                                                                                  Q
uery OK, 0 rows affected (0.09 sec)

mysql> desc Customers;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| CustomerId | int         | NO   | PRI | NULL    |       |
| FirstName  | text        | YES  |     | NULL    |       |
| LastName   | text        | YES  |     | NULL    |       |
| Email      | varchar(20) | YES  |     | NULL    |       |
| Phone      | bigint      | YES  |     | NULL    |       |
| Address    | text        | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
6 rows in set (0.01 sec)
```

Products

```
mysql> create table Products(ProductId int primary key,ProductName text,Description text,Price bigint);
Query OK, 0 rows affected (0.14 sec)

mysql> desc Products;
+-------------+--------+------+-----+---------+-------+
| Field       | Type   | Null | Key | Default | Extra |
+-------------+--------+------+-----+---------+-------+
| ProductId   | int    | NO   | PRI | NULL    |       |
| ProductName | text   | YES  |     | NULL    |       |
| Description | text   | YES  |     | NULL    |       |
| Price       | bigint | YES  |     | NULL    |       |
+-------------+--------+------+-----+---------+-------+
4 rows in set (0.01 sec)
```

Orders

```
mysql> create table Orders(OrderId int primary key,CustomerId int,foreign key(CustomerId) references Customers(CustomerId),OrderDat
e datetime,TotalAmount bigint);
Query OK, 0 rows affected (0.17 sec)

mysql> desc Orders;
+-------------+----------+------+-----+---------+-------+
| Field       | Type     | Null | Key | Default | Extra |
+-------------+----------+------+-----+---------+-------+
| OrderId     | int      | NO   | PRI | NULL    |       |
| CustomerId  | int      | YES  | MUL | NULL    |       |
| OrderDate   | datetime | YES  |     | NULL    |       |
| TotalAmount | bigint   | YES  |     | NULL    |       |
+-------------+----------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

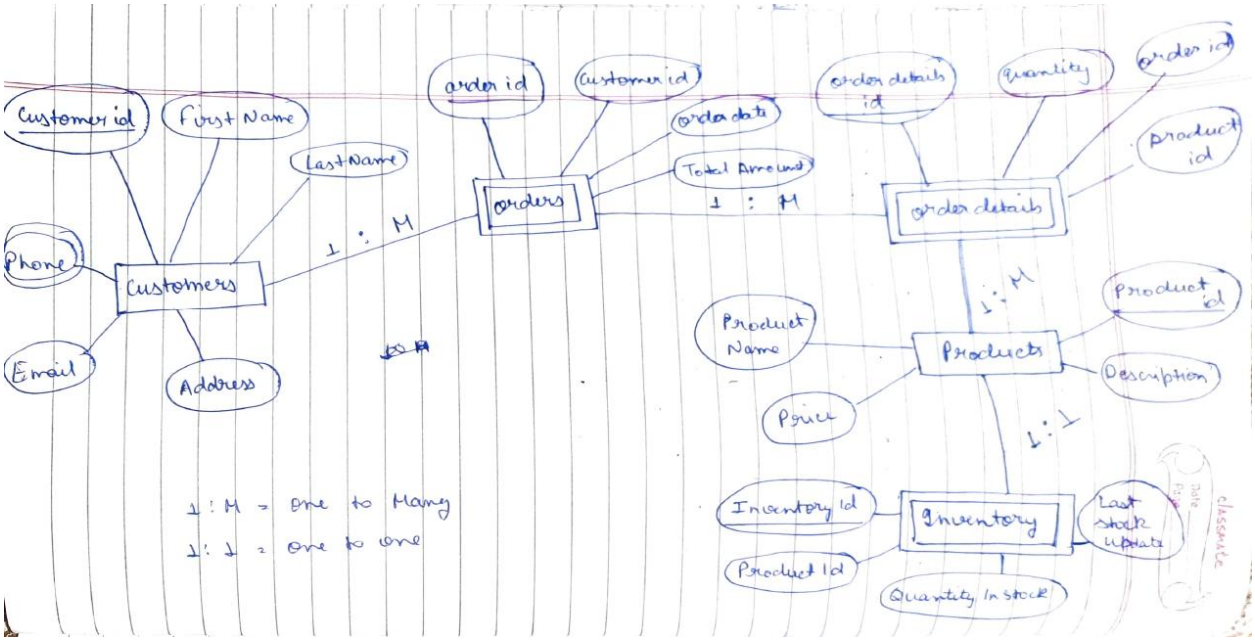
OrderDetails

```
mysql> create table OrderDetails(OrderDetailsId int primary key,OrderId int,ProductId int,foreign key(OrderId) references Orders(Or
derId),foreign key(ProductId) references Products(ProductId),Quantity int);
Query OK, 0 rows affected (0.16 sec)

mysql> desc OrderDetails;
+----------------+------+------+-----+---------+-------+
| Field          | Type | Null | Key | Default | Extra |
+----------------+------+------+-----+---------+-------+
| OrderDetailsId | int  | NO   | PRI | NULL    |       |
| OrderId        | int  | YES  | MUL | NULL    |       |
| ProductId      | int  | YES  | MUL | NULL    |       |
| Quantity       | int  | YES  |     | NULL    |       |
+----------------+------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

Inventory

```
mysql> create table Inventory(InventoryId int primary key,ProductId int,foreign key(ProductId) references Products(ProductId),Quant
ityInStock int,LastStockUpdate datetime);
Query OK, 0 rows affected (0.12 sec)

mysql> desc Inventory;
+-----------------+----------+------+-----+---------+-------+
| Field           | Type     | Null | Key | Default | Extra |
+-----------------+----------+------+-----+---------+-------+
| InventoryId     | int      | NO   | PRI | NULL    |       |
| ProductId       | int      | YES  | MUL | NULL    |       |
| QuantityInStock | int      | YES  |     | NULL    |       |
| LastStockUpdate | datetime | YES  |     | NULL    |       |
+-----------------+----------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

3. Create an ERD for the database



4.create appropriate primary key and foreign key constrains for referential integrity.

