

CSE-214 Online - 2 (B1)

Structural Design Pattern

A delivery service offers discounts to its customers based on certain conditions. When a customer makes a purchase, they may be eligible for one or more of the following discounts:

1. **Loyalty Discount:** If the customer is a premium member, they receive a 10% discount on their purchase.
2. **Seasonal Discount:** During special promotional seasons, an additional flat discount of 100 units is applied to the purchase price.
3. **High-Value Purchase Discount:** If the purchase amount exceeds 10,000 units, an additional 2% discount is applied.

Your task is to design a solution that calculates the final price after applying all applicable discounts. Each discount can be applied independently, and multiple discounts may be combined if the customer qualifies. Implement this solution in Java.

```
import java.util.ArrayList;
import java.util.List;
import java.util.Scanner;

// Step 1: Define the base Purchase component interface

interface Purchase {
    double calculatePrice();
}

public class Main {
    public static void main(String[] args) {
        double basePrice = 12000; // Initial price of the product

        // Create a base purchase
        Purchase purchase = ???

        // Apply discounts conditionally
        Purchase discountedPurchase = ???

        // Calculate final price after all applicable discounts

        double finalPrice = discountedPurchase.calculatePrice();
        System.out.println("Final price after all discounts: " + finalPrice);
    }
}
```