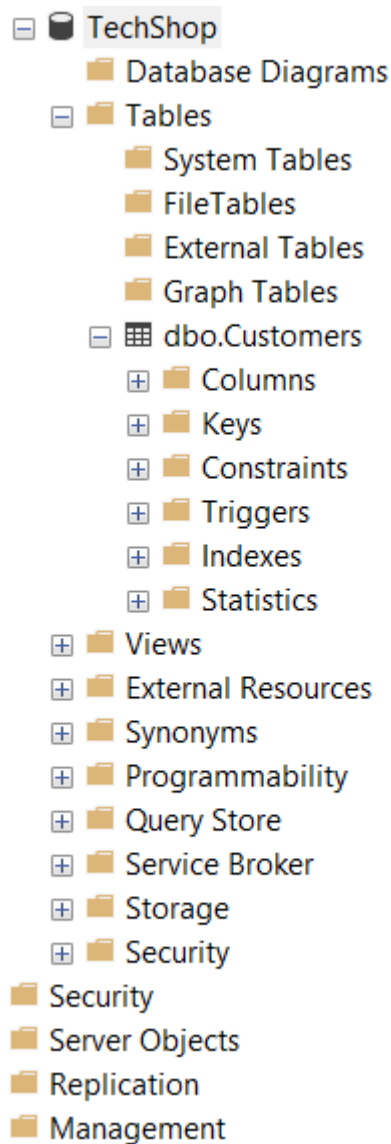


Task:1. Database Design: 1. Create the database named "TechShop"



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

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

drop table Customers

```
CREATE TABLE Customers (  
    CustomerID INT PRIMARY KEY,  
    FirstName VARCHAR(255) NOT NULL,  
    LastName VARCHAR(255) NOT NULL,  
    Email VARCHAR(255) UNIQUE NOT NULL,  
    Phone VARCHAR(50) NOT NULL,
```

```
Address TEXT  
);
```

```
CREATE TABLE Pro_ducts (  
    ProductID INT PRIMARY KEY,  
    ProductName VARCHAR(255) NOT NULL,  
    Description TEXT,  
    Price DECIMAL(10,2) NOT NULL  
);
```

```
drop table Orders
```

```
CREATE TABLE Orders (  
    OrderID INT IDENTITY(1,1) PRIMARY KEY,  
    CustomerID INT,  
    OrderDate DATETIME NOT NULL,  
    TotalAmount DECIMAL(10,2) NOT NULL,  
    FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)  
);
```

```
drop table OrderDetails
```

```
CREATE TABLE OrderDetails (  
    OrderDetailID INT IDENTITY(1,1) PRIMARY KEY,  
    OrderID INT NOT NULL,  
    ProductID INT NOT NULL,  
    Quantity INT NOT NULL,  
    FOREIGN KEY (OrderID) REFERENCES Orders(OrderID),  
    FOREIGN KEY (ProductID) REFERENCES Products(ProductID)  
);
```

drop table Inventory

CREATE TABLE Inventory (

InventoryID INT IDENTITY(1,1) PRIMARY KEY, -- Auto-increment for InventoryID

ProductID INT NOT NULL, -- Foreign Key referencing Products table

QuantityInStock INT NOT NULL,

LastStockUpdate DATETIME NOT NULL DEFAULT GETDATE(),

FOREIGN KEY (ProductID) REFERENCES Products(ProductID)

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

a. Customers b. Products c. Orders d. OrderDetails e. inventory

a.

INSERT INTO Customers (CustomerID, FirstName, LastName, Email, Phone, Address) VALUES

(1, 'Arun', 'Subramaniam', 'arun.s@email.com', '9876543201', 'Chennai, India'),

(2, 'Murugan', 'Velu', 'murugan.v@email.com', '8765432190', 'Madurai, India'),

(3, 'Chandran', 'Kumarasamy', 'chandran.k@email.com', '7654321089', 'Coimbatore, India'),

(4, 'Kavya', 'Sundaram', 'kavya.s@email.com', '6543210978', 'Trichy, India'),

(5, 'Mohan', 'Ramachandran', 'mohan.r@email.com', '5432109867', 'Salem, India'),

(6, 'Darshini', 'Ganesh', 'darshini.g@email.com', '4321098756', 'Pondicherry, India'),

(7, 'Praveen', 'Muthu', 'praveen.m@email.com', '3210987645', 'Tenkasi, India'),

(8, 'Lakshmi', 'Chandrasekar', 'lakshmi.c@email.com', '2109876534', 'Thanjavur, India'),

(9, 'Krishna', 'Venkatesh', 'krishna.v@email.com', '1098765423', 'Erode, India'),

(10, 'Revathi', 'Balasubramaniam', 'revathi.b@email.com', '9876543212', 'Tirunelveli, India');

b.

INSERT INTO Products (ProductID, ProductName, Description, Price) VALUES

(1, 'Arasan Laptop', 'High-performance laptop', 2200.00),

(2, 'Velan Smartphone', 'Latest Android smartphone', 999.00),

(3, 'Thendral Earbuds', 'Noise-canceling wireless earbuds', 199.00),

(4, 'Azhagan Tablet', 'Professional drawing tablet', 650.00),

(5, 'Thirunaal Fitness Band', 'Water-resistant fitness tracker', 129.00),

(6, 'Senthil Keyboard', 'RGB mechanical keyboard', 130.00),

(7, 'Rajini Gaming Mouse', 'Ergonomic gaming mouse', 75.00),

(8, 'Murugan Curved Monitor', '34-inch curved monitor', 550.00),
(9, 'Perumal 3D Printer', 'High-quality 3D printer', 1500.00),
(10, 'Sundari Portable SSD', '2TB portable SSD', 250.00);

c.