Already done above

5.Insert atleast 10 sample records into each of the following tables:

a. Customers

```
mysql> insert into customers values(1, 'Asmita', 'Porwal', 'asmita@gmail.com', '878789765', 'Gwalior'),
    ->     (2, 'Ram', 'Porwal', 'ram@gmail.com', '2785789765', 'Surat'),
    ->     (3, 'shyam', 'Gupta', 'shyam@gmail.com', '988789765', 'Gwalior'),
    ->     (4, 'Bob', 'Williams', 'bob@gmail.com', '1112223333', '567 Pine St, Lakeside'),
    ->     (5, 'Emma', 'Brown', 'emma@gmail.com', '4444444444', '101 Maple St, Hilltop'),
    ->      (6, 'Michael', 'Miller', 'michaelm@example.com', '7778889999', '222 Birch St, Woodville'),
    ->      (7, 'Olivia', 'Wilson', 'olivia@example.com', '6667778888', '333 Cedar St, Riverside'),
    ->      (8, 'Liam', 'Garcia', 'liam@gmail.com', '9999999999', '444 Oak St, Parkside'),
    ->      (9, 'Sophia', 'Martinez', 'sophiam@example.com', '2223334444', '555 Elm St, Seaview'),
    ->      (10, 'Noah', 'Lopez', 'noahl@example.com', '8888888888', '666 Maple St, Mountainview');
Query OK, 10 rows affected (0.05 sec)
Records: 10  Duplicates: 0  Warnings: 0

mysql> select * from Customers;
+------------+-----------+----------+---------------------+------------+---------------------------+
| CustomerId | FirstName | LastName | Email               | Phone      | Address                   |
+------------+-----------+----------+---------------------+------------+---------------------------+
|          1 | Asmita    | Porwal   | asmita@gmail.com    |  878789765 | Gwalior                   |
|          2 | Ram       | Porwal   | ram@gmail.com       | 2785789765 | Surat                     |
|          3 | shyam     | Gupta    | shyam@gmail.com     |  988789765 | Gwalior                   |
|          4 | Bob       | Williams | bob@gmail.com       | 1112223333 | 567 Pine St, Lakeside     |
|          5 | Emma      | Brown    | emma@gmail.com      | 4444444444 | 101 Maple St, Hilltop     |
|          6 | Michael   | Miller   | michaelm@example.com | 7778889999 | 222 Birch St, Woodville   |
|          7 | Olivia    | Wilson   | olivia@example.com  | 6667778888 | 333 Cedar St, Riverside   |
|          8 | Liam      | Garcia   | liam@gmail.com      | 9999999999 | 444 Oak St, Parkside      |
|          9 | Sophia    | Martinez | sophiam@example.com | 2223334444 | 555 Elm St, Seaview       |
|         10 | Noah      | Lopez    | noahl@example.com   | 8888888888 | 666 Maple St, Mountainview |
+------------+-----------+----------+---------------------+------------+---------------------------+
10 rows in set (0.00 sec)
```

b.Products

```
mysql> insert into Products values(101, 'Laptop', 'High-performance laptop', 1200.00),
    ->     (102, 'Smartphone', 'Latest smartphone model', 800.00),
    ->     (103, 'Headphones', 'Noise-canceling headphones', 150.00),
    ->     (104, 'Tablet', 'Portable tablet device', 500.00),
    ->     (105, 'Camera', 'High-resolution digital camera', 900.00),
    ->     (106, 'Speaker', 'Wireless Bluetooth speaker', 200.00),
    ->     (107, 'Monitor', 'Large high-definition monitor', 600.00),
    ->     (108, 'Printer', 'All-in-one printer scanner', 300.00),
    ->     (109, 'External Hard Drive', '1TB external hard drive', 100.00),
    ->     (110, 'Gaming Console', 'Next-gen gaming console', 400.00);
Query OK, 10 rows affected (0.03 sec)
Records: 10  Duplicates: 0  Warnings: 0

mysql> select * from Products;
+-----------+--------------------+--------------------------------+-------+
| ProductId | ProductName        | Description                    | Price |
+-----------+--------------------+--------------------------------+-------+
|       101 | Laptop             | High-performance laptop        |  1200 |
|       102 | Smartphone         | Latest smartphone model        |   800 |
|       103 | Headphones         | Noise-canceling headphones     |   150 |
|       104 | Tablet             | Portable tablet device         |   500 |
|       105 | Camera             | High-resolution digital camera |   900 |
|       106 | Speaker            | Wireless Bluetooth speaker     |   200 |
|       107 | Monitor            | Large high-definition monitor  |   600 |
|       108 | Printer            | All-in-one printer scanner     |   300 |
|       109 | External Hard Drive | 1TB external hard drive        |   100 |
|       110 | Gaming Console     | Next-gen gaming console        |   400 |
+-----------+--------------------+--------------------------------+-------+
10 rows in set (0.00 sec)
```

c. Orders

```
mysql> insert into Orders values
    ->     (1, 1, '2023-12-01 09:00:00', 1200.00),
    ->     (2, 1, '2023-12-05 10:30:00', 800.00),
    ->     (3, 2, '2023-12-10 11:45:00', 150.00),
    ->     (4, 2, '2023-12-15 12:15:00', 500.00),
    ->     (5, 3, '2023-12-20 13:20:00', 900.00),
    ->     (6, 3, '2023-12-25 14:00:00', 200.00),
    ->     (7, 3, '2023-12-30 15:30:00', 600.00),
    ->     (8, 4, '2023-12-08 16:45:00', 300.00),
    ->     (9, 4, '2023-12-12 17:00:00', 100.00),
    ->     (10, 4, '2023-12-18 17:00:00', 400.00);
Query OK, 10 rows affected (0.01 sec)
Records: 10  Duplicates: 0  Warnings: 0

mysql> select * from Orders;
+---------+------------+---------------------+-------------+
| OrderId | CustomerId | OrderDate           | TotalAmount |
+---------+------------+---------------------+-------------+
|       1 |          1 | 2023-12-01 09:00:00 |        1200 |
|       2 |          1 | 2023-12-05 10:30:00 |         800 |
|       3 |          2 | 2023-12-10 11:45:00 |         150 |
|       4 |          2 | 2023-12-15 12:15:00 |         500 |
|       5 |          3 | 2023-12-20 13:20:00 |         900 |
|       6 |          3 | 2023-12-25 14:00:00 |         200 |
|       7 |          3 | 2023-12-30 15:30:00 |         600 |
|       8 |          4 | 2023-12-08 16:45:00 |         300 |
|       9 |          4 | 2023-12-12 17:00:00 |         100 |
|      10 |          4 | 2023-12-18 17:00:00 |         400 |
+---------+------------+---------------------+-------------+
10 rows in set (0.00 sec)
```

