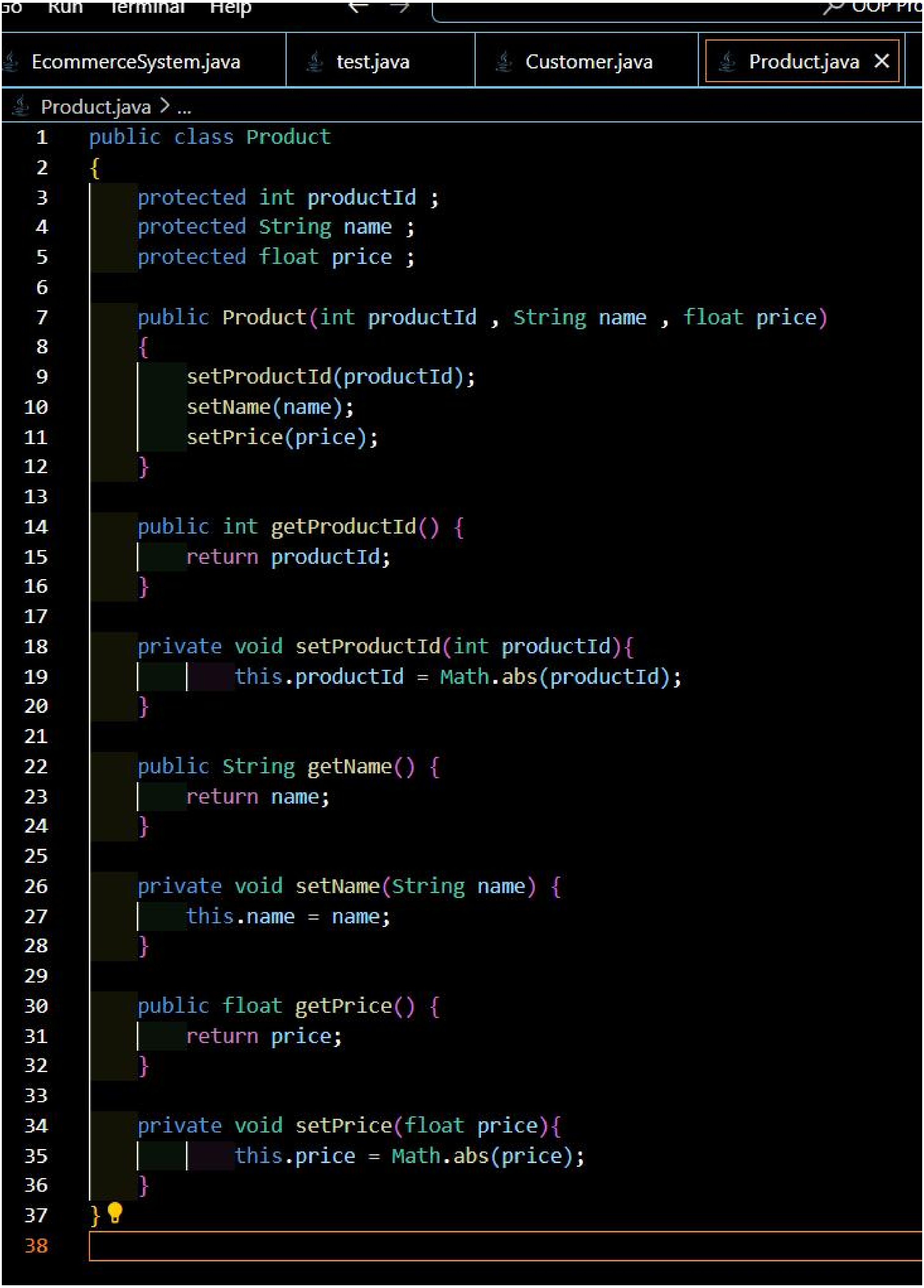
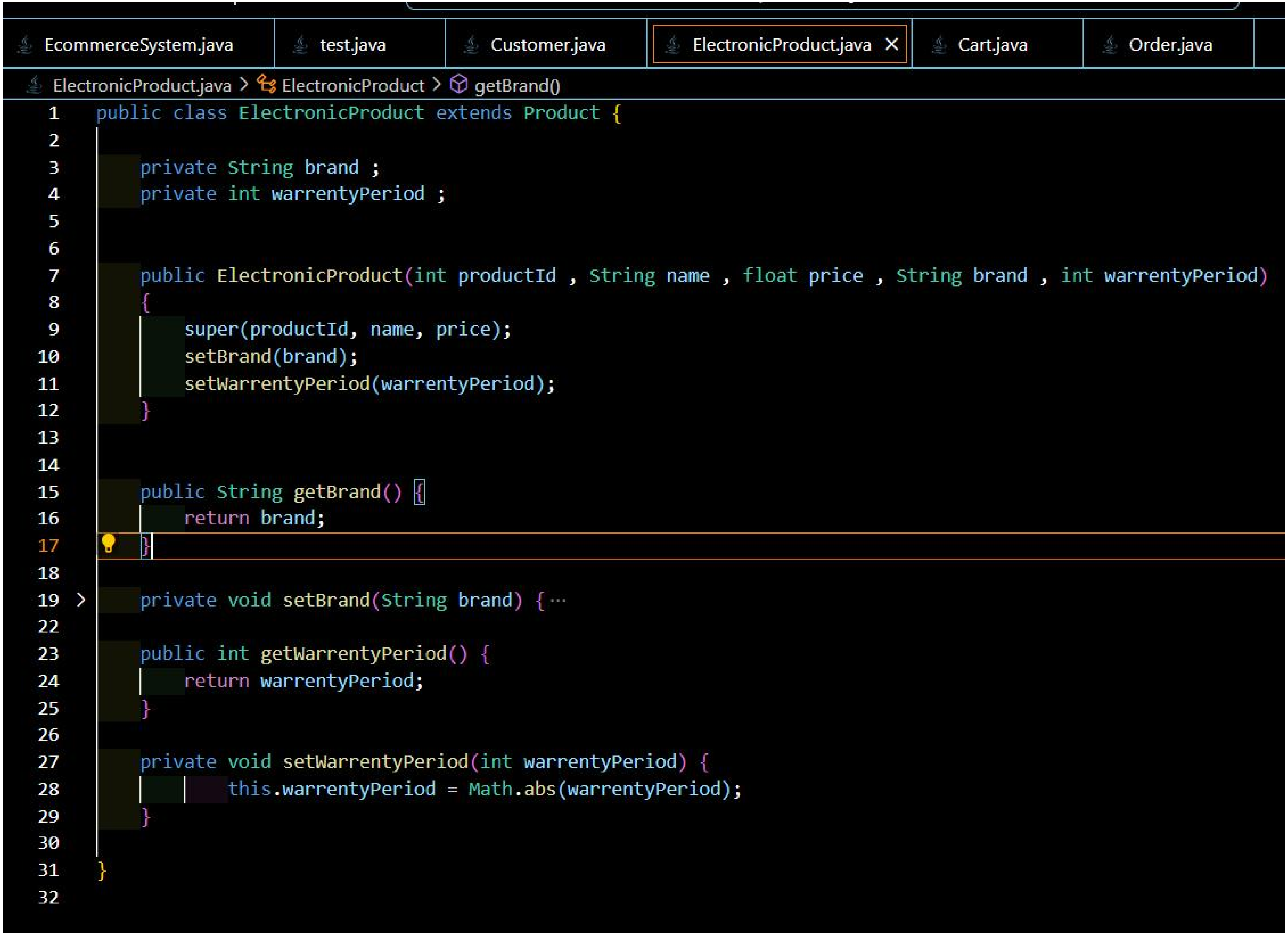
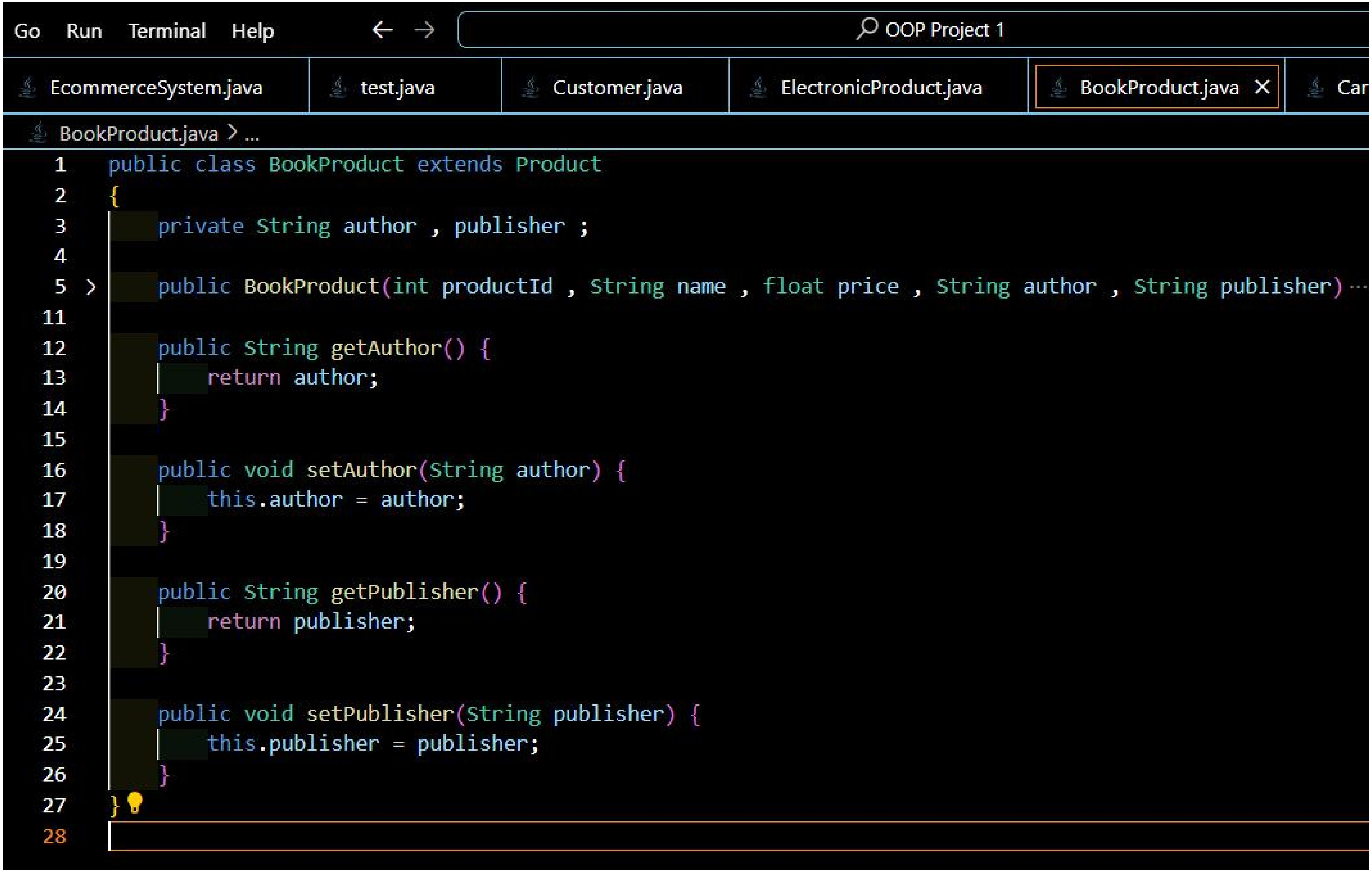