INSERT INTO Orders (CustomerID, OrderDate, TotalAmount) VALUES

(1, '2025-03-10 09:15:00', 2200.00),
(2, '2025-03-11 11:45:00', 999.00),
(3, '2025-03-12 14:20:00', 199.00),
(4, '2025-03-13 16:55:00', 650.00),
(5, '2025-03-14 18:30:00', 129.00),
(6, '2025-03-15 10:05:00', 130.00),
(7, '2025-03-16 12:40:00', 75.00),
(8, '2025-03-17 15:25:00', 550.00),
(9, '2025-03-18 17:10:00', 1500.00),
(10, '2025-03-19 19:00:00', 250.00);

d.

INSERT INTO OrderDetails (OrderID, ProductID, Quantity) VALUES

(1, 2, 3),
(2, 4, 1),
(3, 6, 2),
(4, 8, 5),
(5, 10, 4),
(6, 1, 2),
(7, 3, 1),
(8, 5, 3),
(9, 7, 2),
(10, 9, 1);

e.

INSERT INTO Inventory (ProductID, QuantityInStock, LastStockUpdate) VALUES

(1, 50, '2025-03-01 10:00:00'),
(2, 100, '2025-03-02 11:30:00'),

```
(3, 75, '2025-03-03 12:45:00'),  
(4, 40, '2025-03-04 14:20:00'),  
(5, 90, '2025-03-05 15:55:00'),  
(6, 30, '2025-03-06 17:10:00'),  
(7, 60, '2025-03-07 18:25:00'),  
(8, 20, '2025-03-08 19:40:00'),  
(9, 110, '2025-03-09 21:05:00'),  
(10, 80, '2025-03-10 22:30:00');
```

Task 2:

1. Retrieve Names and Emails of All Customers

```
SELECT FirstName, LastName, Email FROM Customers;
```

2. List All Orders with Order Dates and Corresponding Customer Names

```
SELECT O.OrderID, O.OrderDate, C.FirstName, C.LastName  
FROM Orders O  
JOIN Customers C ON O.CustomerID = C.CustomerID;
```

3. Insert a New Customer into the "Customers" Table

```
INSERT INTO Customers (FirstName, LastName, Email, Phone, Address)  
VALUES ('Rahul', 'Sharma', 'rahul.sharma@email.com', '9876543210', 'Mumbai, India');
```

4. Increase Prices of All Electronic Gadgets by 10% in "Products" Table

```
UPDATE Products  
SET Price = Price * 1.10  
WHERE Category = 'Electronic Gadget';
```

5. Delete a Specific Order and Its Associated Order Details (Input OrderID)

```
DECLARE @OrderID INT = 5;  
DELETE FROM OrderDetails WHERE OrderID = @OrderID;  
DELETE FROM Orders WHERE OrderID = @OrderID;
```

6. Insert a New Order into the "Orders" Table

```
INSERT INTO Orders (CustomerID, OrderDate, TotalAmount)
VALUES (3, '2025-03-21 10:30:00', 1500.00);
```

7. Update Contact Information of a Specific Customer (Input CustomerID)

```
DECLARE @CustomerID INT = 2;
DECLARE @NewEmail VARCHAR(255) = 'new.email@email.com';
DECLARE @NewAddress TEXT = 'Chennai, India';
```

```
UPDATE
SET Email = @NewEmail, Address = @NewAddress
WHERE CustomerID = @CustomerID;
```

8. Recalculate and Update Total Cost of Each Order

```
UPDATE Orders
SET TotalAmount = (
    SELECT SUM(OD.Quantity * P.Price)
    FROM OrderDetails OD
    JOIN Products P ON OD.ProductID = P.ProductID
    WHERE OD.OrderID = Orders.OrderID
);
```

9. Delete All Orders and Order Details for a Specific Customer (Input CustomerID)

```
DECLARE @CustomerID INT = 3;
DELETE FROM OrderDetails WHERE OrderID IN (SELECT OrderID FROM Orders WHERE
CustomerID = @CustomerID);
DELETE FROM Orders WHERE CustomerID = @CustomerID;
```

10. Insert a New Electronic Gadget into the "Products" Table

```
INSERT INTO Products (ProductName, Category, Description, Price)
```

VALUES ('Smartphone X', 'Electronic Gadget', 'Latest model smartphone with AI features', 1200.00);

11. Update the Status of a Specific Order (Input OrderID)

DECLARE @OrderID INT = 7; -- Replace with actual OrderID

DECLARE @NewStatus VARCHAR(50) = 'Shipped';

UPDATE Orders

SET Status = @NewStatus

WHERE OrderID = @OrderID;

12. Update the Number of Orders Placed by Each Customer in "Customers" Table

UPDATE Customers

SET TotalOrders = (

SELECT COUNT(*) FROM Orders WHERE Orders.CustomerID = Customers.CustomerID

);

By,

Divyalakshmi M