D. OrderDetails

```
mysql> insert into Orderdetails values(1,1,101,1),(2,2,110,2),(3,3,103,1),(4,4,104,1),(5,5,108,3),(6,6,106,1),(7,7,110,1),(8,7,106,
1),(9,8,108,1),(10,9,109,1),(11,10,106,1),(12,10,109,2);
Query OK, 12 rows affected (0.04 sec)
Records: 12  Duplicates: 0  Warnings: 0
```

```
mysql> select * from orderdetails;
+-----------------+---------+-----------+----------+
| OrderDetailsId | OrderId | ProductId | Quantity |
+-----------------+---------+-----------+----------+
|              1 |       1 |       101 |        1 |
|              2 |       2 |       110 |        2 |
|              3 |       3 |       103 |        1 |
|              4 |       4 |       104 |        1 |
|              5 |       5 |       108 |        3 |
|              6 |       6 |       106 |        1 |
|              7 |       7 |       110 |        1 |
|              8 |       7 |       106 |        1 |
|              9 |       8 |       108 |        1 |
|             10 |       9 |       109 |        1 |
|             11 |      10 |       106 |        1 |
|             12 |      10 |       109 |        2 |
+-----------------+---------+-----------+----------+
12 rows in set (0.00 sec)
```

e.Inventory

```
mysql> insert into Inventory values(1,101,10,'2023-11-09 09:40:10'),(2,102,10,'2023-11-10 08:30:45'),(3,103,70,'2023-10-30 01:30:20
'),(4,104,10,'2023-12-01 09:00:00'),(5,105,25,'2023-11-22 04:10:11'),(6,106,17,'2023-11-08 09:08:00'),(7,107,19,'2023-11-09 02:17:0
0'),(8,108,11,'2023-10-09 08:00:20'),(9,109,18,'2023-10-23 07:10:00'),(10,110,30,'2023-11-30 09:00:00');
Query OK, 10 rows affected (0.05 sec)
Records: 10  Duplicates: 0  Warnings: 0

mysql> select * from Inventory;
+-------------+-----------+-----------------+---------------------+
| InventoryId | ProductId | QuantityInStock | LastStockUpdate     |
+-------------+-----------+-----------------+---------------------+
|           1 |       101 |              10 | 2023-11-09 09:40:10 |
|           2 |       102 |              10 | 2023-11-10 08:30:45 |
|           3 |       103 |              70 | 2023-10-30 01:30:20 |
|           4 |       104 |              10 | 2023-12-01 09:00:00 |
|           5 |       105 |              25 | 2023-11-22 04:10:11 |
|           6 |       106 |              17 | 2023-11-08 09:08:00 |
|           7 |       107 |              19 | 2023-11-09 02:17:00 |
|           8 |       108 |              11 | 2023-10-09 08:00:20 |
|           9 |       109 |              18 | 2023-10-23 07:10:00 |
|          10 |       110 |              30 | 2023-11-30 09:00:00 |
+-------------+-----------+-----------------+---------------------+
10 rows in set (0.00 sec)
```

Task-2

1.Sql query for names and email of all the customers

```
mysql> select concat(FirstName,' ',LastName) as Name,Email from customers;
+-----------------+----------------------+
| Name            | Email                |
+-----------------+----------------------+
| Asmita Porwal   | asmita@gmail.com     |
| Ram Porwal      | ram@gmail.com        |
| shyam Gupta     | shyam@gmail.com      |
| Bob Williams    | bob@gmail.com        |
| Emma Brown      | emma@gmail.com       |
| Michael Miller  | michaelm@example.com |
| Olivia Wilson   | olivia@example.com   |
| Liam Garcia     | liam@gmail.com       |
| Sophia Martinez | sophiam@example.com  |
| Noah Lopez      | noahl@example.com    |
+-----------------+----------------------+
10 rows in set (0.00 sec)
```

2.List all orders with their order date and corresponding customers name

```
mysql> select (select concat(FirstName,' ',LastName) from customers where CustomerId=Orders.CustomerId) as CustomerName, OrderDate from Orders;
+--------------+---------------------+
| CustomerName | OrderDate           |
+--------------+---------------------+
| Asmita Porwal | 2023-12-01 09:00:00 |
| Asmita Porwal | 2023-12-05 10:30:00 |
| Ram Porwal    | 2023-12-10 11:45:00 |
| Ram Porwal    | 2023-12-15 12:15:00 |
| shyam Gupta   | 2023-12-20 13:20:00 |
| shyam Gupta   | 2023-12-25 14:00:00 |
| shyam Gupta   | 2023-12-30 15:30:00 |
| Bob Williams  | 2023-12-08 16:45:00 |
| Bob Williams  | 2023-12-12 17:00:00 |
| Bob Williams  | 2023-12-18 17:00:00 |
+---------------+---------------------+
10 rows in set (0.00 sec)
```

3.insert new customer into customer table

```
mysql> insert into customers values(11,'Bhavya','Khurana','bhavya@gmail.com',8987655432,'Jaipur');
Query OK, 1 row affected (0.04 sec)
```

```
mysql> select * from customers;
+------------+-----------+----------+---------------------+------------+---------------------------+
| CustomerId | FirstName | LastName | Email               | Phone      | Address                   |
+------------+-----------+----------+---------------------+------------+---------------------------+
|          1 | Asmita    | Porwal   | asmita@gmail.com    |  878789765 | Gwalior                   |
|          2 | Ram       | Porwal   | ram@gmail.com       | 2785789765 | Surat                     |
|          3 | shyam     | Gupta    | shyam@gmail.com     |  988789765 | Gwalior                   |
|          4 | Bob       | Williams | bob@gmail.com       | 1112223333 | 567 Pine St, Lakeside     |
|          5 | Emma      | Brown    | emma@gmail.com      | 4444444444 | 101 Maple St, Hilltop     |
|          6 | Michael   | Miller   | michaelm@example.com | 7778889999 | 222 Birch St, Woodville   |
|          7 | Olivia    | Wilson   | olivia@example.com  | 6667778888 | 333 Cedar St, Riverside   |
|          8 | Liam      | Garcia   | liam@gmail.com      | 9999999999 | 444 Oak St, Parkside      |
|          9 | Sophia    | Martinez | sophiam@example.com | 2223334444 | 555 Elm St, Seaview       |
|         10 | Noah      | Lopez    | noahl@example.com   | 8888888888 | 666 Maple St, Mountainview |
|         11 | Bhavya    | Khurana  | bhavya@gmail.com    | 8987655432 | Jaipur                    |
+------------+-----------+----------+---------------------+------------+---------------------------+
11 rows in set (0.00 sec)
```