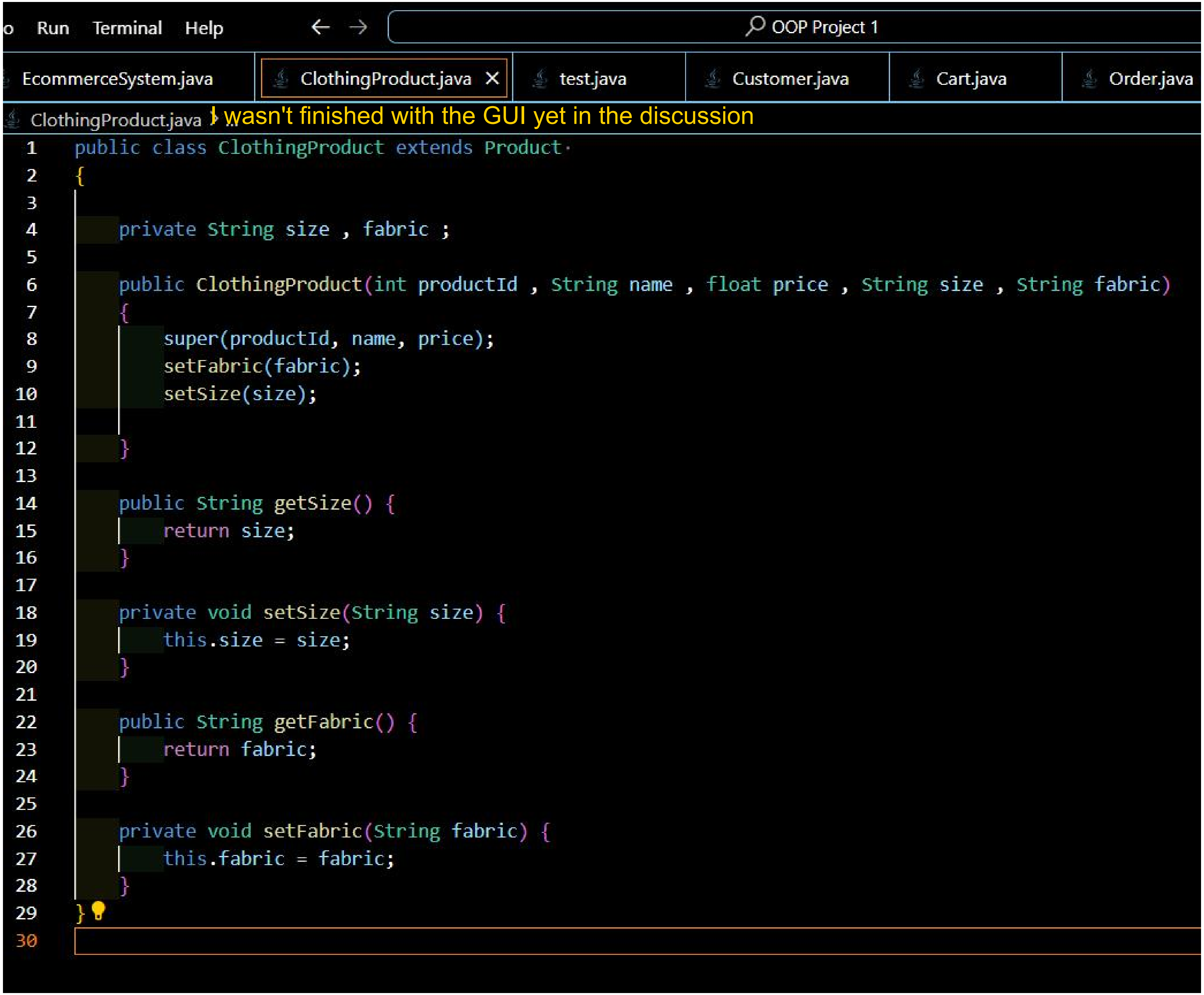
```java
public class Product
{
    protected int productId ;
    protected String name ;
    protected float price ;

    public Product(int productId , String name , float price)
    {
        setProductId(productId);
        setName(name);
        setPrice(price);
    }

    public int getProductId() {
        return productId;
    }

    private void setProductId(int productId){
            this.productId = Math.abs(productId);
    }

    public String getName() {
        return name;
    }

    private void setName(String name) {
        this.name = name;
    }

    public float getPrice() {
        return price;
    }

    private void setPrice(float price){
            this.price = Math.abs(price);
    }
}

```



```java
public class ElectronicProduct extends Product {

    private String brand ;
    private int warrentyPeriod ;


    public ElectronicProduct(int productId , String name , float price , String brand , int warrentyPeriod)
    {
        super(productId, name, price);
        setBrand(brand);
        setWarrentyPeriod(warrentyPeriod);
    }


    public String getBrand() {
        return brand;
    }

    private void setBrand(String brand) {⋯

    public int getWarrentyPeriod() {
        return warrentyPeriod;
    }

    private void setWarrentyPeriod(int warrentyPeriod) {
            this.warrentyPeriod = Math.abs(warrentyPeriod);
    }

}

```

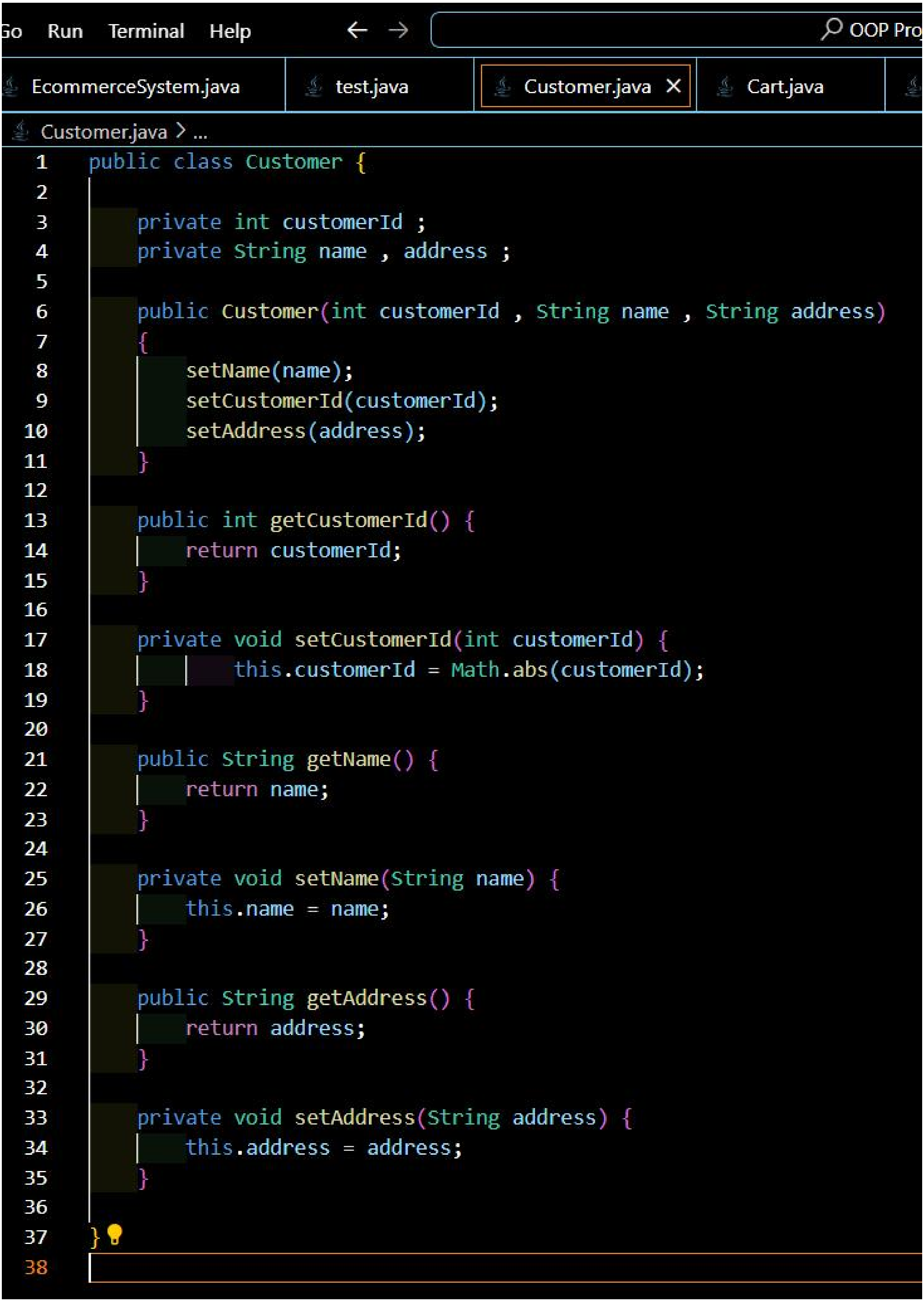


```java
public class BookProduct extends Product
{
    private String author , publisher ;

    public BookProduct(int productId , String name , float price , String author , String publisher)···

    public String getAuthor() {
        return author;
    }

    public void setAuthor(String author) {
        this.author = author;
    }

    public String getPublisher() {
        return publisher;
    }

    public void setPublisher(String publisher) {
        this.publisher = publisher;
    }
}

