

CREATIVE ASSIGNMENT

On

“STRATEGY DESIGN PATTERN”

Submitted By
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We will try to implement a simple Shopping Cart where we have two payment strategies – using Credit Card or using PayPal.

Code :-

1) Filename :- PaymentStrategy.java

```
public interface PaymentStrategy {  
    public void pay(int amount);  
}
```

2) Filename :- CreditCardStrategy.java

```
public class CreditCardStrategy implements PaymentStrategy {  
  
    private String name;  
    private String cardNumber;  
    private String cvv;  
    private String dateOfExpiry;  
  
    public CreditCardStrategy(String nm, String ccNum, String cvv, String expiryDate){  
        this.name=nm;  
        this.cardNumber=ccNum;  
        this.cvv=cvv;  
        this.dateOfExpiry=expiryDate;  
    }  
    @Override  
    public void pay(int amount) {  
        System.out.println(amount + " paid with credit/debit card");  
    }  
}
```

3) Filename :- PaypalStrategy.java

```
public class PaypalStrategy implements PaymentStrategy {  
  
    private String emailId;  
    private String password;  
  
    public PaypalStrategy(String email, String pwd){  
        this.emailId=email;
```

```
        this.password=pwd;
    }

    @Override
    public void pay(int amount) {
        System.out.println(amount + " paid using Paypal.");
    }

}
```

4) Filename :- Item.java

```
public class Item {

    private String upcCode;
    private int price;

    public Item(String upc, int cost){
        this.upcCode=upc;
        this.price=cost;
    }

    public String getUpcCode() {
        return upcCode;
    }

    public int getPrice() {
        return price;
    }

}
```

5) Filename :- ShoppingCart.java

```
import java.text.DecimalFormat;
import java.util.ArrayList;
import java.util.List;

public class ShoppingCart {
```

```
//List of items
List<Item> items;

public ShoppingCart(){
    this.items=new ArrayList<Item>();
}

public void addItem(Item item){
    this.items.add(item);
}

public void removeItem(Item item){
    this.items.remove(item);
}

public int calculateTotal(){
    int sum = 0;
    for(Item item : items){
        sum += item.getPrice();
    }
    return sum;
}

public void pay(PaymentStrategy paymentMethod){
    int amount = calculateTotal();
    paymentMethod.pay(amount);
}
}
```

6) Filename :- ShoppingCartTest.java

```
public class ShoppingCartTest {

    public static void main(String[] args) {
        ShoppingCart cart = new ShoppingCart();

        Item item1 = new Item("1234",10);
```

```
Item item2 = new Item("5678",40);

cart.addItem(item1);
cart.addItem(item2);

//pay by paypal
cart.pay(new PaypalStrategy("myemail@example.com", "mypwd"));

//pay by credit card
cart.pay(new CreditCardStrategy("Pankaj Kumar", "1234567890123456", "786",
"12/15"));
    }

}
```

Output :-

```
PS C:\Users\Pushp\OneDrive\Desktop\check box Firebase\CA\Vaishnavi> cd "c:\Users\Pushp\OneDrive\Desktop\check box Firebase\CA\Vaishnavi\" ; if ($?) { javac ShoppingCartTest.java } ; if ($?) { java ShoppingCartTest }
50 paid using Paypal.
50 paid with credit/debit card
PS C:\Users\Pushp\OneDrive\Desktop\check box Firebase\CA\Vaishnavi>
```