4. Write sql query to update the price of all electronics gadgets in product table by increasing them by 10%

```
mysql> update products set description ='electronics' where productid=102;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update products set description ='electronics' where productid=103;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update products set description ='electronics' where productid=104;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update products set description ='electronics' where productid=105;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update products set description ='electronics' where productid=106;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update products set description ='electronics' where productid=107;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update products set description ='electronics' where productid=108;
Query OK, 1 row affected (0.05 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update products set description ='electronics' where productid=109;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update products set description ='electronics' where productid=110;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> select * from products;
+-----------+---------------------+-------------+-------+
| ProductId | ProductName         | Description | Price |
+-----------+---------------------+-------------+-------+
|       101 | Laptop              | electronics |  1200 |
|       102 | Smartphone          | electronics |   800 |
|       103 | Headphones          | electronics |   150 |
|       104 | Tablet              | electronics |   500 |
|       105 | Camera              | electronics |   900 |
|       106 | Speaker             | electronics |   200 |
|       107 | Monitor             | electronics |   600 |
|       108 | Printer             | electronics |   300 |
|       109 | External Hard Drive | electronics |   100 |
|       110 | Gaming Console      | electronics |   400 |
+-----------+---------------------+-------------+-------+
10 rows in set (0.00 sec)
```

```
mysql> update products set price=price*1.1 where Description='electronics';
Query OK, 10 rows affected (0.04 sec)
Rows matched: 10  Changed: 10  Warnings: 0

mysql> select * from products;
+-----------+---------------------+-------------+-------+
| ProductId | ProductName         | Description | Price |
+-----------+---------------------+-------------+-------+
|       101 | Laptop              | electronics |  1320 |
|       102 | Smartphone          | electronics |   880 |
|       103 | Headphones          | electronics |   165 |
|       104 | Tablet              | electronics |   550 |
|       105 | Camera              | electronics |   990 |
|       106 | Speaker             | electronics |   220 |
|       107 | Monitor             | electronics |   660 |
|       108 | Printer             | electronics |   330 |
|       109 | External Hard Drive | electronics |   110 |
|       110 | Gaming Console      | electronics |   440 |
+-----------+---------------------+-------------+-------+
10 rows in set (0.00 sec)
```

5.delete from orderdetails where orderid=7 and delete from orders where orderid=7

```
mysql> DELETE FROM orderdetails WHERE OrderID = 7 AND EXISTS (SELECT 1 FROM orders WHERE OrderID = 7);
Query OK, 0 rows affected (0.00 sec)

mysql> DELETE FROM orders WHERE OrderID = 7;
Query OK, 1 row affected (0.00 sec)

mysql> select * from orders;
+---------+------------+---------------------+-------------+
| OrderId | CustomerId | OrderDate           | TotalAmount |
+---------+------------+---------------------+-------------+
|       1 |          1 | 2023-12-01 09:00:00 |        1200 |
|       2 |          1 | 2023-12-05 10:30:00 |         800 |
|       3 |          2 | 2023-12-10 11:45:00 |         150 |
|       4 |          2 | 2023-12-15 12:15:00 |         500 |
|       5 |          3 | 2023-12-20 13:20:00 |         900 |
|       6 |          3 | 2023-12-25 14:00:00 |         200 |
|       8 |          4 | 2023-12-08 16:45:00 |         300 |
|       9 |          4 | 2023-12-12 17:00:00 |         100 |
|      10 |          4 | 2023-12-18 17:00:00 |         400 |
+---------+------------+---------------------+-------------+
9 rows in set (0.00 sec)

mysql> select * from orderDetails;
+----------------+---------+-----------+----------+
| OrderDetailsId | OrderId | ProductId | Quantity |
+----------------+---------+-----------+----------+
|              1 |       1 |       101 |        1 |
|              2 |       2 |       110 |        2 |
|              3 |       3 |       103 |        1 |
|              4 |       4 |       104 |        1 |
|              5 |       5 |       108 |        3 |
|              6 |       6 |       106 |        1 |
|              9 |       8 |       108 |        1 |
|             10 |       9 |       109 |        1 |
|             11 |      10 |       106 |        1 |
|             12 |      10 |       109 |        2 |
+----------------+---------+-----------+----------+
10 rows in set (0.00 sec)
```

6.insert a new order in orders table.

```
mysql> insert into orders values(11,5,'2023-12-26 07:43:01',600);
Query OK, 1 row affected (0.01 sec)

mysql> select * from orders;
+---------+------------+---------------------+-------------+
| OrderId | CustomerId | OrderDate           | TotalAmount |
+---------+------------+---------------------+-------------+
|       1 |          1 | 2023-12-01 09:00:00 |        1200 |
|       2 |          1 | 2023-12-05 10:30:00 |         800 |
|       3 |          2 | 2023-12-10 11:45:00 |         150 |
|       4 |          2 | 2023-12-15 12:15:00 |         500 |
|       5 |          3 | 2023-12-20 13:20:00 |         900 |
|       6 |          3 | 2023-12-25 14:00:00 |         200 |
|       8 |          4 | 2023-12-08 16:45:00 |         300 |
|       9 |          4 | 2023-12-12 17:00:00 |         100 |
|      10 |          4 | 2023-12-18 17:00:00 |         400 |
|      11 |          5 | 2023-12-26 07:43:01 |         600 |
+---------+------------+---------------------+-------------+
10 rows in set (0.00 sec)
```

7. Update the specific customer contact information.

```
mysql> update customers set email='asmita04@gmail.com',phone='1234567890' where Customerid=1;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from customers;
+------------+-----------+----------+---------------------+------------+---------------------------+
| CustomerId | FirstName | LastName | Email               | Phone      | Address                   |
+------------+-----------+----------+---------------------+------------+---------------------------+
|          1 | Asmita    | Porwal   | asmita04@gmail.com  | 1234567890 | Gwalior                   |
|          2 | Ram       | Porwal   | ram@gmail.com       | 2785789765 | Surat                     |
|          3 | shyam     | Gupta    | shyam@gmail.com     |  988789765 | Gwalior                   |
|          4 | Bob       | Williams | bob@gmail.com       | 1112223333 | 567 Pine St, Lakeside     |
|          5 | Emma      | Brown    | emma@gmail.com      | 4444444444 | 101 Maple St, Hilltop     |
|          6 | Michael   | Miller   | michaelm@example.com | 7778889999 | 222 Birch St, Woodville   |
|          7 | Olivia    | Wilson   | olivia@example.com  | 6667778888 | 333 Cedar St, Riverside   |
|          8 | Liam      | Garcia   | liam@gmail.com      | 9999999999 | 444 Oak St, Parkside      |
|          9 | Sophia    | Martinez | sophiam@example.com | 2223334444 | 555 Elm St, Seaview       |
|         10 | Noah      | Lopez    | noahl@example.com   | 8888888888 | 666 Maple St, Mountainview |
|         11 | Bhavya    | Khurana  | bhavya@gmail.com    | 8987655432 | Jaipur                    |
+------------+-----------+----------+---------------------+------------+---------------------------+
11 rows in set (0.00 sec)
```