```

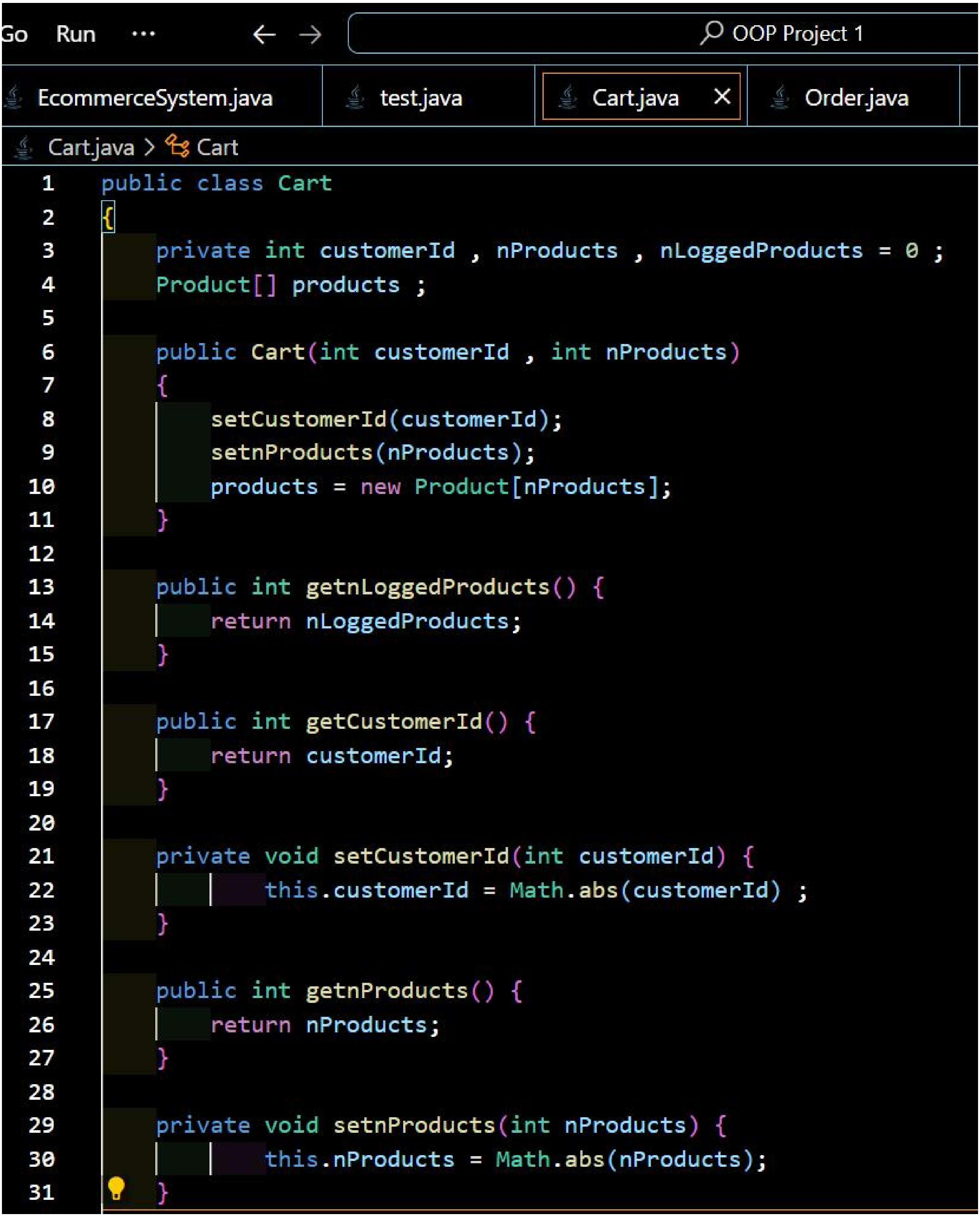


I wasn't finished with the GUI yet in the discussion

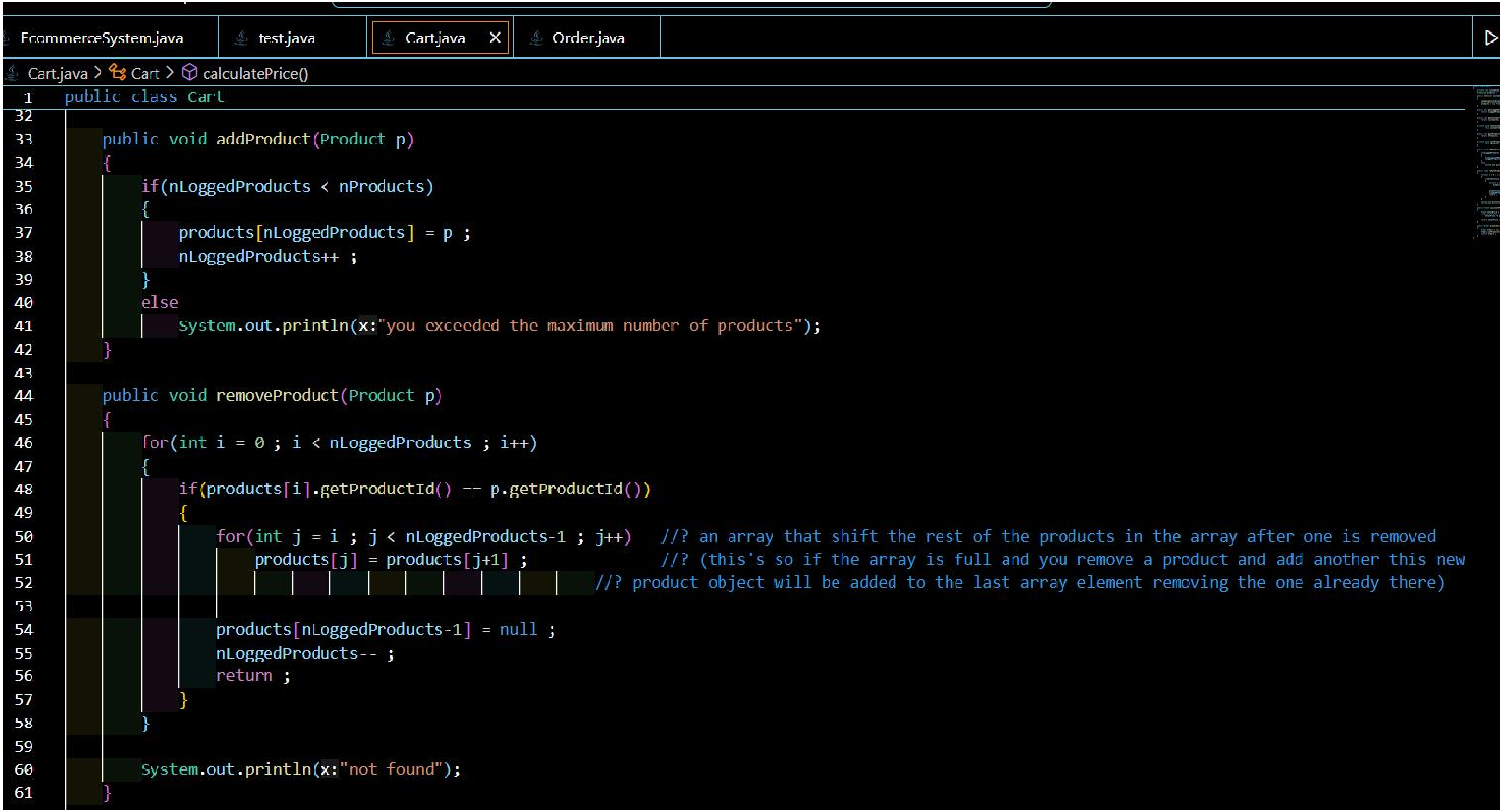
```java
public class ClothingProduct extends Product
{

    private String size , fabric ;

    public ClothingProduct(int productId , String name , float price , String size , String fabric)
    {
        super(productId, name, price);
        setFabric(fabric);
        setSize(size);

    }

    public String getSize() {
        return size;
    }

    private void setSize(String size) {
        this.size = size;
    }

    public String getFabric() {
        return fabric;
    }

    private void setFabric(String fabric) {
        this.fabric = fabric;
    }
}

```



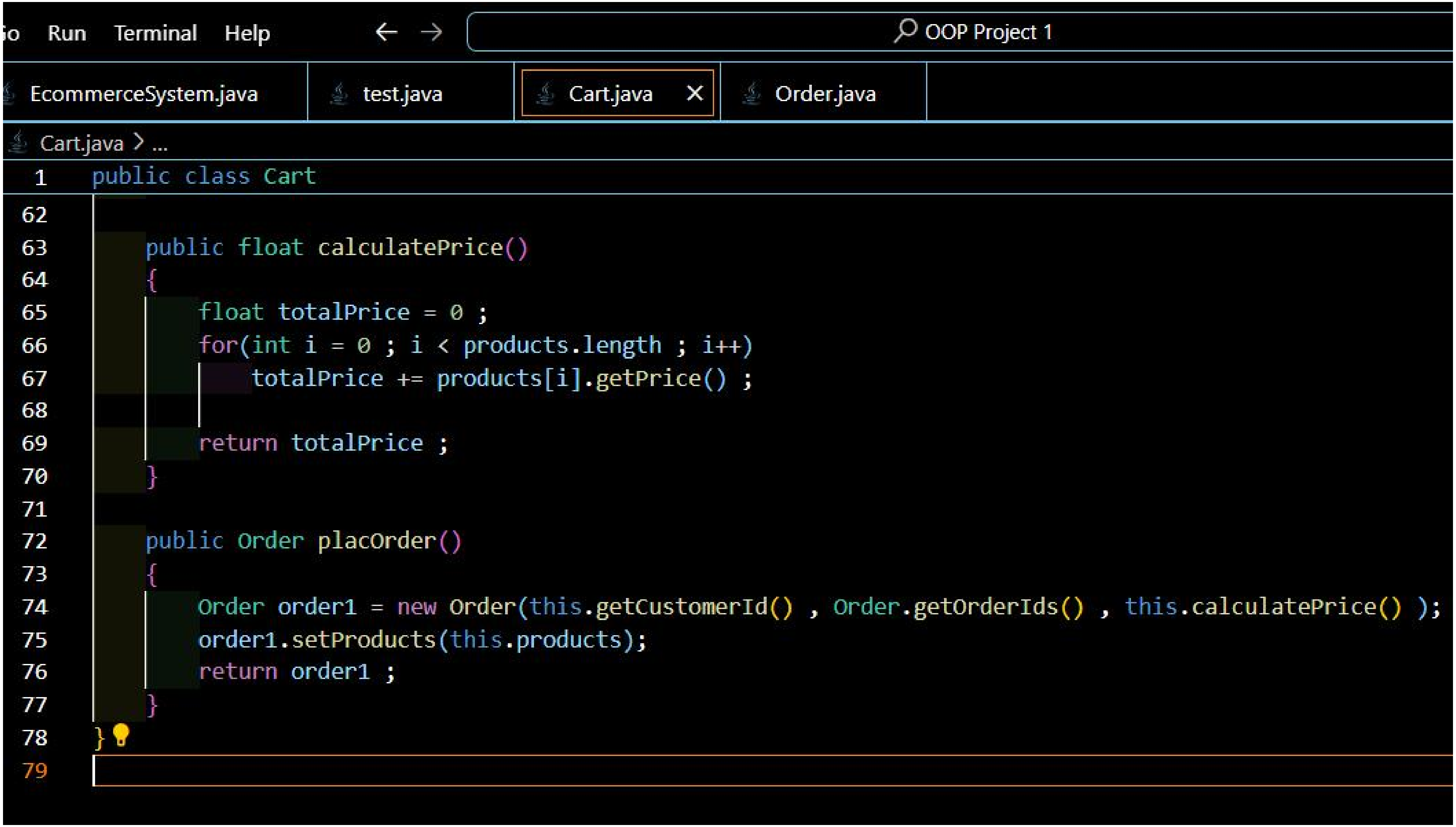
```java
public class Customer {

    private int customerId ;
    private String name , address ;

    public Customer(int customerId , String name , String address)
    {
        setName(name);
        setCustomerId(customerId);
        setAddress(address);
    }

    public int getCustomerId() {
        return customerId;
    }

    private void setCustomerId(int customerId) {
            this.customerId = Math.abs(customerId);
    }

    public String getName() {
        return name;
    }

    private void setName(String name) {
        this.name = name;
    }

    public String getAddress() {
        return address;
    }

    private void setAddress(String address) {
        this.address = address;
    }

}

