ASSIGNMENT – Implement OOPs

TechShop, an electronic gadgets shop

Questions:

Q1) Schema –

```sql
CREATE TABLE Customers(
CustomerID INT Identity(1,1) PRIMARY KEY,
FirstName VARCHAR(50) NOT NULL,
LastName VARCHAR(50) NOT NULL,
Email VARCHAR(100)NOT NULL,
Phone VARCHAR(10),
Address VARCHAR(255) NOT NULL
);


CREATE TABLE Products(
ProductID INT PRIMARY KEY Identity(101, 1),
ProductName Varchar(100) NOT NULL,
Description Varchar(MAX), --(MAX) value is used to provide maximum
limit!
Price DECIMAL(10, 2) NOT NULL);

CREATE TABLE Orders(
OrderID int identity(301, 1) Primary key,
CustomerID int FOREIGN KEY REFERENCES Customers(CustomerID),
OrderDate date NOT NULL,
TotalAmount Decimal(15, 2) Not null
);

CREATE TABLE OrderDetails(
OrderDetailID int identity(501, 1) Primary key,
OrderID int Foreign Key References Orders(OrderID),
ProductID int Foreign Key References Products(ProductId),
Quantity int Not Null
);

CREATE TABLE Inventory(
InventoryID int identity(1001, 1) Primary Key,
ProductID int Foreign Key References Products(ProductID),
QuantityInStock int Not null,
LastStockUpdate date not null
);
```

Name – Yash Agrawal
Topic – TechShop, an Electronic Gadgets Shop

Q2) Menu –

```
MENU
-----------------
1. Customer Registration
2. Product Catalog Management
3. Orders
4. Order Status
5. Inventory Management
6. Sales Report
7. Customer Account Update
8. Payment Processing
9. Search and Recommend a Product
10. Exit


Enter your Choice:
```

Q3) Customer Registration –

```
MENU
-----------------
1. Customer Registration
2. Product Catalog Management
3. Orders
4. Order Status
5. Inventory Management
6. Sales Report
7. Customer Account Update
8. Payment Processing
9. Search and Recommend a Product
10. Exit

Enter your Choice: 1
Enter your first name: Yogita
Enter your last name: Yadav
Enter your email: yogita@gmail.com
Enter your phone number: 7895463218
Enter your address: Indore, Madhya Pradesh
Customer created successfully.
```

Q4) Product Catalog Management –

```
Enter your Choice: 2

1. Update Product Details
2. Show All Products
3. Search for product in stock
4. Exit
Enter your Choice: █
```

- **Update Product Details –**

```
1. Update Product Details
2. Show All Products
3. Search for Product in Stock
4. Exit
Enter your Choice: 1
Enter Product ID: 114
What do you want to Update?
1)Price
2)Description
3)Product Name
4)Category
Enter Choice (eg; Price): Price
Enter Updated Price: 549
Product Information Updated Successfully
```

- **Show All Products –**

```
1. Update Product Details
2. Show All Products
3. Search for Product in Stock
4. Exit
Enter your Choice: 2
Product Details:
(101, 'iPhone 16 Pro', '6.1-inch Super Retina XDR display, A16 Bionic chip, 12MP dual camera system', Decimal('153998.90'), 'Smart
phones')
(102, 'Samsung Galaxy S24 Ultra', '6.8-inch Dynamic AMOLED 2X display, Snapdragon 8 Gen 2, 200MP camera', Decimal('98998.90'), 'Sm
artphones')
(103, 'OnePlus 11', '6.7-inch Fluid AMOLED display, Snapdragon 8 Gen 2, 50MP camera', Decimal('65998.90'), 'Smartphones')
(104, 'Xiaomi 13 Pro', '6.7-inch AMOLED display, Snapdragon 8 Gen 2, 50MP camera', Decimal('54998.90'), 'Smartphones')
(105, 'Google Pixel 7 Pro', '6.7-inch LTPO OLED display, Google Tensor G2, 50MP camera', Decimal('93498.90'), 'Smartphones')
(106, 'MacBook Pro M2', '13.3-inch Liquid Retina XDR display, M2 chip, 8GB RAM, 256GB SSD', Decimal('164998.90'), 'Laptops')
(107, 'Dell XPS 13', '13.4-inch InfinityEdge display, Intel Core i7-13700H, 16GB RAM, 512GB SSD', Decimal('131998.90'), 'Laptops')
(108, 'Lenovo ThinkPad X1 Carbon', '14-inch OLED display, Intel Core i7-13600H, 16GB RAM, 512GB SSD', Decimal('120998.90'), 'Lapto
ps')
(109, 'HP Spectre x360', '13.3-inch AMOLED display, Intel Core i7-13600H, 16GB RAM, 512GB SSD', Decimal('142998.90'), 'Laptops')
(110, 'Acer Predator Helios 16', '16-inch IPS display, Intel Core i9-13900HX, 32GB RAM, 2TB SSD', Decimal('197998.90'), 'Laptops')
(111, 'Apple Watch Series 9', 'Apple Watch Series 9 is a cutting-edge smartwatch designed to seamlessly integrate with the Apple e
cosystem. It features a sleek and durable design with an always-on Retina display that offers vivid colors and exceptional brightn
ess.', Decimal('27000.00'), 'Smartwatches')
(113, 'Sony Bravia TV', 'It is a 55 inch Sony Brand TV.', Decimal('80000.00'), 'Electronics')
(114, 'One Piece Wallpaper', 'It is a Anime Wall Sticker.', Decimal('549.00'), 'Home Decor')
```