8. Recalculate and update the total cost of each orders

```
mysql> update orders as o set o.TotalAmount=(select sum(od.quantity*(select price from products where productid=od.productid)) from orderdetails a
s od where od.orderid=o.orderid) where o.orderid in (select od.orderid from orderdetails as od group by od.orderid);
Query OK, 9 rows affected (0.02 sec)
Rows matched: 9  Changed: 9  Warnings: 0

mysql> select * from orders;
+---------+------------+---------------------+-------------+
| OrderId | CustomerId | OrderDate           | TotalAmount |
+---------+------------+---------------------+-------------+
|       1 |          1 | 2023-12-01 09:00:00 |        1320 |
|       2 |          1 | 2023-12-05 10:30:00 |         880 |
|       3 |          2 | 2023-12-10 11:45:00 |         165 |
|       4 |          2 | 2023-12-15 12:15:00 |         550 |
|       5 |          3 | 2023-12-20 13:20:00 |         990 |
|       6 |          3 | 2023-12-25 14:00:00 |         220 |
|       8 |          4 | 2023-12-08 16:45:00 |         330 |
|       9 |          4 | 2023-12-12 17:00:00 |         110 |
|      10 |          4 | 2023-12-18 17:00:00 |         440 |
|      11 |          5 | 2023-12-26 07:43:01 |         600 |
+---------+------------+---------------------+-------------+
10 rows in set (0.00 sec)

mysql> select * from orderDetails;
+----------------+---------+-----------+----------+
| OrderDetailsId | OrderId | ProductId | Quantity |
+----------------+---------+-----------+----------+
|              1 |       1 |       101 |        1 |
|              2 |       2 |       110 |        2 |
|              3 |       3 |       103 |        1 |
|              4 |       4 |       104 |        1 |
|              5 |       5 |       108 |        3 |
|              6 |       6 |       106 |        1 |
|              9 |       8 |       108 |        1 |
|             10 |       9 |       109 |        1 |
|             11 |      10 |       106 |        1 |
|             12 |      10 |       109 |        2 |
+----------------+---------+-----------+----------+
10 rows in set (0.00 sec)
```

```
mysql> select * from products;
+------------+----------------------+-------------+-------+
| ProductId  | ProductName          | Description | Price |
+------------+----------------------+-------------+-------+
|        101 | Laptop               | electronics |  1320 |
|        102 | Smartphone           | electronics |   880 |
|        103 | Headphones           | electronics |   165 |
|        104 | Tablet               | electronics |   550 |
|        105 | Camera               | electronics |   990 |
|        106 | Speaker              | electronics |   220 |
|        107 | Monitor              | electronics |   660 |
|        108 | Printer              | electronics |   330 |
|        109 | External Hard Drive  | electronics |   110 |
|        110 | Gaming Console       | electronics |   440 |
+------------+----------------------+-------------+-------+
10 rows in set (0.00 sec)
```

9.write sql query to delete all orders and their associated orderdetails for a specific customer from order and orderdetails table. give customer id as parameter

```
mysql> delete from orderdetails  where orderid in (select orderid from orders where customerid=4);
Query OK, 4 rows affected (0.02 sec)

mysql> select * from orderDetails;
+---------------+---------+-----------+----------+
| OrderDetailsId | OrderId | ProductId | Quantity |
+---------------+---------+-----------+----------+
|             1 |       1 |       101 |        1 |
|             2 |       2 |       110 |        2 |
|             3 |       3 |       103 |        1 |
|             4 |       4 |       104 |        1 |
|             5 |       5 |       108 |        3 |
|             6 |       6 |       106 |        1 |
+---------------+---------+-----------+----------+
6 rows in set (0.00 sec)

mysql> delete from orders where customerid=4;
Query OK, 3 rows affected (0.02 sec)
```

```
mysql> select * from orders;
+---------+------------+---------------------+-------------+
| OrderId | CustomerId | OrderDate           | TotalAmount |
+---------+------------+---------------------+-------------+
|       1 |          1 | 2023-12-01 09:00:00 |        1320 |
|       2 |          1 | 2023-12-05 10:30:00 |         880 |
|       3 |          2 | 2023-12-10 11:45:00 |         165 |
|       4 |          2 | 2023-12-15 12:15:00 |         550 |
|       5 |          3 | 2023-12-20 13:20:00 |         990 |
|       6 |          3 | 2023-12-25 14:00:00 |         220 |
|      11 |          5 | 2023-12-26 07:43:01 |         600 |
+---------+------------+---------------------+-------------+
7 rows in set (0.00 sec)
```

10.insert new electronic gadget product into products table

```
mysql> insert into products values(111,'Keyboard','electronics',1000);
Query OK, 1 row affected (0.01 sec)

mysql> select * from products;
+-----------+---------------------+-------------+-------+
| ProductId | ProductName         | Description | Price |
+-----------+---------------------+-------------+-------+
|       101 | Laptop              | electronics |  1320 |
|       102 | Smartphone          | electronics |   880 |
|       103 | Headphones          | electronics |   165 |
|       104 | Tablet              | electronics |   550 |
|       105 | Camera              | electronics |   990 |
|       106 | Speaker             | electronics |   220 |
|       107 | Monitor             | electronics |   660 |
|       108 | Printer             | electronics |   330 |
|       109 | External Hard Drive | electronics |   110 |
|       110 | Gaming Console      | electronics |   440 |
|       111 | Keyboard            | electronics |  1000 |
+-----------+---------------------+-------------+-------+
11 rows in set (0.00 sec)
```

