Task:1. Database Design:

1. **Create the database named "TechShop”**

```
Create database TechShop;

Use TechShop;
```

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

Database Tables:

1. Customers: • CustomerID (Primary Key) • FirstName • LastName • Email • Phone • Address

```
create table Customers (CustomerID int(10) PRIMARY KEY,
    FirstName varchar(30),
    LastName varchar(30),
    Email varchar(30),
    Phone bigint,
    Address varchar(30));
```

2. Products: • ProductID (Primary Key) • ProductName • Description • Price

```
create table Products (ProductID int(20) primary key,
ProductName varchar(30),
Description text,
```

Price decimal(10,2));

3. Orders: • OrderID (Primary Key) • CustomerID (Foreign Key referencing Customers) • OrderDate • TotalAmount

Create table Orders (OrderID int Primary Key,

CustomerID int,

OrderDate date,

TotalAmount double(10,5)

FOREIGN KEY(CustomerID) referneces Customers(CustomerID) ON DELETE CASCADE

);

4.OrderDetails: • OrderDetailID (Primary Key) • OrderID (Foreign Key referencing Orders) • ProductID (Foreign Key referencing Products) • Quantity

Create table OrderDetails (OrderDetailID int Primary Key auto increment,

OrderID int,

ProductID int,

Quantity int

Foreign Key (OrderID) references Orders(OrderID) ON DELETE CASCADE,

Foreign Key(ProductID) references Products(ProductID) ON DELETE CASCADE

);

5. Inventory • InventoryID (Primary Key) • ProductID (Foreign Key referencing Products) • QuantityInStock • LastStockUpdate

Create table Inventory (InventoryID int Primary Key auto increment,

ProductID int,

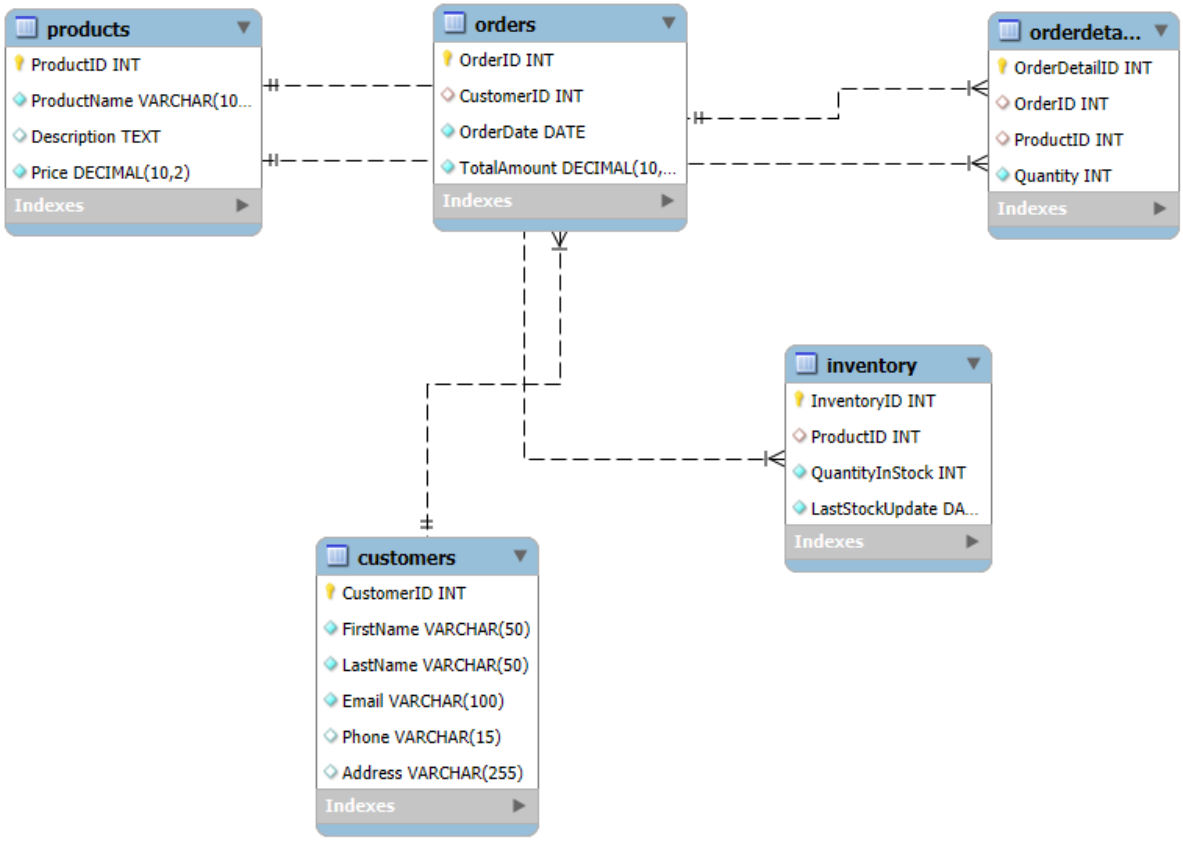
QuantityInStock int,

LastStockUpdate date,

Foreign Key (ProductID) references Products(ProductID) ON DELETE CASCADE

);