- **Search for Product in Stock –**

```
1. Update Product Details
2. Show All Products
3. Search for Product in Stock
4. Exit
Enter your Choice: 3
Enter Product ID: 114
Product in Stock: 9
```

Q5) Orders –

```
Enter your Choice: 3

1. Create Order
2. Get Order Details
3. Cancel Order
4. Delete Orders which are Cancelled
5. Exit
Enter your Choice:
```

- **Create Order –**

```
1. Create Order
2. Get Order Details
3. Cancel Order
4. Delete Orders which are Cancelled
5. Exit
Enter your Choice: 1
Enter Customer ID: 1
Enter Product ID: 114
Enter Quantity: 2
Order Created Successfully
```

- **Get Order Details –**

```
1. Create Order
2. Get Order Details
3. Cancel Order
4. Delete Orders which are Cancelled
5. Exit
Enter your Choice: 2
Enter Customer ID: 1

You've ordered 2 times, below are those Order Details:

Order Detail ID: 501
Order ID: 301
Product ID: 101
Quantity: 1
Order Date: 2023-11-25
Status: Delivered
Total Order Price: 153998.90


Order Detail ID: 518
Order ID: 319
Product ID: 114
Quantity: 2
Order Date: 2024-10-11
Status: Pending
Total Order Price: 1098.00
```

- **Cancel Order –**

```
Enter your Choice: 3
FOR YOUR ALL ORDERS:

Enter Customer ID: 1

You've ordered 2 times, below are those Order Details:

Order Detail ID: 501
Order ID: 301
Product ID: 101
Quantity: 1
Order Date: 2023-11-25
Status: Delivered
Total Order Price: 153998.90


Order Detail ID: 518
Order ID: 319
Product ID: 114
Quantity: 2
Order Date: 2024-10-11
Status: Pending
Total Order Price: 1098.00

Write an OrderID you want to Cancel: 319
Order Cancelled...
```

- **Delete Orders which are Cancelled –**

```
1. Create Order
2. Get Order Details
3. Cancel Order
4. Delete Orders which are Cancelled
5. Exit
Enter your Choice: 4
Cancelled Orders Deleted!
```

Q6) Order Status –

```
Enter your Choice: 4
Enter Order ID: 303

1. Display Order Status
2. Change Order Status
3. Exit
Enter your Choice: █
```

- **Display Order Status –**

```
1. Display Order Status
2. Change Order Status
3. Exit
Enter your Choice: 1
Your order status:  Shipped
```

- **Change Order Status –**

```
1. Display Order Status
2. Change Order Status
3. Exit
Enter your Choice: 2
Enter Status (Shipped/Pending/Delivered/Cancelled): Delivered
Status Updated


1. Display Order Status
2. Change Order Status
3. Exit
Enter your Choice: 1
Your order status:  Delivered

1. Display Order Status
2. Change Order Status
3. Exit
Enter your Choice: █
```

Q7) Inventory Management –

```
Enter your Choice: 5

1. Add New Product
2. Update Product Stock
3. Remove Discontinued Product
4. Exit
Enter your Choice: █
```

- **Add New Product –**

```
1. Add New Product
2. Update Product Stock
3. Remove Discontinued Product
4. Exit
Enter your Choice: 1
Enter Product Name: Noise Oxy 2
Enter Product Description: It is a smartwatch of noise brand!
Enter Product Price: 3599
Enter Product Category: Smartwatches
Enter Quantity in Stock: 25
Product Added Succesfully
```

- **Update Product Stock –**

```
1. Add New Product
2. Update Product Stock
3. Remove Discontinued Product
4. Exit
Enter your Choice: 2
Enter Product ID: 116
Enter Quantity to be Added: 3
Quantity in Stock:  25
Quantity Updated for Product ID 116: 28
```