11.write an sql query to update the status of a specific order in the orders table eg from pending to shipped use order id and new status

```
mysql> alter table orders add column Status varchar(50);
Query OK, 0 rows affected (0.15 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> select * from orders;
+---------+------------+---------------------+-------------+--------+
| OrderId | CustomerId | OrderDate           | TotalAmount | Status |
+---------+------------+---------------------+-------------+--------+
|       1 |          1 | 2023-12-01 09:00:00 |        1320 | NULL   |
|       2 |          1 | 2023-12-05 10:30:00 |         880 | NULL   |
|       3 |          2 | 2023-12-10 11:45:00 |         165 | NULL   |
|       4 |          2 | 2023-12-15 12:15:00 |         550 | NULL   |
|       5 |          3 | 2023-12-20 13:20:00 |         990 | NULL   |
|       6 |          3 | 2023-12-25 14:00:00 |         220 | NULL   |
|      11 |          5 | 2023-12-26 07:43:01 |         600 | NULL   |
+---------+------------+---------------------+-------------+--------+
7 rows in set (0.00 sec)

mysql> update orders set Status = 'Pending';
Query OK, 7 rows affected (0.05 sec)
Rows matched: 7  Changed: 7  Warnings: 0

mysql> select * from orders;
+---------+------------+---------------------+-------------+---------+
| OrderId | CustomerId | OrderDate           | TotalAmount | Status  |
+---------+------------+---------------------+-------------+---------+
|       1 |          1 | 2023-12-01 09:00:00 |        1320 | Pending |
|       2 |          1 | 2023-12-05 10:30:00 |         880 | Pending |
|       3 |          2 | 2023-12-10 11:45:00 |         165 | Pending |
|       4 |          2 | 2023-12-15 12:15:00 |         550 | Pending |
|       5 |          3 | 2023-12-20 13:20:00 |         990 | Pending |
|       6 |          3 | 2023-12-25 14:00:00 |         220 | Pending |
|      11 |          5 | 2023-12-26 07:43:01 |         600 | Pending |
+---------+------------+---------------------+-------------+---------+
7 rows in set (0.00 sec)
```

```
mysql> update orders set Status='Shipped' where orderid=2;
Query OK, 1 row affected (0.04 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from orders;
+---------+------------+---------------------+-------------+---------+
| OrderId | CustomerId | OrderDate           | TotalAmount | Status  |
+---------+------------+---------------------+-------------+---------+
|       1 |          1 | 2023-12-01 09:00:00 |        1320 | Pending |
|       2 |          1 | 2023-12-05 10:30:00 |         880 | Shipped |
|       3 |          2 | 2023-12-10 11:45:00 |         165 | Pending |
|       4 |          2 | 2023-12-15 12:15:00 |         550 | Pending |
|       5 |          3 | 2023-12-20 13:20:00 |         990 | Pending |
|       6 |          3 | 2023-12-25 14:00:00 |         220 | Pending |
|      11 |          5 | 2023-12-26 07:43:01 |         600 | Pending |
+---------+------------+---------------------+-------------+---------+
7 rows in set (0.00 sec)
```

12.write an sql query to calculate and update the number of orders placed by each customer in customer table based on the data in the orders table

```
mysql> alter table Customers add column NoOfOrders int;
Query OK, 0 rows affected (0.09 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> update customers as c set c.NoOfOrders =(select count(*) from orders as o where o.customerid=c.customerid) where exists(select 1 from order
s as o where o.customerid=c.customerid);
Query OK, 4 rows affected (0.04 sec)
Rows matched: 4  Changed: 4  Warnings: 0
```

```
mysql> select * from customers;
+------------+-----------+----------+---------------------+------------+---------------------------+------------+
| CustomerId | FirstName | LastName | Email               | Phone      | Address                   | NoOfOrders |
+------------+-----------+----------+---------------------+------------+---------------------------+------------+
|          1 | Asmita    | Porwal   | asmita04@gmail.com  | 1234567890 | Gwalior                   |          2 |
|          2 | Ram       | Porwal   | ram@gmail.com       | 2785789765 | Surat                     |          2 |
|          3 | shyam     | Gupta    | shyam@gmail.com     |  988789765 | Gwalior                   |          2 |
|          4 | Bob       | Williams | bob@gmail.com       | 1112223333 | 567 Pine St, Lakeside     |       NULL |
|          5 | Emma      | Brown    | emma@gmail.com      | 4444444444 | 101 Maple St, Hilltop     |          1 |
|          6 | Michael   | Miller   | michaelm@example.com | 7778889999 | 222 Birch St, Woodville   |       NULL |
|          7 | Olivia    | Wilson   | olivia@example.com  | 6667778888 | 333 Cedar St, Riverside   |       NULL |
|          8 | Liam      | Garcia   | liam@gmail.com      | 9999999999 | 444 Oak St, Parkside      |       NULL |
|          9 | Sophia    | Martinez | sophiam@example.com | 2223334444 | 555 Elm St, Seaview       |       NULL |
|         10 | Noah      | Lopez    | noahl@example.com   | 8888888888 | 666 Maple St, Mountainview |       NULL |
|         11 | Bhavya    | Khurana  | bhavya@gmail.com    | 8987655432 | Jaipur                    |       NULL |
+------------+-----------+----------+---------------------+------------+---------------------------+------------+
11 rows in set (0.00 sec)
```

Task-3

1.Retrieve list of all orders along with customer information.

```
ERROR 1054 (42S22): Unknown column 'o.customersid' in 'on clause'
mysql> select * from customers c inner join orders o on c.customerid=o.customerid;
+------------+-----------+----------+-------------------+------------+---------------------+-------------+---------+------------+---------------------+-------------+---------+
| CustomerId | FirstName | LastName | Email             | Phone      | Address             | NoOfOrders | OrderId | CustomerId | OrderDate           | TotalAmount | Status  |
+------------+-----------+----------+-------------------+------------+---------------------+-------------+---------+------------+---------------------+-------------+---------+
|          1 | Asmita    | Porwal   | asmita04@gmail.com | 1234567890 | Gwalior             |          2 |       1 |          1 | 2023-12-01 09:00:00 |        1320 | Pending |
|          1 | Asmita    | Porwal   | asmita04@gmail.com | 1234567890 | Gwalior             |          2 |       2 |          1 | 2023-12-05 10:30:00 |         880 | Shipped |
|          2 | Ram       | Porwal   | ram@gmail.com      | 2785789765 | Surat               |          2 |       3 |          2 | 2023-12-10 11:45:00 |         165 | Pending |
|          2 | Ram       | Porwal   | ram@gmail.com      | 2785789765 | Surat               |          2 |       4 |          2 | 2023-12-15 12:15:00 |         550 | Pending |
|          3 | shyam     | Gupta    | shyam@gmail.com    |  988789765 | Gwalior             |          2 |       5 |          3 | 2023-12-20 13:20:00 |         990 | Pending |
|          3 | shyam     | Gupta    | shyam@gmail.com    |  988789765 | Gwalior             |          2 |       6 |          3 | 2023-12-25 14:00:00 |         220 | Pending |
|          5 | Emma      | Brown    | emma@gmail.com     | 4444444444 | 101 Maple St, Hilltop |          1 |      11 |          5 | 2023-12-26 07:43:01 |         600 | Pending |
+------------+-----------+----------+-------------------+------------+---------------------+-------------+---------+------------+---------------------+-------------+---------+
7 rows in set (0.00 sec)
```