```



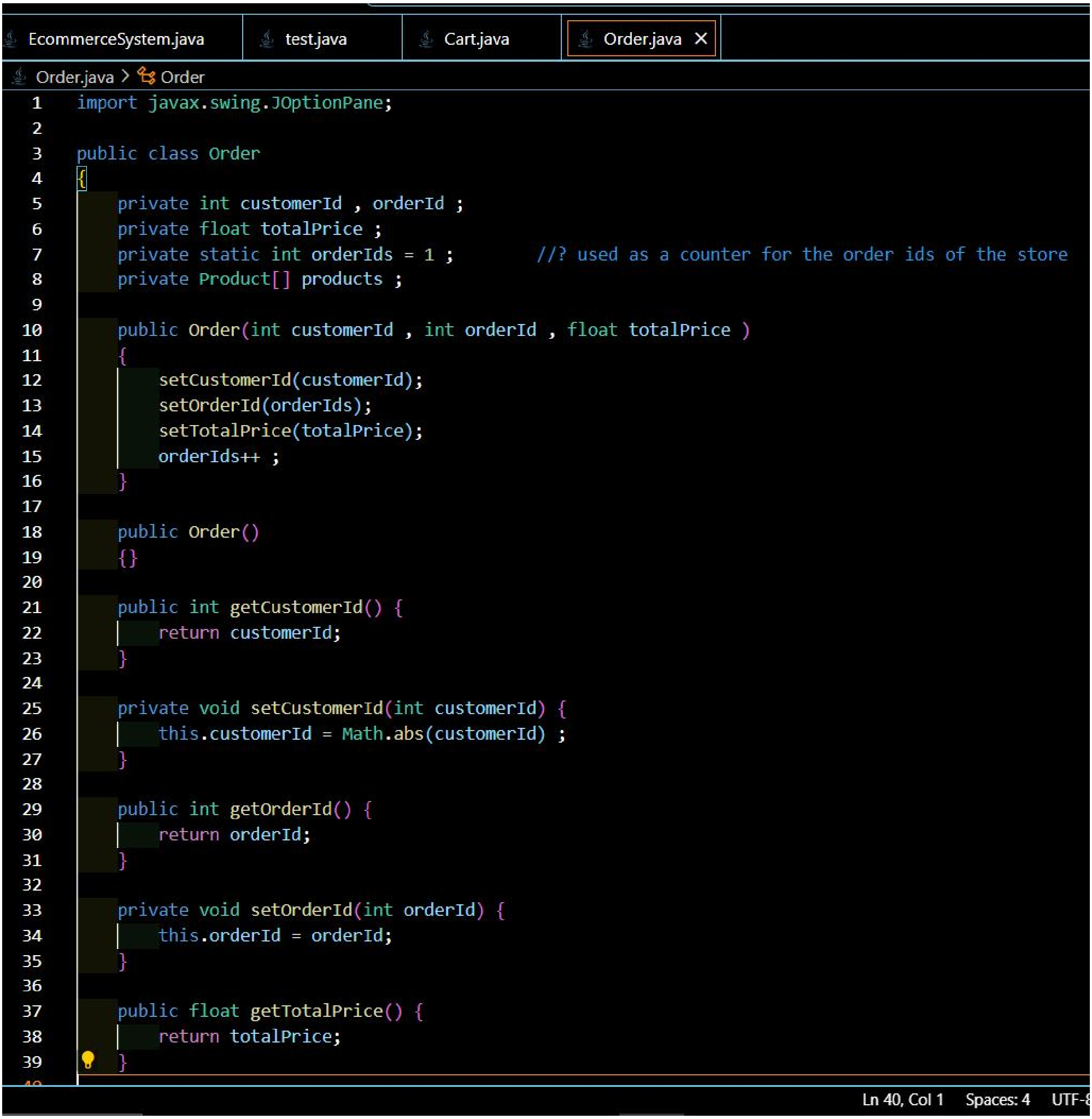
```java
public class Cart
{
    private int customerId , nProducts , nLoggedProducts = 0 ;
    Product[] products ;

    public Cart(int customerId , int nProducts)
    {
        setCustomerId(customerId);
        setnProducts(nProducts);
        products = new Product[nProducts];
    }

    public int getnLoggedProducts() {
        return nLoggedProducts;
    }

    public int getCustomerId() {
        return customerId;
    }

    private void setCustomerId(int customerId) {
            this.customerId = Math.abs(customerId) ;
    }

    public int getnProducts() {
        return nProducts;
    }

    private void setnProducts(int nProducts) {
            this.nProducts = Math.abs(nProducts);
    }
```



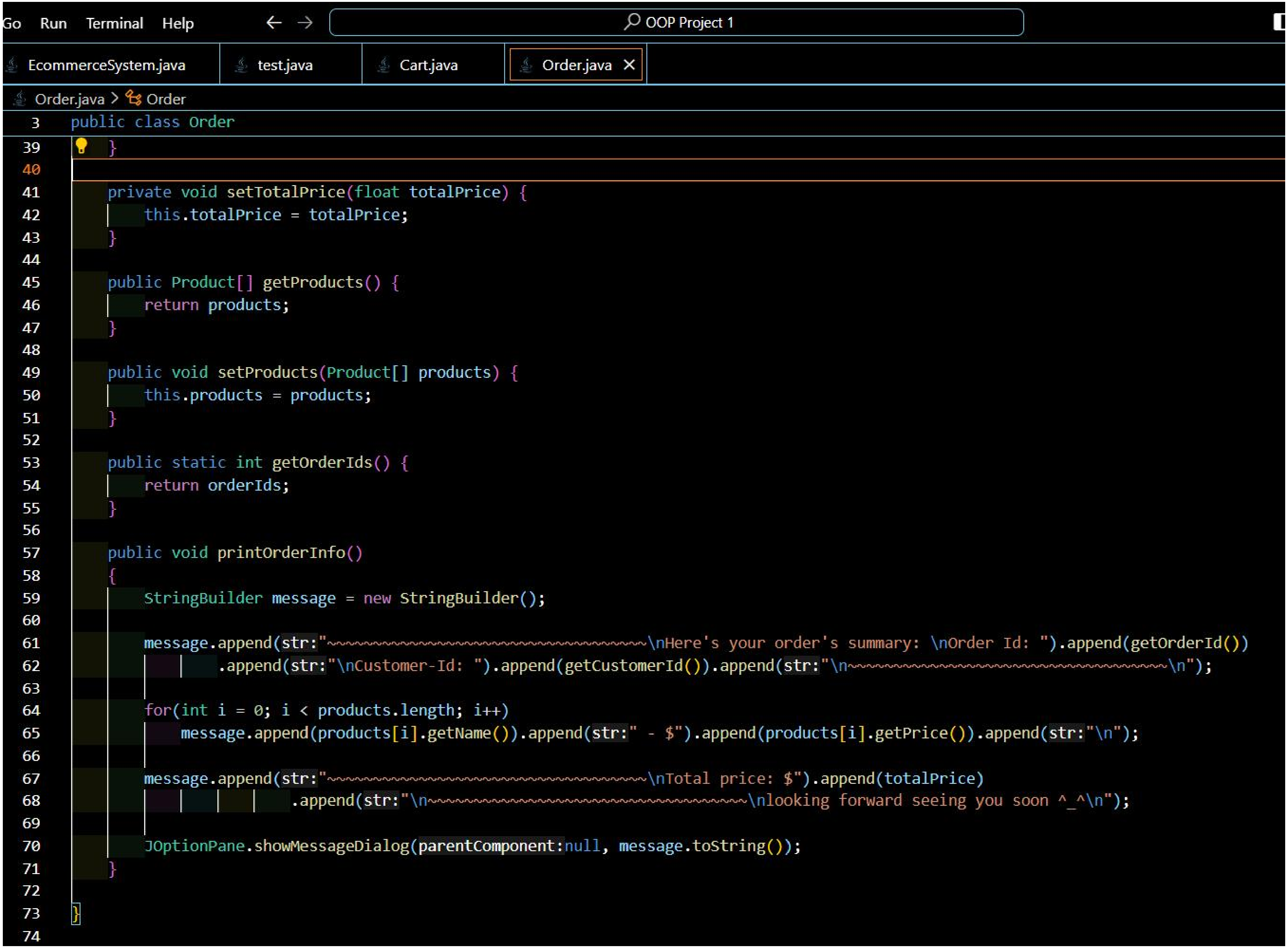
```java
public class Cart

    public void addProduct(Product p)
    {
        if(nLoggedProducts < nProducts)
        {
            products[nLoggedProducts] = p ;
            nLoggedProducts++ ;
        }
        else
            System.out.println(x:"you exceeded the maximum number of products");
    }

    public void removeProduct(Product p)
    {
        for(int i = 0 ; i < nLoggedProducts ; i++)
        {
            if(products[i].getProductId() == p.getProductId())
            {
                for(int j = i ; j < nLoggedProducts-1 ; j++)   //? an array that shift the rest of the products in the array after one is removed
                    products[j] = products[j+1] ;              //? (this's so if the array is full and you remove a product and add another this new
                                                        //? product object will be added to the last array element removing the one already there)

                products[nLoggedProducts-1] = null ;
                nLoggedProducts-- ;
                return ;
            }
        }

        System.out.println(x:"not found");
    }
```



