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)

);

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),

Foreign Key(ProductID) references Products(ProductID)

);

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

Create table Inventory (InventoryID int Primary Key auto increment,

ProductID int,

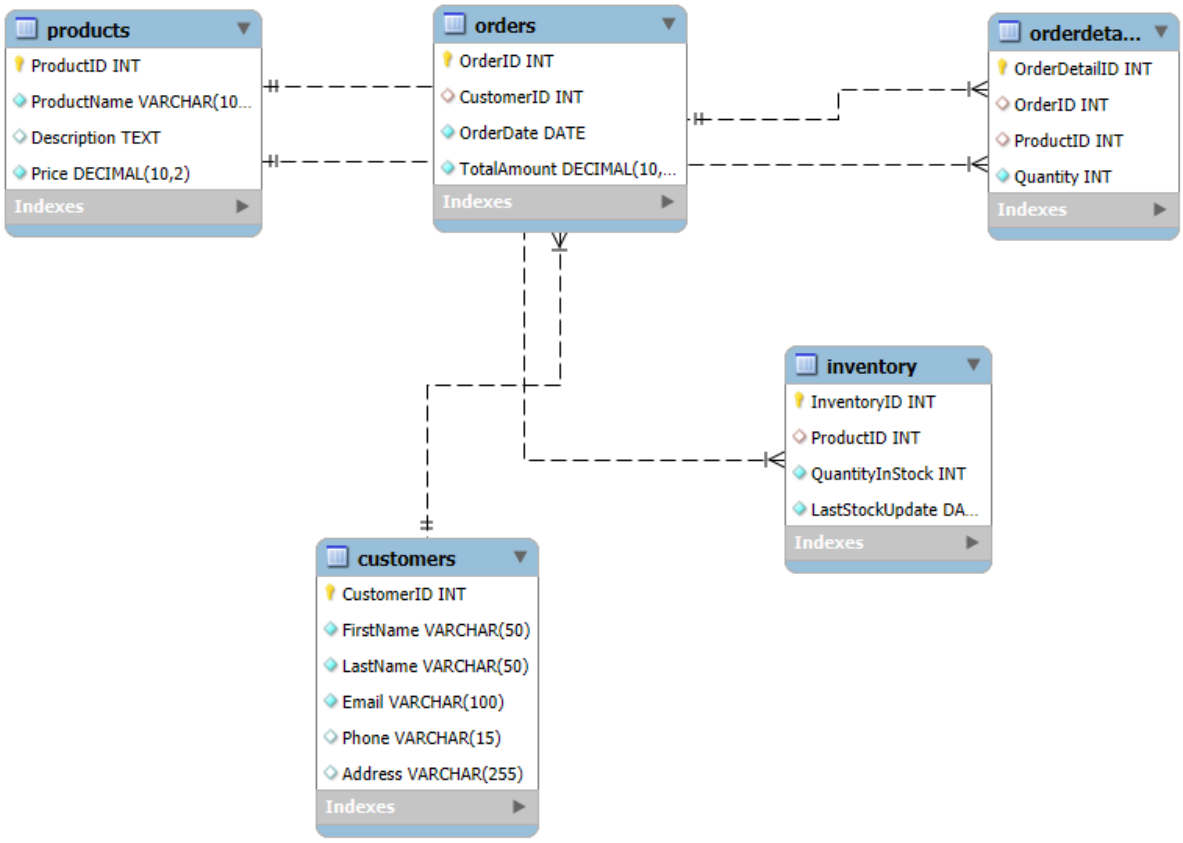
QuantityInStock int,

LastStockUpdate date,

Foreign Key (ProductID) references Products(ProductID)

);

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

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

);

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),

Foreign Key(ProductID) references Products(ProductID)

);

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)

);

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');

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);

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);
```

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);
```

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');
```