2.Find the total revenue generated by each electronic gadget product. Include the product name and total revenue generated.

```
mysql> SELECT p.productName, SUM(od.quantity * p.price) AS total_revenue
    -> FROM products p
    -> JOIN orderdetails od ON p.productid = od.productid
    -> JOIN orders o ON o.orderid = od.orderid
    -> WHERE p.description = 'electronics'
    -> GROUP BY p.productName;
+-----------------+----------------+
| productName     | total_revenue  |
+-----------------+----------------+
| Laptop          |           1320 |
| Headphones      |            165 |
| Tablet          |            550 |
| Speaker         |            220 |
| Printer         |            990 |
| Gaming Console  |            880 |
+-----------------+----------------+
6 rows in set (0.02 sec)
```

3.write a sql query to list all the customers who have made atleast one purchase.

```
mysql> select distinct(concat(firstname,' ',lastname)) as Name ,Email,Phone from customers c inner join orders o on o.customerid=c.customerid;
+---------------+-------------------+------------+
| Name          | Email             | Phone      |
+---------------+-------------------+------------+
| Asmita Porwal | asmita04@gmail.com | 1234567890 |
| Ram Porwal    | ram@gmail.com      | 2785789765 |
| shyam Gupta   | shyam@gmail.com    |  988789765 |
| Emma Brown    | emma@gmail.com     | 4444444444 |
+---------------+-------------------+------------+
4 rows in set (0.04 sec)
```

4.Find the most popular electronic gadget,which is one with the highest total quantity ordered.

```
mysql> SELECT p.productname, od.quantity
    -> FROM products p
    -> INNER JOIN orderdetails od ON p.productid = od.productid
    -> WHERE od.quantity = (SELECT MAX(quantity) FROM orderdetails);
+-------------+----------+
| productname | quantity |
+-------------+----------+
| Printer     |        3 |
+-------------+----------+
1 row in set (0.01 sec)
```

5.retrieve a list of electronic gadgets along with their corresponding categories.

```
mysql> select productName, description from products where description='electronics';
+---------------------+-------------+
| productName         | description |
+---------------------+-------------+
| Laptop              | electronics |
| Smartphone          | electronics |
| Headphones          | electronics |
| Tablet              | electronics |
| Camera              | electronics |
| Speaker             | electronics |
| Monitor             | electronics |
| Printer             | electronics |
| External Hard Drive | electronics |
| Gaming Console      | electronics |
| Keyboard            | electronics |
+---------------------+-------------+
11 rows in set (0.00 sec)
```

6.calculate the average order value for each customer. Include the customer name and average order value.

```
mysql> SELECT CONCAT(c.firstname, ' ', c.lastname) AS CustomerName, AVG(o.totalamount) AS average_order_value
    -> FROM customers c
    -> INNER JOIN orders o ON c.customerid = o.customerid
    -> GROUP BY CustomerName;
+--------------+---------------------+
| CustomerName | average_order_value |
+--------------+---------------------+
| Asmita Porwal |          1100.0000 |
| Ram Porwal    |           357.5000 |
| shyam Gupta   |           605.0000 |
| Emma Brown    |           600.0000 |
+--------------+---------------------+
4 rows in set (0.00 sec)
```

7.Find the order with the highest total revenue.include order id,customer info and total revenue.

```
mysql> SELECT c.*, o.TotalAmount AS Totalrevenue
    ->     FROM customers c
    ->     JOIN (
    ->  SELECT CustomerId, SUM(TotalAmount) AS TotalAmount
    ->     FROM orders
    ->    GROUP BY CustomerId
    -> ORDER BY TotalAmount DESC
    ->   LIMIT 1
    ->    ) o ON c.customerid = o.customerid;
+------------+-----------+----------+--------------------+------------+---------+------------+--------------+
| CustomerId | FirstName | LastName | Email              | Phone      | Address | NoOfOrders | Totalrevenue |
+------------+-----------+----------+--------------------+------------+---------+------------+--------------+
|          1 | Asmita    | Porwal   | asmita04@gmail.com | 1234567890 | Gwalior |          2 |         2200 |
+------------+-----------+----------+--------------------+------------+---------+------------+--------------+
1 row in set (0.01 sec)
```

8.list electronic gadgets and the number of times each product has been ordered

```
mysql> SELECT p.productname, COUNT(od.productid) AS times_ordered
    -> FROM products p
    -> LEFT JOIN orderdetails od ON p.productid = od.productid
    -> WHERE p.description = 'electronics'
    -> GROUP BY p.productid;
+--------------------+---------------+
| productname        | times_ordered |
+--------------------+---------------+
| Laptop             |             1 |
| Smartphone         |             0 |
| Headphones         |             1 |
| Tablet             |             1 |
| Camera             |             0 |
| Speaker            |             1 |
| Monitor            |             0 |
| Printer            |             1 |
| External Hard Drive |             0 |
| Gaming Console     |             1 |
| Keyboard           |             0 |
+--------------------+---------------+
11 rows in set (0.00 sec)
```

9.Find customers who have purchased a specific electronic gadget product.

```
mysql> SELECT c.*
    -> 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 = 'Laptop';
+------------+-----------+----------+--------------------+------------+---------+------------+
| CustomerId | FirstName | LastName | Email              | Phone      | Address | NoOfOrders |
+------------+-----------+----------+--------------------+------------+---------+------------+
|          1 | Asmita    | Porwal   | asmita04@gmail.com | 1234567890 | Gwalior |          2 |
+------------+-----------+----------+--------------------+------------+---------+------------+
1 row in set (0.01 sec)
```

10.Calculate the total revenue generated by all orders placed within a specific time period.

```
mysql> select sum(totalamount) as total_revenue from orders where orderdate between '2023-12-01' and '2023-12-21';
+---------------+
| total_revenue |
+---------------+
|          3905 |
+---------------+
1 row in set (0.00 sec)
```

Task- 4 :Subquery

1.sql query to find which customer has not placed any order.

```
mysql> SELECT *
    -> FROM customers c
    -> WHERE NOT EXISTS (
    ->     SELECT 1
    ->     FROM orders o
    ->     WHERE c.customerid = o.customerid
    -> );
+------------+-----------+----------+---------------------+------------+--------------------------+------------+
| CustomerId | FirstName | LastName | Email               | Phone      | Address                  | NoOfOrders |
+------------+-----------+----------+---------------------+------------+--------------------------+------------+
|          4 | Bob       | Williams | bob@gmail.com       | 1112223333 | 567 Pine St, Lakeside    |       NULL |
|          6 | Michael   | Miller   | michaelm@example.com | 7778889999 | 222 Birch St, Woodville  |       NULL |
|          7 | Olivia    | Wilson   | olivia@example.com  | 6667778888 | 333 Cedar St, Riverside  |       NULL |
|          8 | Liam      | Garcia   | liam@gmail.com      | 9999999999 | 444 Oak St, Parkside     |       NULL |
|          9 | Sophia    | Martinez | sophiam@example.com | 2223334444 | 555 Elm St, Seaview      |       NULL |
|         10 | Noah      | Lopez    | noahl@example.com   | 8888888888 | 666 Maple St, Mountainview |       NULL |
|         11 | Bhavya    | Khurana  | bhavya@gmail.com    | 8987655432 | Jaipur                   |       NULL |
+------------+-----------+----------+---------------------+------------+--------------------------+------------+
7 rows in set (0.01 sec)
```