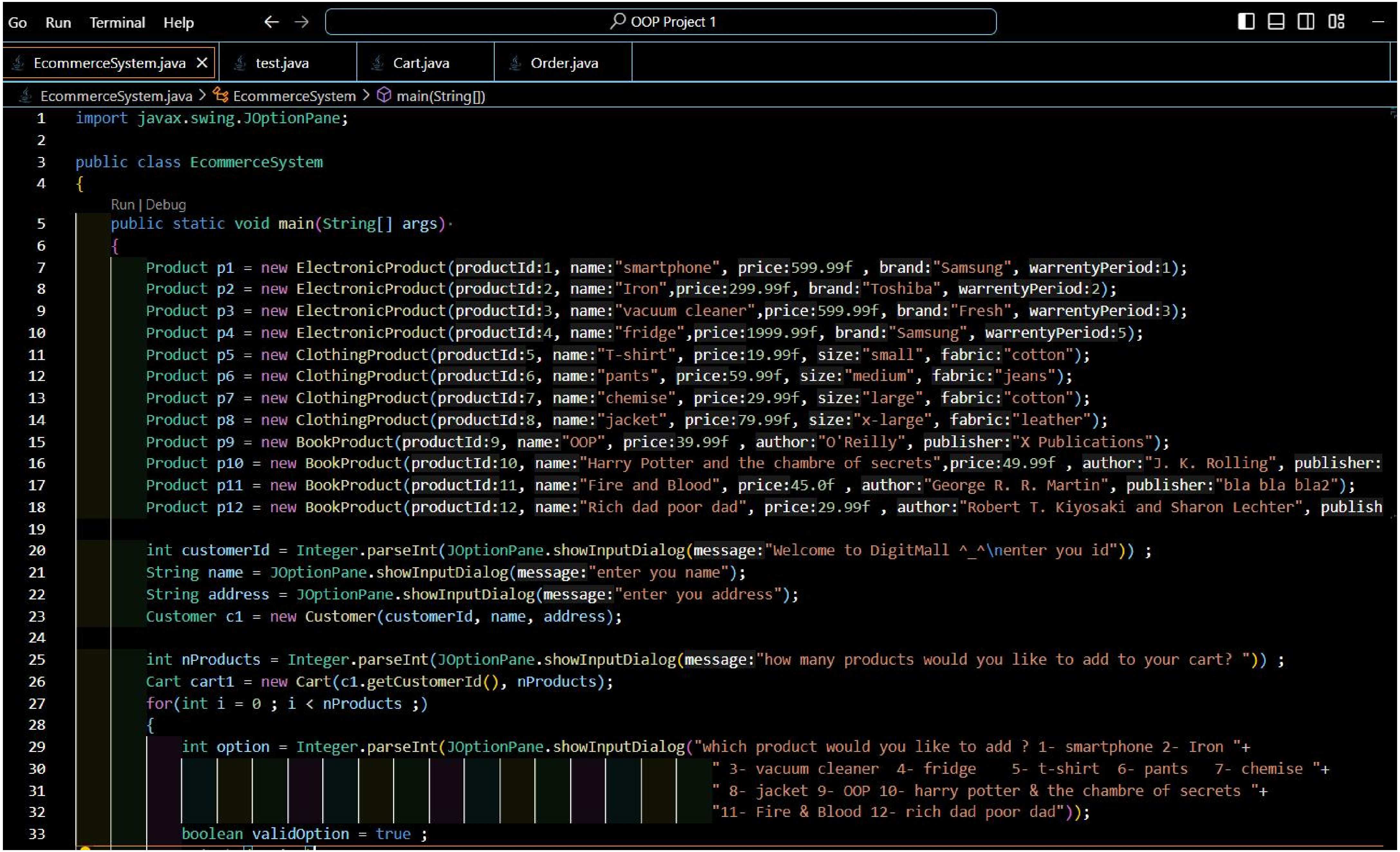
```
public class Cart

    public float calculatePrice()
    {
        float totalPrice = 0 ;
        for(int i = 0 ; i < products.length ; i++)
            totalPrice += products[i].getPrice() ;

        return totalPrice ;
    }

    public Order placOrder()
    {
        Order order1 = new Order(this.getCustomerId() , Order.getOrderIds() , this.calculatePrice() );
        order1.setProducts(this.products);
        return order1 ;
    }
}

```



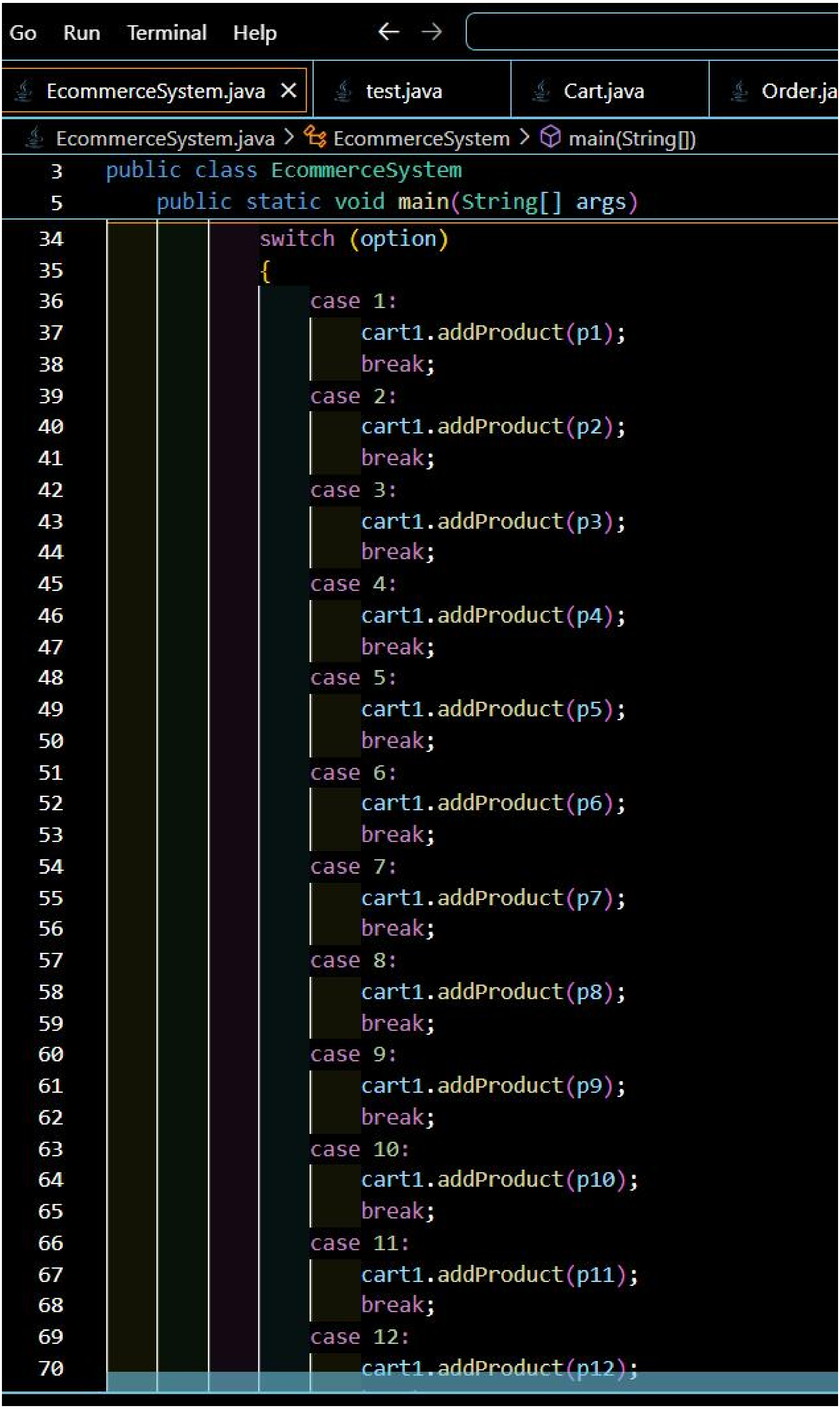
```java
import javax.swing.JOptionPane;

public class Order
{
    private int customerId , orderId ;
    private float totalPrice ;
    private static int orderIds = 1 ;        //? used as a counter for the order ids of the store
    private Product[] products ;

    public Order(int customerId , int orderId , float totalPrice )
    {
        setCustomerId(customerId);
        setOrderId(orderIds);
        setTotalPrice(totalPrice);
        orderIds++ ;
    }

    public Order()
    {}

    public int getCustomerId() {
        return customerId;
    }

    private void setCustomerId(int customerId) {
        this.customerId = Math.abs(customerId) ;
    }

    public int getOrderId() {
        return orderId;
    }

    private void setOrderId(int orderId) {
        this.orderId = orderId;
    }

    public float getTotalPrice() {
        return totalPrice;
    }
```



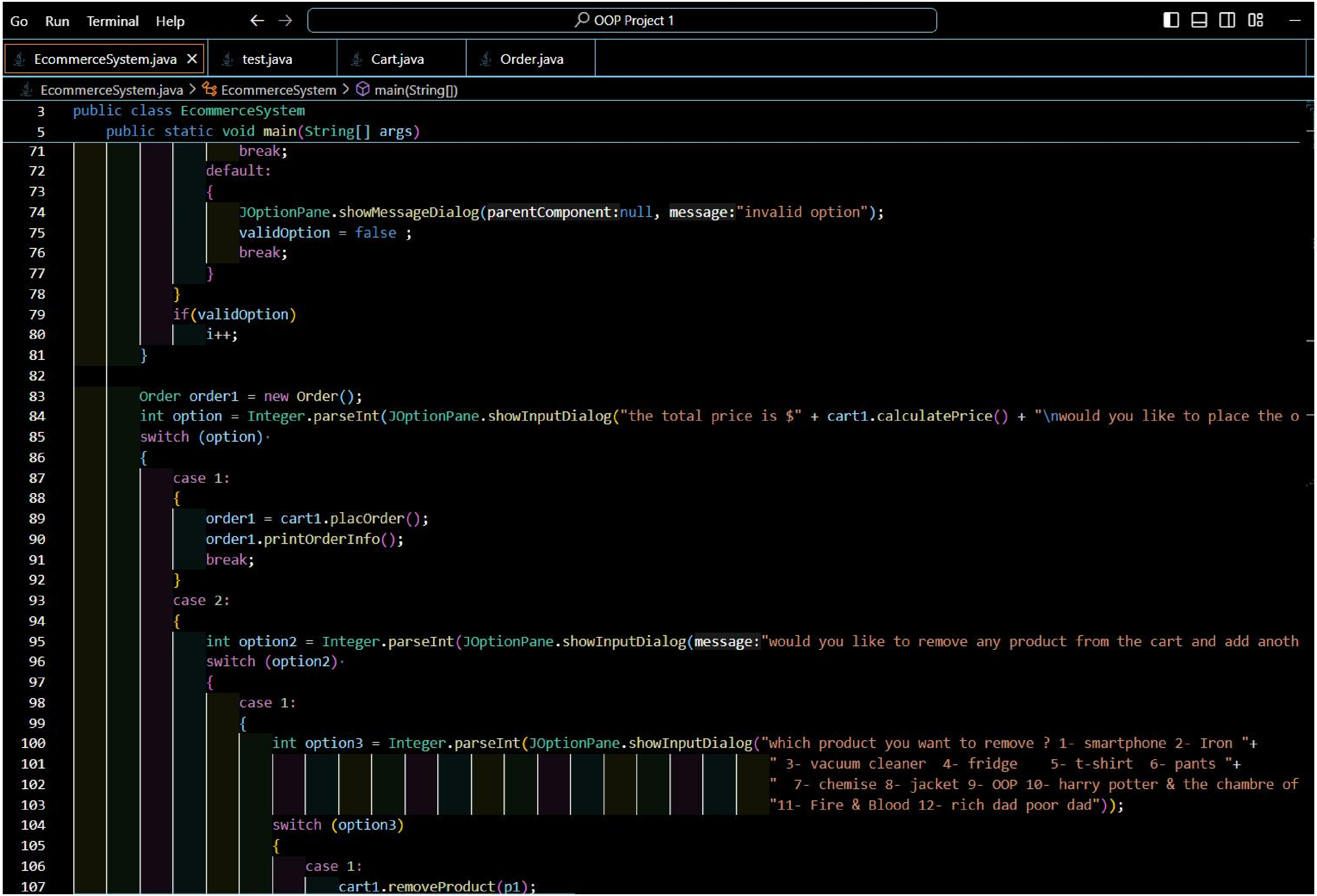
```java
public class Order
    }

    private void setTotalPrice(float totalPrice) {
        this.totalPrice = totalPrice;
    }

    public Product[] getProducts() {
        return products;
    }

    public void setProducts(Product[] products) {
        this.products = products;
    }

    public static int getOrderIds() {
        return orderIds;
    }

    public void printOrderInfo()
    {
        StringBuilder message = new StringBuilder();

        message.append(str:"~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~\nHere's your order's summary: \nOrder Id: ").append(getOrderId())
                .append(str:"\nCustomer-Id: ").append(getCustomerId()).append(str:"\n~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~\n");

        for(int i = 0; i < products.length; i++)
            message.append(products[i].getName()).append(str:" - $").append(products[i].getPrice()).append(str:"\n");

        message.append(str:"~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~\nTotal price: $").append(totalPrice)
                        .append(str:"\n~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~\nlooking forward seeing you soon ^_^\n");

        JOptionPane.showMessageDialog(parentComponent:null, message.toString());
    }

}
```