3. Create an ERD (Entity Relationship Diagram) for the database.



4. Create appropriate Primary Key and Foreign Key constraints for referential integrity.

1. Customers: • CustomerID (Primary Key) • FirstName • LastName • Email • Phone • Address

```
create table Customers (CustomerID int(10) PRIMARY KEY,
    FirstName varchar(30),
    LastName varchar(30),
    Email varchar(30),
    Phone bigint,
    Address varchar(30));
```

3. Products: • ProductID (Primary Key) • ProductName • Description • Price

```
create table Products (ProductID int(20) primary key,
ProductName varchar(30),
Description text,
Price decimal(10,2));
```

3. Orders: • OrderID (Primary Key) • CustomerID (Foreign Key referencing Customers) • OrderDate • TotalAmount

```
Create table Orders (OrderID int Primary Key,
```

CustomerID int,

OrderDate date,

TotalAmount double(10,5)

FOREIGN KEY(CustomerID) referneces Customers(CustomerID) ON DELETE CASCADE

);

4.OrderDetails: • OrderDetailID (Primary Key) • OrderID (Foreign Key referencing Orders) • ProductID (Foreign Key referencing Products) • Quantity

Create table OrderDetails (OrderDetailID int Primary Key auto increment,

OrderID int,

ProductID int,

Quantity int

Foreign Key (OrderID) references Orders(OrderID) ON DELETE CASCADE,

Foreign Key(ProductID) references Products(ProductID) ON DELETE CASCADE

);

5. Inventory • InventoryID (Primary Key) • ProductID (Foreign Key referencing Products) • QuantityInStock • LastStockUpdate

Create table Inventory (InventoryID int Primary Key auto increment,

ProductID int,

QuantityInStock int,

LastStockUpdate date,

Foreign Key (ProductID) references Products(ProductID) ON DELETE CASCADE

);

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

a. Customers

INSERT into Customers

VALUES

(101, 'Will', 'Johnson', 'will.johnson@gmail.com', '9876543210', 'New York'),

(102, 'Jack', 'Smith', 'jack.smith@gmail.com', '8765432109', 'Los Angeles'),

(103, 'David', 'Brown', 'david.brown@gmail.com', '7654321098', 'Chicago'),

(104, 'Tom', 'Davis', 'tom.davis@gmail.com', '6543210987', 'Houston'),

(105, 'Shelly', 'Anderson', 'shelly.anderson@gmail.com', '5432109876', 'Miami'),

(106, 'Jackie', 'Wilson', 'jackie.wilson@gmail.com', '4321098765', 'Seattle');

(107, 'Emily', 'Clark', 'emily.clark@gmail.com', '3210987654', 'Boston'),

(108, 'Michael', 'Lee', 'michael.lee@gmail.com', '2109876543', 'San Francisco'),

(109, 'Olivia', 'Martinez', 'olivia.martinez@gmail.com', '1098765432', 'Denver'),

(110, 'Ethan', 'Walker', 'ethan.walker@gmail.com', '0198765432', 'Austin');

b. Products

INSERT into Products

VALUES

(101, 'Laptop', 'High-performance laptop', 1200.00),

(102, 'Smartphone', 'Latest model smartphone', 800.00),

(103, 'Headphones', 'Noise-cancelling headphones', 150.00),

(104, 'Smartwatch', 'Fitness tracking smartwatch', 200.00),

(105, 'Tablet', 'Portable and lightweight tablet', 300.00),

(106, 'Camera', 'Digital camera with high resolution', 500.00);

(107, 'Printer', 'Wireless multifunction printer', 250.00),

(108, 'Monitor', '4K UHD computer monitor', 350.00),

(109, 'Keyboard', 'Mechanical gaming keyboard', 100.00),

(110, 'Mouse', 'Wireless ergonomic mouse', 80.00);

C. Orders

INSERT into Orders

VALUES

(201, 101, '2025-03-01', 1200.00),

(202, 102, '2025-03-02', 800.00),

(203, 103, '2025-03-03', 150.00),

(204, 104, '2025-03-04', 200.00),

(205, 105, '2025-03-05', 300.00),

(206, 106, '2025-03-06', 500.00);

(207, 107, '2025-03-07', 250.00),

(208, 108, '2025-03-08', 350.00),

(209, 109, '2025-03-09', 100.00),

(210, 110, '2025-03-10', 80.00);

d. OrderDetails

```
INSERT into OrderDetails
VALUES
(301, 201, 101, 1),
(302, 202, 102, 2),
(303, 203, 103, 1),
(304, 204, 104, 1),
(305, 205, 105, 3),
(306, 206, 106, 2);
(307, 207, 107, 2),
(308, 208, 108, 1),
(309, 209, 109, 4),
(310, 210, 110, 2);
```

e. Inventory

```
INSERT into Inventory
VALUES
(401, 101, 50, '2025-02-20'),
(402, 102, 100, '2025-02-21'),
(403, 103, 75, '2025-02-22'),
(404, 104, 60, '2025-02-23'),
(405, 105, 80, '2025-02-24'),
```

(406, 106, 90, '2025-02-25');

(407, 107, 85, '2025-02-26'),

(408, 108, 95, '2025-02-27'),

(409, 109, 70, '2025-02-28'),

(410, 110, 65, '2025-02-28');