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

```
mysql> select * from products;
+-----------+--------------------+-------------+-------+-----------+
| ProductId | ProductName        | Description | Price | sale      |
+-----------+--------------------+-------------+-------+-----------+
|       101 | Laptop             | electronics |  1320 | Available |
|       102 | Smartphone         | electronics |   880 | Available |
|       103 | Headphones         | electronics |   165 | NULL      |
|       104 | Tablet             | electronics |   550 | NULL      |
|       105 | Camera             | electronics |   990 | Available |
|       106 | Speaker            | electronics |   220 | Available |
|       107 | Monitor            | electronics |   660 | NULL      |
|       108 | Printer            | electronics |   330 | Available |
|       109 | External Hard Drive | electronics |   110 | NULL      |
|       110 | Gaming Console     | electronics |   440 | Available |
|       111 | Keyboard           | electronics |  1000 | Available |
+-----------+--------------------+-------------+-------+-----------+
11 rows in set (0.00 sec)

mysql> SELECT COUNT(*) AS total_products_for_sale
    -> FROM products
    -> WHERE sale = 'Available';
+-------------------------+
| total_products_for_sale |
+-------------------------+
|                       7 |
+-------------------------+
1 row in set (0.01 sec)
```

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

```
mysql> select * from orders;
+---------+------------+---------------------+-------------+---------+
| OrderId | CustomerId | OrderDate           | TotalAmount | Status  |
+---------+------------+---------------------+-------------+---------+
|       1 |          1 | 2023-12-01 09:00:00 |        1320 | Pending |
|       2 |          1 | 2023-12-05 10:30:00 |         880 | Shipped |
|       3 |          2 | 2023-12-10 11:45:00 |         165 | Pending |
|       4 |          2 | 2023-12-15 12:15:00 |         550 | Pending |
|       5 |          3 | 2023-12-20 13:20:00 |         990 | Pending |
|       6 |          3 | 2023-12-25 14:00:00 |         220 | Pending |
|      11 |          5 | 2023-12-26 07:43:01 |         600 | Pending |
+---------+------------+---------------------+-------------+---------+
7 rows in set (0.00 sec)

mysql> select sum(totalamount) from orders;
+-------------------+
| sum(totalamount) |
+-------------------+
|              4725 |
+-------------------+
1 row in set (0.01 sec)
```

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> select Avg(od.quantity) as average_quantity_ordered from orderdetails od inner join products p on od.productid=p.productid w
here p.description='electronics';
+-------------------------+
| average_quantity_ordered |
+-------------------------+
|                  1.5000 |
+-------------------------+
```

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

```
ysql> SELECT SUM(TotalAmount) AS total_revenue
    -> FROM orders
    -> WHERE CustomerId = 1;
----------------+
 total_revenue |
----------------+
          2200 |
----------------+
 row in set (0.00 sec)
```

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> SELECT c.firstname, c.lastname, COUNT(*) AS num_orders_placed
    -> FROM customers c
    -> JOIN orders o ON c.customerid = o.customerid
    -> GROUP BY c.customerid
    -> HAVING COUNT(*) = (
    ->     SELECT MAX(order_count)
    ->     FROM (
    ->         SELECT COUNT(*) AS order_count
    ->         FROM orders
    ->         GROUP BY customerid
    ->     ) AS counts
    -> );
+-----------+----------+-------------------+
| firstname | lastname | num_orders_placed |
+-----------+----------+-------------------+
| Asmita    | Porwal   |                 2 |
| Ram       | Porwal   |                 2 |
| shyam     | Gupta    |                 2 |
+-----------+----------+-------------------+
3 rows in set (0.00 sec)
```

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> SELECT p.description, SUM(od.quantity) AS total_quantity_ordered
    -> FROM orderdetails od
    -> JOIN products p ON od.productid = p.productid
    -> GROUP BY p.description
    -> ORDER BY total_quantity_ordered DESC
    -> LIMIT 1;
+-------------+------------------------+
| description | total_quantity_ordered |
+-------------+------------------------+
| electronics |                      9 |
+-------------+------------------------+
1 row in set (0.00 sec)
```

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> SELECT concat(c.firstname,' ',c.lastname) as name, SUM(od.quantity * p.price) AS total_spending
    -> 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.description = 'electronics'
    -> GROUP BY c.customerid
    -> ORDER BY total_spending DESC
    -> LIMIT 1;
+---------------+----------------+
| name          | total_spending |
+---------------+----------------+
| Asmita Porwal |           2200 |
+---------------+----------------+
1 row in set (0.00 sec)
```

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

```
mysql>
mysql> SELECT
    ->     c.customerid,concat(firstname,' ',lastname) as name,
    ->     SUM(o.totalamount) / COUNT(o.orderid) AS average_order_value
    -> FROM customers c
    -> LEFT JOIN orders o ON c.customerid = o.customerid
    -> GROUP BY c.customerid;
+-------------+-----------------+----------------------+
| customerid | name            | average_order_value |
+-------------+-----------------+----------------------+
|           1 | Asmita Porwal   |           1100.0000 |
|           2 | Ram Porwal      |            357.5000 |
|           3 | shyam Gupta     |            605.0000 |
|           4 | Bob Williams    |                NULL |
|           5 | Emma Brown      |            600.0000 |
|           6 | Michael Miller  |                NULL |
|           7 | Olivia Wilson   |                NULL |
|           8 | Liam Garcia     |                NULL |
|           9 | Sophia Martinez |                NULL |
|          10 | Noah Lopez      |                NULL |
|          11 | Bhavya Khurana  |                NULL |
+-------------+-----------------+----------------------+
11 rows in set (0.00 sec)
```

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> select concat(c.firstname,' ',c.lastname) as name, count(o.customerid) as quantity from customers c inner join orders o on c.customerid=o.customerid group by c.customerid;

+---------------+----------+
| name          | quantity |
+---------------+----------+
| Asmita Porwal |        2 |
| Ram Porwal    |        2 |
| shyam Gupta   |        2 |
| Emma Brown    |        1 |
+---------------+----------+
4 rows in set (0.00 sec)
```