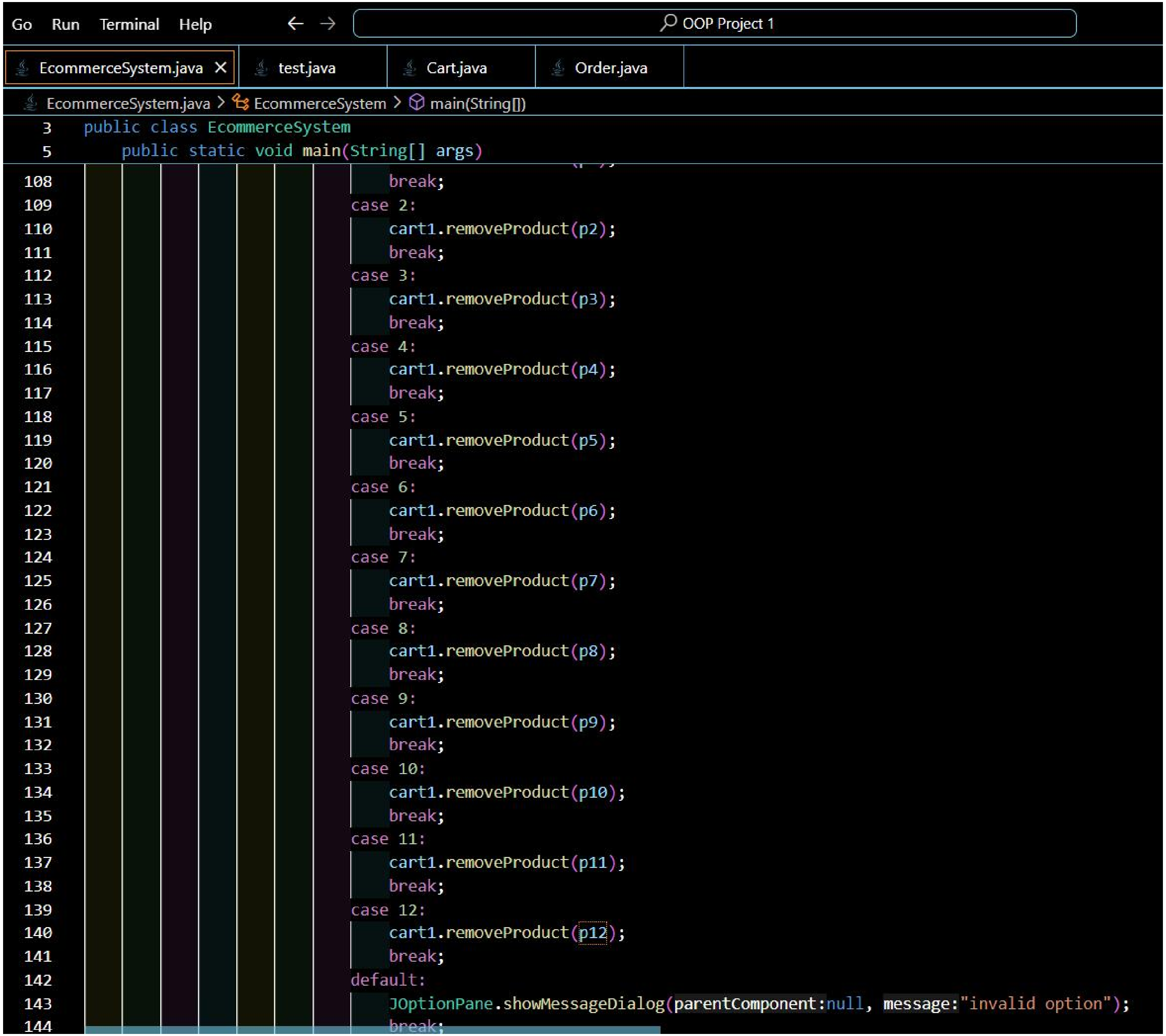
```java
import javax.swing.JOptionPane;

public class EcommerceSystem
{
  public static void main(String[] args)
  {
    Product p1 = new ElectronicProduct(productId:1, name:"smartphone", price:599.99f , brand:"Samsung", warrentyPeriod:1);
    Product p2 = new ElectronicProduct(productId:2, name:"Iron",price:299.99f, brand:"Toshiba", warrentyPeriod:2);
    Product p3 = new ElectronicProduct(productId:3, name:"vacuum cleaner",price:599.99f, brand:"Fresh", warrentyPeriod:3);
    Product p4 = new ElectronicProduct(productId:4, name:"fridge",price:1999.99f, brand:"Samsung", warrentyPeriod:5);
    Product p5 = new ClothingProduct(productId:5, name:"T-shirt", price:19.99f, size:"small", fabric:"cotton");
    Product p6 = new ClothingProduct(productId:6, name:"pants", price:59.99f, size:"medium", fabric:"jeans");
    Product p7 = new ClothingProduct(productId:7, name:"chemise", price:29.99f, size:"large", fabric:"cotton");
    Product p8 = new ClothingProduct(productId:8, name:"jacket", price:79.99f, size:"x-large", fabric:"leather");
    Product p9 = new BookProduct(productId:9, name:"OOP", price:39.99f , author:"O'Reilly", publisher:"X Publications");
    Product p10 = new BookProduct(productId:10, name:"Harry Potter and the chambre of secrets",price:49.99f , author:"J. K. Rolling", publisher:
    Product p11 = new BookProduct(productId:11, name:"Fire and Blood", price:45.0f , author:"George R. R. Martin", publisher:"bla bla bla2");
    Product p12 = new BookProduct(productId:12, name:"Rich dad poor dad", price:29.99f , author:"Robert T. Kiyosaki and Sharon Lechter", publish

    int customerId = Integer.parseInt(JOptionPane.showInputDialog(message:"Welcome to DigitMall ^_^\nenter you id")) ;
    String name = JOptionPane.showInputDialog(message:"enter you name");
    String address = JOptionPane.showInputDialog(message:"enter you address");
    Customer c1 = new Customer(customerId, name, address);

    int nProducts = Integer.parseInt(JOptionPane.showInputDialog(message:"how many products would you like to add to your cart? ")) ;
    Cart cart1 = new Cart(c1.getCustomerId(), nProducts);
    for(int i = 0 ; i < nProducts ;)
    {
      int option = Integer.parseInt(JOptionPane.showInputDialog("which product would you like to add ? 1- smartphone 2- Iron "+
                                    " 3- vacuum cleaner  4- fridge    5- t-shirt  6- pants   7- chemise "+
                                    " 8- jacket 9- OOP 10- harry potter & the chambre of secrets "+
                                    "11- Fire & Blood 12- rich dad poor dad"));
      boolean validOption = true ;
```



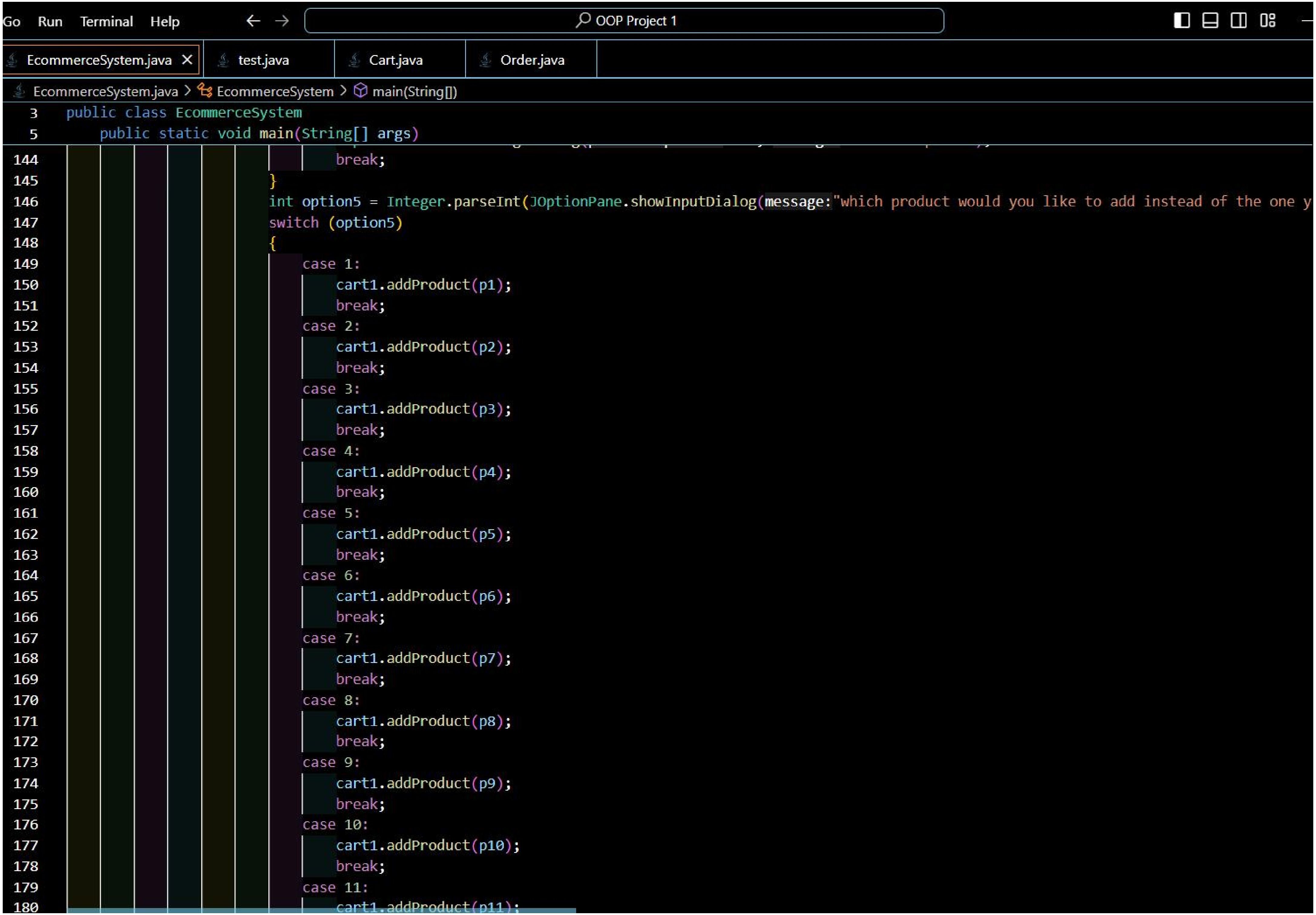
```java
public class EcommerceSystem
    public static void main(String[] args)
            switch (option)
            {
                case 1:
                    cart1.addProduct(p1);
                    break;
                case 2:
                    cart1.addProduct(p2);
                    break;
                case 3:
                    cart1.addProduct(p3);
                    break;
                case 4:
                    cart1.addProduct(p4);
                    break;
                case 5:
                    cart1.addProduct(p5);
                    break;
                case 6:
                    cart1.addProduct(p6);
                    break;
                case 7:
                    cart1.addProduct(p7);
                    break;
                case 8:
                    cart1.addProduct(p8);
                    break;
                case 9:
                    cart1.addProduct(p9);
                    break;
                case 10:
                    cart1.addProduct(p10);
                    break;
                case 11:
                    cart1.addProduct(p11);
                    break;
                case 12:
                    cart1.addProduct(p12);
```