- **Remove Discontinued Product –**

```
1. Add New Product
2. Update Product Stock
3. Remove Discontinued Product
4. Exit
Enter your Choice: 3
Enter Product you want to Discontinue (Product ID): 104
Removed Items Successfully!!
```

Q8) Sales Report –

```
Enter your Choice: 6

1. Retrieve Sales Data
2. Generate Sales Report
3. Exit
Enter your Choice: █
```

- **Retrieve Sales Data –**

```
Enter your Choice: 1
Sales Report:
Product ID | Product Name | Total Quantity Sold
101 | iPhone 16 Pro | 2
102 | Samsung Galaxy S24 Ultra | 1
103 | OnePlus 11 | 1
105 | Google Pixel 7 Pro | 1
106 | MacBook Pro M2 | 1
107 | Dell XPS 13 | 1
108 | Lenovo ThinkPad X1 Carbon | 1
109 | HP Spectre x360 | 1
110 | Acer Predator Helios 16 | 1
```

- **Generate Sales Report –**

```
1. Retrieve Sales Data
2. Generate Sales Report
3. Exit
Enter your Choice: 2
Sales Report:
Product ID | Product Name | Total Quantity Sold
101 | iPhone 16 Pro | 2
102 | Samsung Galaxy S24 Ultra | 1
103 | OnePlus 11 | 1
105 | Google Pixel 7 Pro | 1
106 | MacBook Pro M2 | 1
107 | Dell XPS 13 | 1
108 | Lenovo ThinkPad X1 Carbon | 1
109 | HP Spectre x360 | 1
110 | Acer Predator Helios 16 | 1
```

Q9) Customer Account Update –

```
Enter your Choice: 7

1. Update Customer Details
2. Get Customer Details
3. Exit
Enter your Choice: 
```

- **Update Customer Details –**

```
1. Update Customer Details
2. Get Customer Details
3. Exit
Enter your Choice: 1
Enter Customer ID: 1
What do you want to Update?
1)First Name
2)Last Name
3)Email
4)Phone Number
5)Address
6)Want to Update All Details
Enter Choice: 3
Enter New Email: sde.yash.agrawal@gmail.com
Customer Details Updated!
```

- **Get Customer Details –**

```
1. Update Customer Details
2. Get Customer Details
3. Exit
Enter your Choice: 2
Enter Customer ID: 1
Customer ID:  1
First Name:  Yash
Last Name:  Agrawal
Email:  sde.yash.agrawal@gmail.com
Phone:  6263605498
Address:  106, Gupta Colony, Mhow, Madhya Pradesh
```

Q10) Payment Processing –

```
Enter your Choice: 8

1. Process Payment
2. Add Discount
3. Exit
Enter your Choice:
```

- **Process Payment –**

```
1. Process Payment
2. Add Discount
3. Exit
Enter your Choice:1
Enter Order ID: 303
OrderID | ProductID | Quantity | TotalAmount
-------------------------------------------
  303    |    103    |    1     |   65998.90
```

- **Add Discount –**

```
1. Process Payment
2. Add Discount
3. Exit
Enter your Choice:2
Enter Order ID: 301
Total Amount: Rs. 153998.9
Discount of 10 percent will be added...
Total Amount: Rs. 138599.01
```

Q11) Search and Recommend a Product –

```
Enter your Choice: 9

1. Search Product
2. Recommend Product
3. Exit
Enter your Choice: 
```

- **Search Product –**

```
1. Search Product
2. Recommend Product
3. Exit
Enter your Choice: 1
Enter a Product ID: 101
Product Found!

Product ID:   101
Product Name:   iPhone 16 Pro
Product Description:   6.1-inch Super Retina XDR display, A16 Bionic chip, 12MP dual camera system
Product Price:   153998.90
Product Category:   Smartphones
```

- **Recommend Product –**

```
1. Search Product
2. Recommend Product
3. Exit
Enter your Choice: 2
Enter a Product Category: Laptops
Here are the Recommeded Products:

MacBook Pro M2
Dell XPS 13
Lenovo ThinkPad X1 Carbon
HP Spectre x360
Acer Predator Helios 16
```

- **Exit –**

```
1. Search Product
2. Recommend Product
3. Exit
Enter your Choice: 3
Redirecting to Main Menu...
```

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Q 12) Exit –

```
MENU
-----------------
1. Customer Registration
2. Product Catalog Management
3. Orders
4. Order Status
5. Inventory Management
6. Sales Report
7. Customer Account Update
8. Payment Processing
9. Search and Recommend a Product
10. Exit

Enter your Choice: 10
Exiting...

C:\Users\yasha\OneDrive\Desktop\Assignment Hexa Training\SQL & OOPs Assignment\Assignment 1\TechShop>
```