

Online Shopping System

Task 1: Delegates and Funcs

1. Create a delegate named **DiscountCalculator** that takes the total amount of a shopping cart as input and returns the discounted amount. Implement three functions: **RegularCustomerDiscount**, **VIPCustomerDiscount**, and **SaleDiscount**, that have their custom percentage of a discount and assign them to the delegate.
2. In the Main method, demonstrate the use of the **DiscountCalculator** delegate by applying each type of discount to a sample shopping cart.

Task 2: Builder Design Pattern

1. Implement a class named **Product** with properties like **Name**, **Price**, and **Description**.
2. Create a builder class named **ProductBuilder** with methods for setting each property of the **Product**. The builder should have a method named **Build** that returns the final product.
3. In the Main method, demonstrate the use of the builder pattern by creating at least two different products using the **ProductBuilder**.

Task 3: Integration

1. Create the **OrderBuilder** class using the Builder design pattern as well and include the ability to add products to an order.
2. Create a class named **ShoppingCart** that can hold a list of products. It should have a method named **Checkout** that takes a **DiscountCalculator** delegate, calculates the discounted total amount, and returns an instance of the **OrderBuilder** with added products.
3. In the Main method, demonstrate the integration by creating a shopping cart, adding products to it, and using the **DiscountCalculator** delegate during the checkout process. Build the final order using the modified **OrderBuilder**.