***Lab Assignment 11***

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11. Strategy Design Pattern

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

strategies are used such as Credit Card, PayPal, BitCoin. Create an interface for strategy

pattern and give concrete implementation for payment.

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import java.util.\*;

//======================= 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 Main {

//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 :: 10000

----------------------------------------------------------

----------------------------------------------------------

Card holder Name :: Ashu

Card Number :: 0252

Card Expire Date :: 2027

----------------------------------------------------------

----------------------------------------------------------

Paying through CreditCard payment: Charging $10000

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

1.Credit Card

2.PayPal

3.BitCoin

4.Exit

Enter the Choice ::2

----------------------------------------------------------

Enter amount tobe Tranfer :: 5000

----------------------------------------------------------

Checking Internet Connection........

----------------------------------------------------------

Paying through PayPal payment: Charging $5000

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

1.Credit Card

2.PayPal

3.BitCoin

4.Exit

Enter the Choice ::3

----------------------------------------------------------

Enter amount tobe Tranfer :: 15000

----------------------------------------------------------

Enter Transaction 'Input Address' :: Warje

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Paying through BitCoin payment: Charging $15000

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

1.Credit Card

2.PayPal

3.BitCoin

4.Exit

Enter the Choice ::4

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Thank you For Shopping !!!!

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