# SynCart

# E-Commerce Application for Buying Consumer Electronics Products

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Need to prepare a console application for E Commerce Application.

The application should show the following menu option to select operation to be performed.

1. **Customer Registration**
2. **Login**
3. **Exit**

## 1. Customer Registration

1. If the customer selects 1 from main menu **Customer Registration** will be selected.
2. Get below details from Customer to create a new Customer account and add to the list.
   a. CustomerName
   b. City
   c. PhoneNumber
   d. MailID
   e. WalletBalance
   f. CustomerID (Auto generated)
3. Once the new account is created need to show the CustomerID to the current registered Customer.

## 2. Login

1. If the customer selects 2 from main menu Login and Login option will be selected.
2. Get the CustomerID and validate the CustomerID.
3. If the CustomerID doesn't match, show "**Invalid customerID**". Else the following sub menu option "**a to e**" shown.
   a. **Purchase**
   b. **Order History**
   c. **Cancel Order**
   d. **Wallet Balance**
   e. **WalletRecharge**
   f. **Exit**

### a. Purchase:

Create product list inbuild with the below details.

| ProductID | Product Name | Available Stock Quantity | Price Per Quantity | Shipping Duration |
|-----------|--------------|--------------------------|--------------------|-------------------|
| PID101 | Mobile (Samsung) | 10 | 10000 | 3 |
| PID102 | Tablet (Lenovo) | 5 | 15000 | 2 |
| PID103 | Camara (Sony) | 3 | 20000 | 4 |
| PID104 | iPhone | 5 | 50000 | 6 |
| PID105 | Laptop (Lenovo I3) | 3 | 40000 | 3 |
| PID106 | HeadPhone (Boat) | 5 | 1000 | 2 |
| PID107 | Speakers (Boat) | 4 | 500 | 2 |

1. Once the Customer logged in show the list of Products. Ask the customer to select a Product using Product ID.
2. Validate productID if it is invalid show **"Invalid ProductID"**.
3. If it is valid, Then ask for the count he wish to purchase.
4. If the required count is not available in the product's stock, then show like **"Required count not available. Current availability is {product's stock count}".**
5. If the count is available calculate total amount with the below formula.

   Delivery charge is Rs 50
   Total Amount = (required count * price per quantity) + Delivery charge

6. Check the current logged in customer's wallet balance to ensure he is having enough balance to purchase by comparing with total price.
7. If the wallet balance is insufficient for this order, then display "Insufficient Wallet Balance. Please recharge your wallet and do purchase again".
8. If the wallet has sufficient balance, then
   a. Deduct the total amount from the wallet balance of the current logged in customer.
   b. Deduct the count from the stock availability of the product.

9. Create order with available details and make its status as Ordered, add it to order List and show "**Order Placed Successfully. Order ID: OID1001**".
10. Show the delivery date of order by making a calculation based on purchase date and shipping duration of the product like "Order placed successfully. Your order will be delivered on {Order date +shipping duration of the product}.

## b. Order History:
Show all the information about the orders that current logged in customer made.

## c. Cancel Order:
1. Show all orders placed by current logged in customer whose order status is **Ordered**.
2. Ask customer to select an order to be cancelled by the **OrderID**.

3. Validate orderID and show "Invalid OrderID" if there is no such order.
4. If it is valid then Pick the order based on the provided **OrderID**.
5. Increase the available stock quantity by the count of product purchased in the current order to be cancelled.
6. Refund the amount to the customer's wallet balance.
7. **Change the order status to "Cancelled" and finally show "Order :OID1001 cancelled successfully".**

### d. Wallet Balance:

Show the current available WalletBalance of current logged in customer.

### e. Wallet Recharge:

1. Ask the customer whether he wish to recharge the wallet.
2. If "Yes" then ask for the amount to be recharged and update the amount in the wallet and display the updated wallet balance.
3. Else go the submenu.

### f. Exit:

1. If Customer select "Exit" option, then need to exit sub menu and have to show the main menu.

## 3. Exit:

1. If Customer selects option 3 in main menu "Exit" option will be selected and need to close the application.

### Classes:

1. **Order Details:**

Properties:

- OrderID (Auto Increment – OID1001)
- CustomerID
- ProductID
- TotalPrice
- PurchaseDate
- Quantity
- OrderStatus – (Enum- Default, Ordered, Cancelled)

2. **Product Details**

Properties:

- ProductID (Auto Increment – PID101)
- ProductName
- Price
- Stock

- ShippingDuration

3. **Customer Details:**

   Properties:

   - CustomerID (Auto Increment -CID1000)
   - Name
   - City
   - MobileNumber
   - WalletBalance
   - EmailID

   **Methods:**

   - **WalletRecharge:** Get the recharge amount through parameters and update wallet balance.
   - **Deduct Balance:** Get the deducted amount through parameters and update wallet balance.

   For validation purpose need to add the below objects.

   Default Customer Details:

   | Customer ID | Name | City | Mobile | Balance | Mail |
   |---|---|---|---|---|---|
   | CID1001 | Ravi | Chennai | 9885858588 | 50000 | ravi@mail.com |
   | CID1002 | Baskaran | Chennai | 9888475757 | 60000 | baskaran@mail.com |

   Default Order Details:

   | Order ID | Customer ID | ProductID | TotalPrice | Purchase Date | Quantity Purchased | Order Status |
   |---|---|---|---|---|---|---|
   | OID1001 | CID1001 | PID101 | 20000 | DateTime.Now | 2 | Ordered |
   | OID1002 | CID1002 | PID103 | 40000 | DateTime.Now | 2 | Ordered |