Assignment No 11

```
// PaymentStrategy.java
public interface PaymentStrategy {
    void pay(double amount);
}

// CreditCardPayment.java
import java.util.Scanner;

public class CreditCardPayment implements PaymentStrategy
{
    private String name;
    private String cardNumber;
    private String cvv;
    private String expiryDate;

    public CreditCardPayment(String name, String cardNumber, String
cvv, String expiryDate)
   {
        this.name = name;
        this.cardNumber = cardNumber;
        this.cvv = cvv;
        this.expiryDate = expiryDate;
    }
```

```
    public void pay(double amount)
   {
        System.out.println("You paid " + amount + " using Credit
Card.");
    }

    public static PaymentStrategy getDetails()
     {
        Scanner scanner = new Scanner(System.in);

        System.out.println("Enter Card Holder Name: ");
        String name = scanner.nextLine();

        System.out.println("Enter Card Number: ");
        String cardNumber = scanner.nextLine();

        System.out.println("Enter CVV: ");
        String cvv = scanner.nextLine();

        System.out.println("Enter Expiry Date (MM/YY): ");
        String expiryDate = scanner.nextLine();

        return new CreditCardPayment(name, cardNumber, cvv,
expiryDate);
```

```
    }
}
// PayPalPayment.java
import java.util.Scanner;

public class PayPalPayment implements PaymentStrategy
 {
    private String email;
    private String password;

    public PayPalPayment(String email, String password) {
        this.email = email;
        this.password = password;
    }
    public void pay(double amount)
   {
        System.out.println("You paid " + amount + " using PayPal.");
    }

    public static PaymentStrategy getDetails()
   {
        Scanner scanner = new Scanner(System.in);

        System.out.println("Enter PayPal Email: ");
        String email = scanner.nextLine();
```

```
        System.out.println("Enter PayPal Password: ");
        String password = scanner.nextLine();

        return new PayPalPayment(email, password);
    }
}
// BitcoinPayment.java
import java.util.Scanner;

public class BitcoinPayment implements PaymentStrategy
{
    private String bitcoinAddress;

    public BitcoinPayment(String bitcoinAddress)
   {
        this.bitcoinAddress = bitcoinAddress;
    }
    public void pay(double amount)
   {
        System.out.println("You paid " + amount + " using Bitcoin.");
    }

    public static PaymentStrategy getDetails()
{
```

```
        Scanner scanner = new Scanner(System.in);

        System.out.println("Enter Bitcoin Address: ");
        String bitcoinAddress = scanner.nextLine();

        return new BitcoinPayment(bitcoinAddress);
    }
}
// Item.java
public class Item
{
    private String name;
    private double price;

    public Item(String name, double price)
 {
        this.name = name;
        this.price = price;
    }

    public String getName()
   {
        return name;
    }
```

```
public double getPrice()
   {
       return price;
    }
}

// ShoppingCart.java
import java.util.ArrayList;
import java.util.List;

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

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

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

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

    public void checkout(PaymentStrategy paymentMethod)
    {
        double total = calculateTotal();
        paymentMethod.pay(total);
    }
}
```

```
// Main.java
import java.util.Scanner;

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

      // Adding items to the cart
      cart.addItem(new Item("Laptop", 1200.00));
      cart.addItem(new Item("Smartphone", 800.00));
      cart.addItem(new Item("Headphones", 150.00));

      System.out.println("Total Bill: $" + cart.calculateTotal());

      // Choose payment method
      Scanner scanner = new Scanner(System.in);
      System.out.println("Choose Payment Method: ");
      System.out.println("1. Credit Card");
      System.out.println("2. PayPal");
      System.out.println("3. Bitcoin");
      int choice = scanner.nextInt();
```

```
        PaymentStrategy paymentMethod;

        switch (choice)
        {
            case 1:
                paymentMethod = CreditCardPayment.getDetails();
                break;
            case 2:
                paymentMethod = PayPalPayment.getDetails();
                break;
            case 3:
                paymentMethod = BitcoinPayment.getDetails();
                break;
            default:
                System.out.println("Invalid choice, using default payment
method (Credit Card)");
                paymentMethod = CreditCardPayment.getDetails();
                break;
        }

        // Checkout
        cart.checkout(paymentMethod);
    }
}
```

Output

(If user select Credit Card payment method)

Total Bill: $2150.0
Choose Payment Method:
1. Credit Card
2. PayPal
3. Bitcoin
1
Enter Card Holder Name:
John
Enter Card Number:
1234 5678 9876 5432
Enter CVV:
123
Enter Expiry Date (MM/YY):
21/11

You paid 2150.0 using Credit Card.

(If user select Paypal Payment Method)
Total Bill: $2150.0
Choose Payment Method:
1. Credit Card
2. PayPal
3. Bitcoin
2

Enter PayPal Email:
john@123
Enter PayPal Password:
john
You paid 2150.0 using PayPal.

(If user select Bitcoin Payment Method)
Total Bill: $2150.0
Choose Payment Method:
1. Credit Card
2. PayPal
3. Bitcoin
3
Enter Bitcoin Address:
1A1zP1eP5QGefi2DMPTfTL5SLmv7DivfNa
You paid 2150.0 using Bitcoin.