

# **SHOP++: A Multi-Functional Retail Management System**

Developing a CRUD (Create, Read, Update, and Delete) Console Program

**A Project**

**Presented to**

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## I. Overview of the Project

This project, SHOP++, is a C++ console-based application designed to simulate the operations of a small retail management system. The program allows users to manage inventory, process customer orders, track sales, handle debtor accounts, and perform simple calculations. It offers a user-friendly interface and facilitates key business functionalities like item management, order placement, and sales tracking.

## II. Features and CRUD Operations

The program includes the following features:

### 1. Inventory Management

#### 1.1. Add Item

Allows the user to add new items to the inventory by entering the item ID, name, stock, and price.

#### 1.2. Edit Item:

Enables editing the details of existing items, such as ID, name, stock, and price.

#### 1.3. Delete Item

Removes items from the inventory.

#### 1.4. Display Items

Provides a formatted view of all items in the inventory, including their IDs, names, stock levels, and prices.

### 2. Order Management

#### 2.1. Add Order

Allows customers to place orders for available items by specifying the item ID and quantity.

#### 2.2 Edit Order

Facilitates modifying existing orders by changing the item quantity.

#### 2.3 Delete Order

Enables the removal of specific orders.

#### 2.4. Place Order

Processes the order by calculating the total cost, handling payment, and updating inventory.

### 3. Debtor Management

#### 3.1 Track Debts

Maintains a list of customers with unpaid balances, including their names and outstanding amounts.

#### 3.2 Edit Debtor Name

Allows editing debtor information.

#### 3.3 Process Payments

Updates debt records when customers make payments.

### 4. Sales Management

#### 4.1 View Sales Summary

Displays total earnings and transaction counts.

#### 4.2 Edit Earnings

Allows manual adjustments to the total earnings.

## 5. Additional Features

### 5.1 Calculator

Provides a basic calculator for performing arithmetic operations.

### 5.2 Login System

Includes a basic authentication mechanism requiring a username and password to access the system.

## III. Instructions for Using the Program

### 1. Login

1.1. Run the program.

1.2. Log in with the default credentials:

1.2.1. Username: admin

1.2.2. Password: 123

```
SHOP++

[1] Login
[0] Exit

|
```

*Figure 1. Startup Screen*

```
SHOP++

Username: admin
Password: 123

Authentication Successful!
Press any key to continue . . . |
```

*Figure 2. Login Screen*

### 2. Navigating the Menu

The main menu provides the following options:

2.1. Inventory - Manage inventory items.

2.2. Shop - Manage orders.

2.3. Sales - View and edit sales records.

2.4. Debtor List - Handle debtors and payments.

2.5. Calculator - Access the built-in calculator.

2.6. Exit - Exit the application.

```
SHOP++

[1] Inventory
[2] Shop
[3] Sales
[4] Debtor List
[5] Calculator
[0] Exit

|
```

*Figure 3. Main Menu*

### 3. Managing Items

- 3.1. Select “Inventory” from the main menu.
- 3.2. Choose to add, edit, or delete items or return to the main menu.

```
SHOP++
=====
ID      Name                Stock/s    Price
=====
No items available.

[1] Add item
[2] Edit item
[3] Delete item
[0] Back
|
```

*Figure 4. Inventory Options*

### 4. Processing Orders

- 4.1. Select “Shop” from the main menu.
- 4.2. Add, edit, or delete orders. Once complete, use the “Place Order” option to finalize.

```
SHOP++
=====
ID      Name                Stock/s    Price
=====
1       Egg                  30         10.00
2       Pancit Canton          55         21.00

ORDER TABLE
=====
ID      Name                Quantity    Cost
=====
1       Egg                    3          30.00
2       Pancit Canton          1          21.00

[1] Add order
[2] Edit order
[3] Delete order
[4] Place order
[0] Back
|
```

*Figure 5. Ordering Item*

```
Order Summary
=====
ORDER TABLE
=====
ID      Name                Quantity    Cost
=====
1       Egg                    3          30.00
2       Pancit Canton          1          21.00
=====
Total Price: Php 51.00
=====

Payment Option:
[1] Cash
[2] Owe/Credit
[3] Cancel
[0] Back
|
```

*Figure 6. Placing Order*

### 5. Tracking Sales

- 5.1. Select “Sales” from the main menu.
- 5.2. View sales summary or adjust earnings using the “Force Edit” option.

```
SHOP++
=====
ID      Name                Stock/s    Price
=====
1       Egg                  26         10.00
2       Pancit Canton          54         21.00

Sales

=====
Transactions    Earnings
=====
2              51.00

[1] Force Edit
[0] Back
|
```

*Figure 7. Sales Section*

## 6. Managing Debtors

- 6.1. Select “Debtor List” from the main menu.
- 6.2. Process payments or edit debtor names.

```
DEBTOR LIST
=====
#      Name      Credit
=====
1      Gadiel     10.00

[1] Payment
[2] Edit Name
[0] Back
|
```

*Figure 8. Debtor List Section*

## 7. Using the Calculator

- 7.1. Select “Calculator” from the main menu.
- 7.2. Perform arithmetic operations by following the prompts.

```
CALCULATOR

Enter number (Enter any character to EXIT): 7
Enter operation (+, -, /, *, =): +
Enter number: 4
Enter operation (+, -, /, *, =): +
Enter number: 77
Enter operation (+, -, /, *, =): -
Enter number: 34
Enter operation (+, -, /, *, =): =
Answer: 54

Press any key to continue . . . |
```

*Figure 9. Calculator*

## 8. Exiting the Program

- 8.1 Select “Exit” from the main menu or terminate the console window.

```
SHOP++

[1] Inventory
[2] Shop
[3] Sales
[4] Debtor List
[5] Calculator
[0] Exit

0

Process returned 0 (0x0)   execution time : 102.961 s
Press any key to continue.
|
```

*Figure 10. Exiting*