

Assignment No. 10

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Roll No-: 34

Branch-: SE IT(B2)

Subject-: Object Oriented Programming

TITLE

Write a program to Implement and apply strategy Design Pattern for simple shopping cart.

INPUT

```
abstract class Car {
    import java.util.ArrayList;
import java.util.List;
interface PaymentStrategy {
    void pay(int amount);
}
class CreditCardPayment implements PaymentStrategy {
    private String cardNumber;
    private String cardHolderName;

    public CreditCardPayment(String cardNumber, String
cardHolderName) {
```

```
        this.cardNumber = cardNumber;
        this.cardHolderName = cardHolderName;
    }

    public void pay(int amount) {
        System.out.println("Paid " + amount + " using Credit Card.");
    }
}

class PayPalPayment implements PaymentStrategy {
    private String email;

    public PayPalPayment(String email) {
        this.email = email;
    }

    public void pay(int amount) {
        System.out.println("Paid " + amount + " using PayPal.");
    }
}

class BitcoinPayment implements PaymentStrategy {
    private String walletAddress;

    public BitcoinPayment(String walletAddress) {
        this.walletAddress = walletAddress;
    }

    public void pay(int amount) {
        System.out.println("Paid " + amount + " using Bitcoin.");
    }
}

class ShoppingCart {
```

```

private List<String> items;
private PaymentStrategy paymentStrategy;

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

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

public void setPaymentStrategy(PaymentStrategy
paymentStrategy) {
    this.paymentStrategy = paymentStrategy;
}

public void checkout() {
    int totalAmount = calculateTotal();
    if (paymentStrategy == null) {
        System.out.println("Payment method not set.");
        return;
    }
    paymentStrategy.pay(totalAmount);
}

private int calculateTotal() {

    return items.size() * 100;
}
}

public class Assign10 {
    public static void main(String[] args) {
        ShoppingCart cart = new ShoppingCart();
    }
}

```

```
cart.addItem("Item 1");  
cart.addItem("Item 2");  
cart.addItem("Item 3");
```

```
    cart.setPaymentStrategy(new CreditCardPayment("1234-5678-  
9876-5432", "Ankit"));  
    cart.checkout();
```

```
System.out.println();
```

```
    cart.setPaymentStrategy(new  
    PayPalPayment("ankit15@example.com"));  
    cart.checkout();
```

```
System.out.println();
```

```
    cart.setPaymentStrategy(new  
    BitcoinPayment("1A1zP1eP5QGefi2DMPTfTL5SLmv7DivfNa"));  
    cart.checkout();  
}  
}
```

OUTPUT

```
PS C:\Users\Acer\OneDrive\Desktop\Java> javac Assign10.java  
PS C:\Users\Acer\OneDrive\Desktop\Java> java Assign10  
Paid 300 using Credit Card.
```

Paid 300 using PayPal.

Paid 300 using Bitcoin.

-----X-----X-----X-----