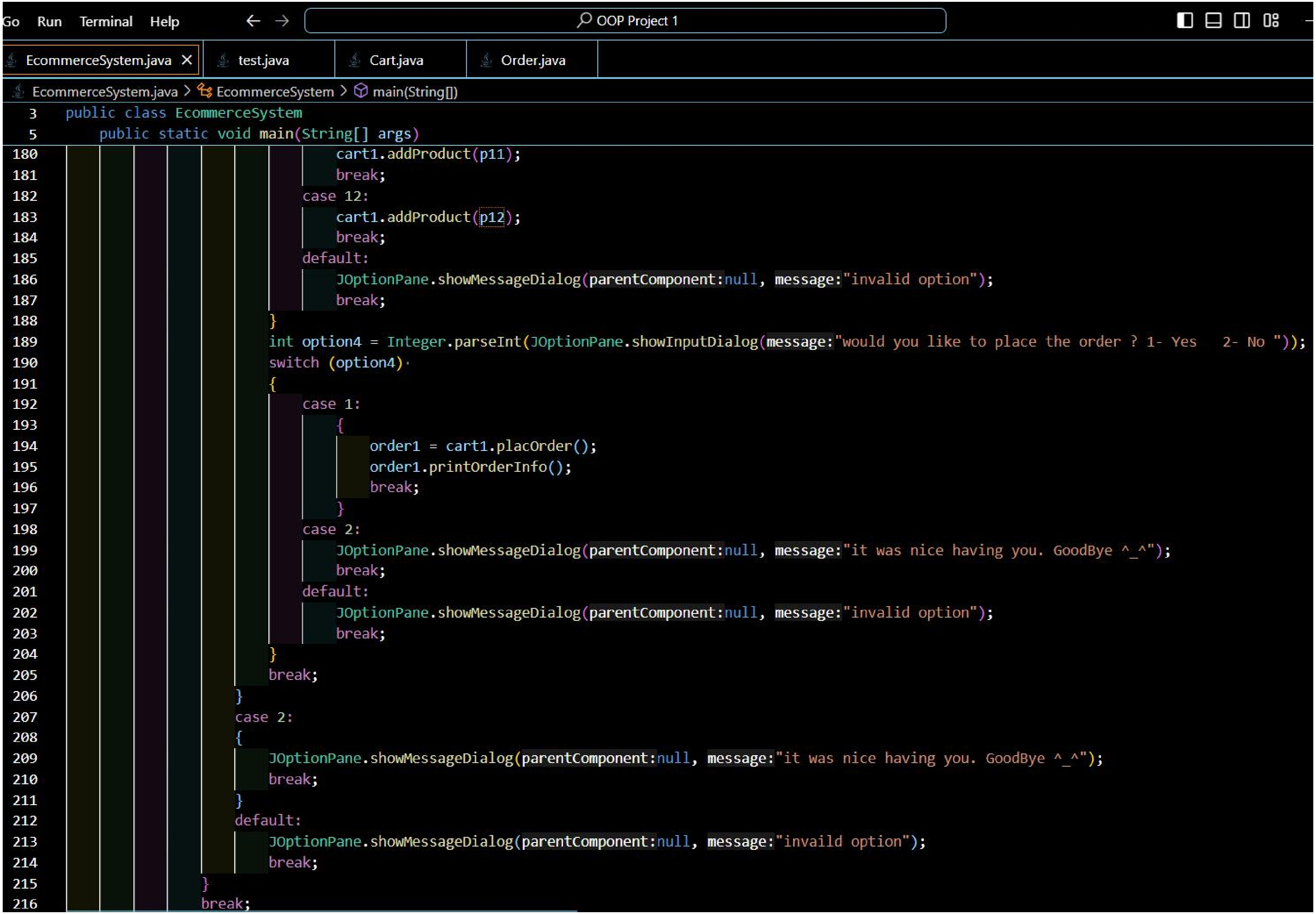
```
public class EcommerceSystem
    public static void main(String[] args)
                    break;
                default:
                {
                    JOptionPane.showMessageDialog(parentComponent:null, message:"invalid option");
                    validOption = false ;
                    break;
                }
            }
            if(validOption)
                i++;
        }

        Order order1 = new Order();
        int option = Integer.parseInt(JOptionPane.showInputDialog("the total price is $" + cart1.calculatePrice() + "\nwould you like to place the o
        switch (option)
        {
            case 1:
            {
                order1 = cart1.placOrder();
                order1.printOrderInfo();
                break;
            }
            case 2:
            {
                int option2 = Integer.parseInt(JOptionPane.showInputDialog(message:"would you like to remove any product from the cart and add anoth
                switch (option2)
                {
                    case 1:
                    {
                        int option3 = Integer.parseInt(JOptionPane.showInputDialog("which product you want to remove ? 1-  smartphone 2- Iron "+
                                                                                    " 3- vacuum cleaner  4- fridge    5- t-shirt  6- pants "+
                                                                                    "  7- chemise 8- jacket 9- OOP 10- harry potter & the chambre of
                                                                                    "11- Fire & Blood 12- rich dad poor dad"));
                        switch (option3)
                        {
                            case 1:
                                cart1.removeProduct(p1);
```



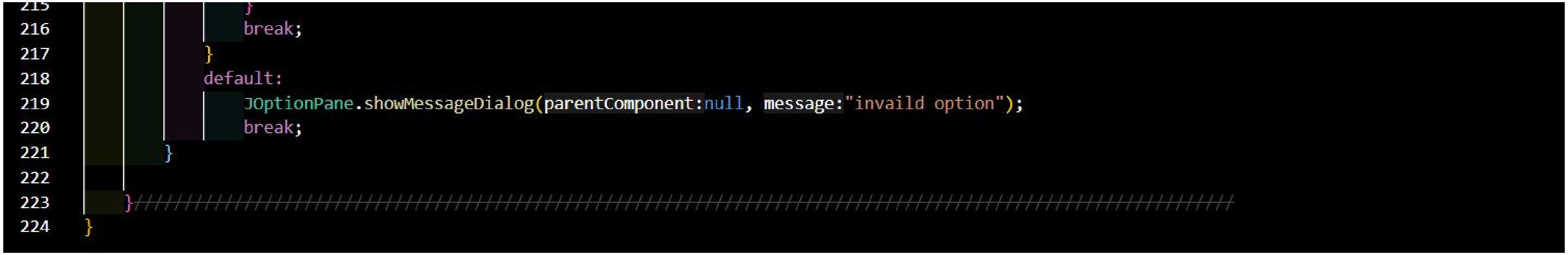
```java
public class EcommerceSystem
    public static void main(String[] args)
                                break;
                            case 2:
                                cart1.removeProduct(p2);
                                break;
                            case 3:
                                cart1.removeProduct(p3);
                                break;
                            case 4:
                                cart1.removeProduct(p4);
                                break;
                            case 5:
                                cart1.removeProduct(p5);
                                break;
                            case 6:
                                cart1.removeProduct(p6);
                                break;
                            case 7:
                                cart1.removeProduct(p7);
                                break;
                            case 8:
                                cart1.removeProduct(p8);
                                break;
                            case 9:
                                cart1.removeProduct(p9);
                                break;
                            case 10:
                                cart1.removeProduct(p10);
                                break;
                            case 11:
                                cart1.removeProduct(p11);
                                break;
                            case 12:
                                cart1.removeProduct(p12);
                                break;
                            default:
                                JOptionPane.showMessageDialog(parentComponent:null, message:"invalid option");
                                break;
```



```
public class EcommerceSystem
    public static void main(String[] args)
                                break;
                        }
                        int option5 = Integer.parseInt(JOptionPane.showInputDialog(message:"which product would you like to add instead of the one y
                        switch (option5)
                        {
                            case 1:
                                cart1.addProduct(p1);
                                break;
                            case 2:
                                cart1.addProduct(p2);
                                break;
                            case 3:
                                cart1.addProduct(p3);
                                break;
                            case 4:
                                cart1.addProduct(p4);
                                break;
                            case 5:
                                cart1.addProduct(p5);
                                break;
                            case 6:
                                cart1.addProduct(p6);
                                break;
                            case 7:
                                cart1.addProduct(p7);
                                break;
                            case 8:
                                cart1.addProduct(p8);
                                break;
                            case 9:
                                cart1.addProduct(p9);
                                break;
                            case 10:
                                cart1.addProduct(p10);
                                break;
                            case 11:
                                cart1.addProduct(p11);
```

