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**//problem Statement**

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**\* Roll no.: 68**

**\* Batch: D**

**\* Assignment No: 11**

**Implement and apply Strategy Design pattern for simple Shopping Cart where three payment**

**strategies are used such as Credit Card, PayPal, Bit Coin. Create an interface for strategy pattern and give concrete implementation for payment.**

**\*/**

**====================================================================================**

**import java.util.Scanner;**

**//======================= INTERFACE PaymentProcessor =======================//**

**interface PaymentProcessor**

**{**

**void pay(int amount);//interface method pay**

**}**

**//======================= CLASS CreditCard =======================//**

**//implementing PaymentProcessor interface**

**class CreditCard implements PaymentProcessor {**

**Scanner sc =new Scanner (System.in);//creating object of scanner class**

**String name,ExpDate;//declaration of name,ExpDate**

**double CardNo;//declaration of CardNo**

**//Constructor of CreditCard class**

**CreditCard(){**

**super();//calling parent class constructor**

**System.out.println("----------------------------------------------------------");**

**System.out.print("\tCard holder Name :: ");//printing on console**

**this.name =sc.next();//taking Card holder Name as input from user**

**System.out.print("\tCard Number :: ");//printing on console**

**this.CardNo =sc.nextDouble();//taking Card Number as input from user**

**System.out.print("\tCard Expire Date :: ");//printing on console**

**this.ExpDate =sc.next();//taking Card Expire Date as input from user**

**System.out.println("----------------------------------------------------------");**

**}**

**@Override**

**public void pay(int amount) { //method for payment**

**System.out.println("----------------------------------------------------------");**

**System.out.println("Paying through CreditCard payment: Charging $" + amount);**

**System.out.println("----------------------------------------------------------");**

**}**

**}**

**//======================= CLASS PayPal =======================//**

**//implementing PaymentProcessor interface**

**class PayPal implements PaymentProcessor {**

**//Constructor of PayPal class**

**PayPal(){**

**super();//calling parent class constructor**

**System.out.println("\nChecking Internet Connection........");**

**}**

**@Override**

**public void pay(int amount) { //method for payment**

**System.out.println("----------------------------------------------------------");**

**System.out.println("Paying through PayPal payment: Charging $" + amount);**

**System.out.println("----------------------------------------------------------");**

**}**

**}**

**//======================= CLASS BitCoin =======================//**

**//implementing PaymentProcessor interface**

**class BitCoin implements PaymentProcessor {**

**Scanner sc =new Scanner (System.in);//creating object of scanner class**

**String add;//declaration of add**

**//Constructor of BitCoin class**

**BitCoin(){**

**super();//calling parent class constructor**

**System.out.print("\nEnter Transaction 'Input Address' :: ");//asking user of address**

**add= sc.next();//taking 'INPUT ADDRESS' as input from user**

**}**

**@Override**

**public void pay(int amount) { //method for payment**

**System.out.println("----------------------------------------------------------");**

**System.out.println("Paying through BitCoin payment: Charging $" + amount);**

**System.out.println("----------------------------------------------------------");**

**}**

**}**

**//======================= CLASS Order =======================//**

**class Order {**

**private final PaymentProcessor paymentProcessor;//declaration of paymentProcessor object**

**private final int amount;//declaration of amount**

**//Order Method**

**public Order(int amount, PaymentProcessor paymentProcessor) {**

**this.amount = amount;//storing value**

**this.paymentProcessor = paymentProcessor;//storing value**

**}**

**//process Method**

**public void process() {**

**paymentProcessor.pay(amount);//calling pay method**

**}**

**}**

**//======================= CLASS Main =======================//**

**public class MauliDemoShopping11 {**

**//calling static void main method**

**public static void main(String[] args) {**

**int c,amt=0;//declaration of c, amt**

**Order order;//reference of order assign to order obj**

**Scanner sc = new Scanner(System.in);//creating object of scanner class**

**while(true) {//while loop for menu driven**

**System.out.println();**

**//menu bar**

**System.out.println("\*\*\*\* SHOPING CART \*\*\*\*");**

**System.out.print("1.Credit Card \n2.PayPal \n3.BitCoin \n4.Exit");**

**System.out.print("\n\nEnter the Choice ::");**

**c=sc.nextInt();//taking input from user**

**System.out.println("----------------------------------------------------------");**

**if(c==1||c==2||c==3) {//check whether 0<c<4**

**System.out.print("\nEnter amount tobe Tranfer :: ");**

**amt = sc.nextInt();//taking amt as input from user**

**System.out.println("----------------------------------------------------------");**

**}**

**//switch case**

**switch(c) {**

**case 1://for input c ==1**

**order = new Order(amt, new CreditCard());//creating obj of order class**

**order.process();//calling process method of order class**

**break;**

**case 2://for input c == 2**

**order = new Order(amt, new PayPal());//creating obj of order class**

**order.process();//calling process method of order class**

**break;**

**case 3://for input c == 3**

**order = new Order(amt, new BitCoin());//creating obj of order class**

**order.process();//calling process method of order class**

**break;**

**case 4:**

**System.out.println("\nThank you For Shopping !!!! ");//printing on console**

**System.out.println("----------------------------------------------------------");**

**return;//stop execution of program**

**default:**

**System.out.println("Invalid Payment Mode !!!");// default**

**System.out.println("----------------------------------------------------------");**

**}**

**}**

**}**

**}**

**OUTPUT:**

**\*\*\*\* SHOPING CART \*\*\*\***

**1.Credit Card**

**2.PayPal**

**3.BitCoin**

**4.Exit**

**Enter the Choice ::1**

**----------------------------------------------------------**

**Enter amount tobe Tranfer :: 1000**

**----------------------------------------------------------**

**----------------------------------------------------------**

**Card holder Name :: mauli**

**Card Number :: 6505**

**Card Expire Date :: 25/10/2027**

**----------------------------------------------------------**

**----------------------------------------------------------**

**Paying through CreditCard payment: Charging $1000**

**----------------------------------------------------------**

**\*\*\*\* SHOPING CART \*\*\*\***

**1.Credit Card**

**2.PayPal**

**3.BitCoin**

**4.Exit**

**Enter the Choice ::2**

**----------------------------------------------------------**

**Enter amount tobe Tranfer :: 2000**

**----------------------------------------------------------**

**Checking Internet Connection........**

**----------------------------------------------------------**

**Paying through PayPal payment: Charging $2000**

**----------------------------------------------------------**

**\*\*\*\* SHOPING CART \*\*\*\***

**1.Credit Card**

**2.PayPal**

**3.BitCoin**

**4.Exit**

**Enter the Choice ::3**

**----------------------------------------------------------**

**Enter amount tobe Tranfer :: 3000**

**----------------------------------------------------------**

**Enter Transaction 'Input Address' :: bondare123upi**

**----------------------------------------------------------**

**Paying through BitCoin payment: Charging $3000**

**----------------------------------------------------------**

**\*\*\*\* SHOPING CART \*\*\*\***

**1.Credit Card**

**2.PayPal**

**3.BitCoin**

**4.Exit**

**Enter the Choice ::4**

**----------------------------------------------------------**

**Thank you For Shopping !!!!**

**----------------------------------------------------------**