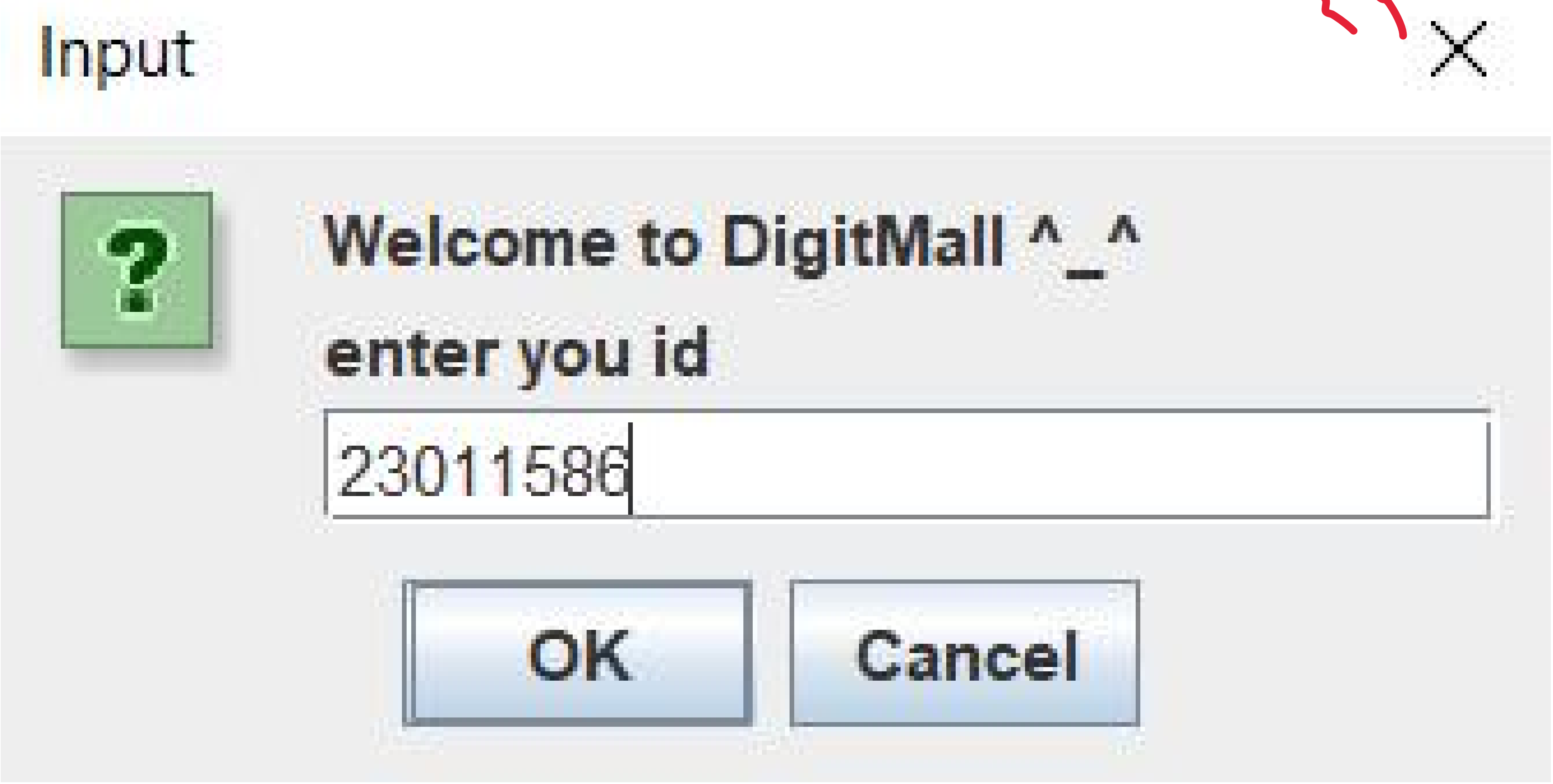


```java
    public class EcommerceSystem
        public static void main(String[] args)
                                    cart1.addProduct(p11);
                                    break;
                                case 12:
                                    cart1.addProduct(p12);
                                    break;
                                default:
                                    JOptionPane.showMessageDialog(parentComponent:null, message:"invalid option");
                                    break;
                            }
                            int option4 = Integer.parseInt(JOptionPane.showInputDialog(message:"would you like to place the order ? 1- Yes   2- No "));
                            switch (option4)
                            {
                                case 1:
                                    {
                                        order1 = cart1.placOrder();
                                        order1.printOrderInfo();
                                        break;
                                    }
                                case 2:
                                    JOptionPane.showMessageDialog(parentComponent:null, message:"it was nice having you. GoodBye ^_^");
                                    break;
                                default:
                                    JOptionPane.showMessageDialog(parentComponent:null, message:"invalid option");
                                    break;
                            }
                            break;
                        }
                        case 2:
                        {
                            JOptionPane.showMessageDialog(parentComponent:null, message:"it was nice having you. GoodBye ^_^");
                            break;
                        }
                        default:
                            JOptionPane.showMessageDialog(parentComponent:null, message:"invaild option");
                            break;
                    }
                    break;
```



```
                }
                break;
            }
            default:
                JOptionPane.showMessageDialog(parentComponent:null, message:"invaild option");
                break;
        }

    }///////////////////////////////////////////////////////////////////////////////////////////////////////////////
}
```

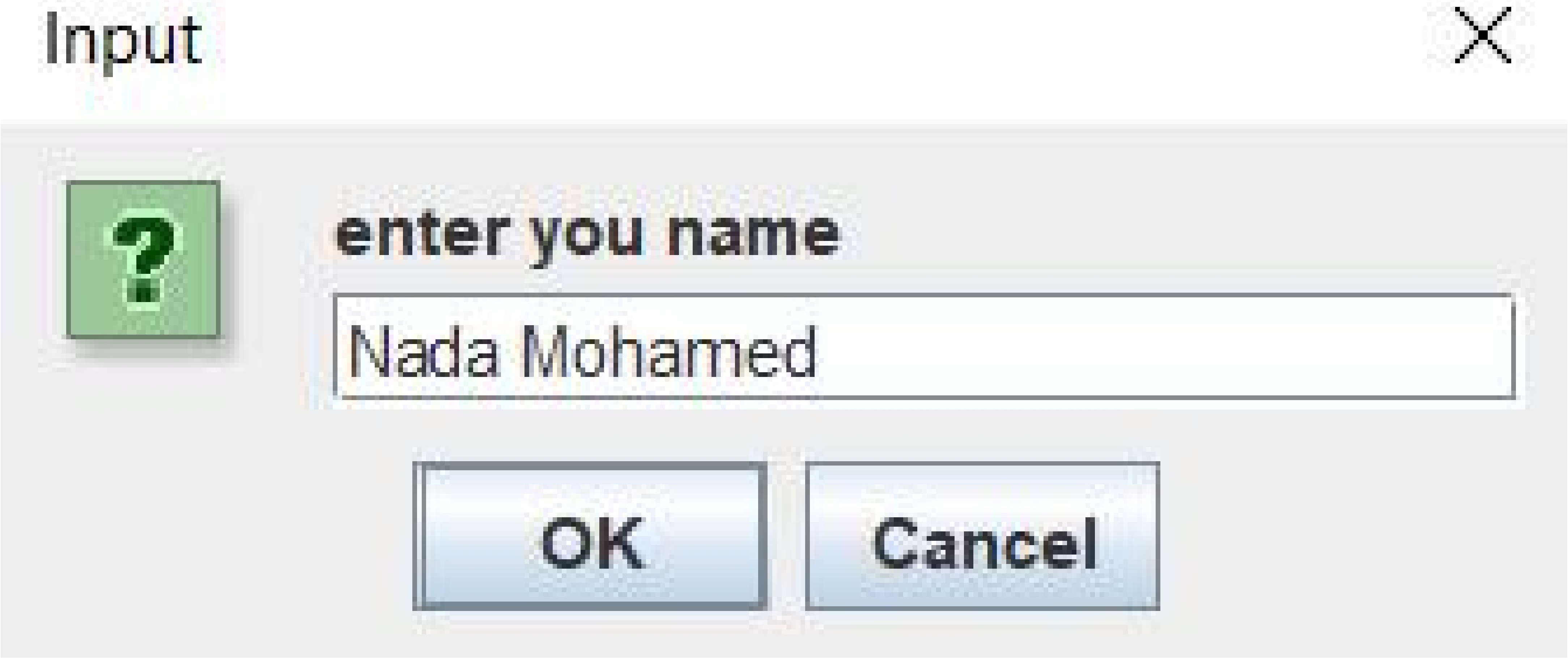
I wasn't finished with the GUI yet in the discussion



Welcome to DigitMall ^_^

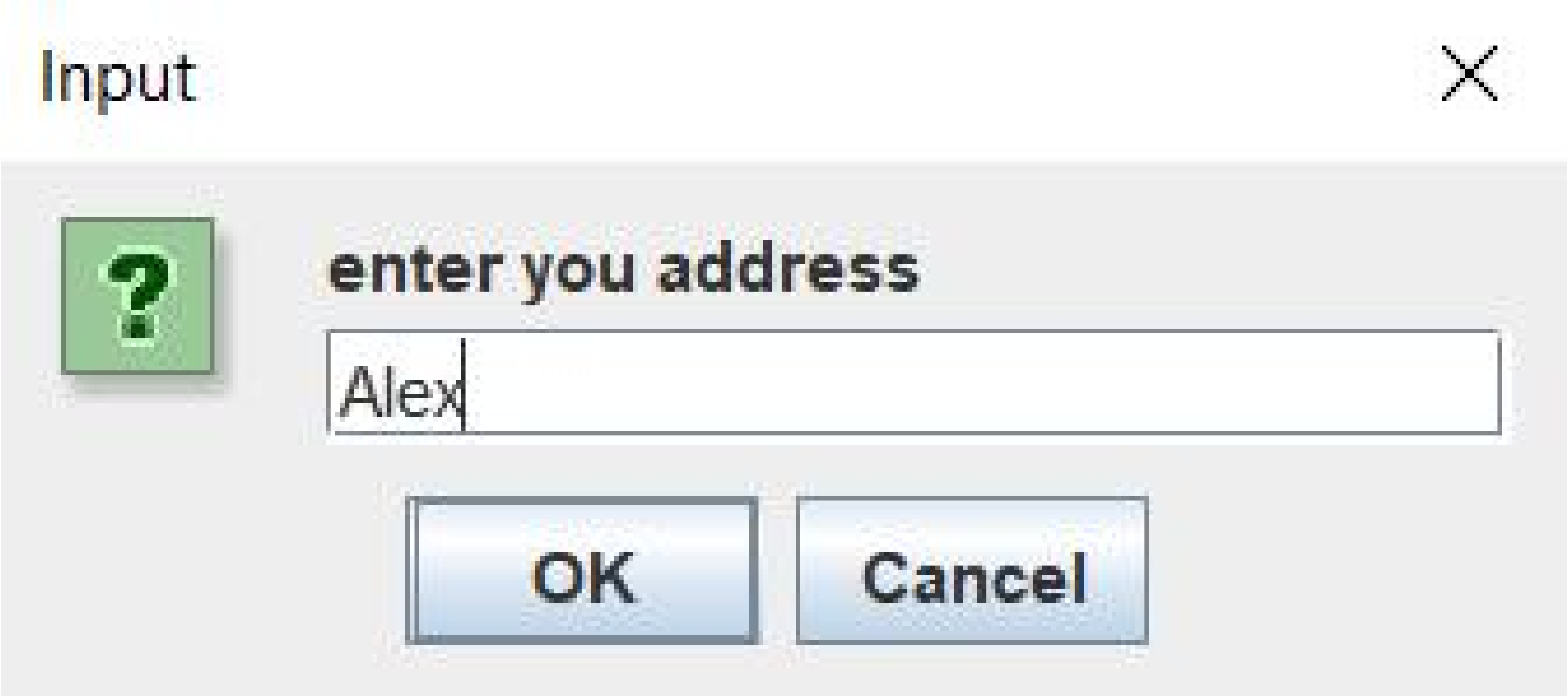
enter you id

23011586



enter you name

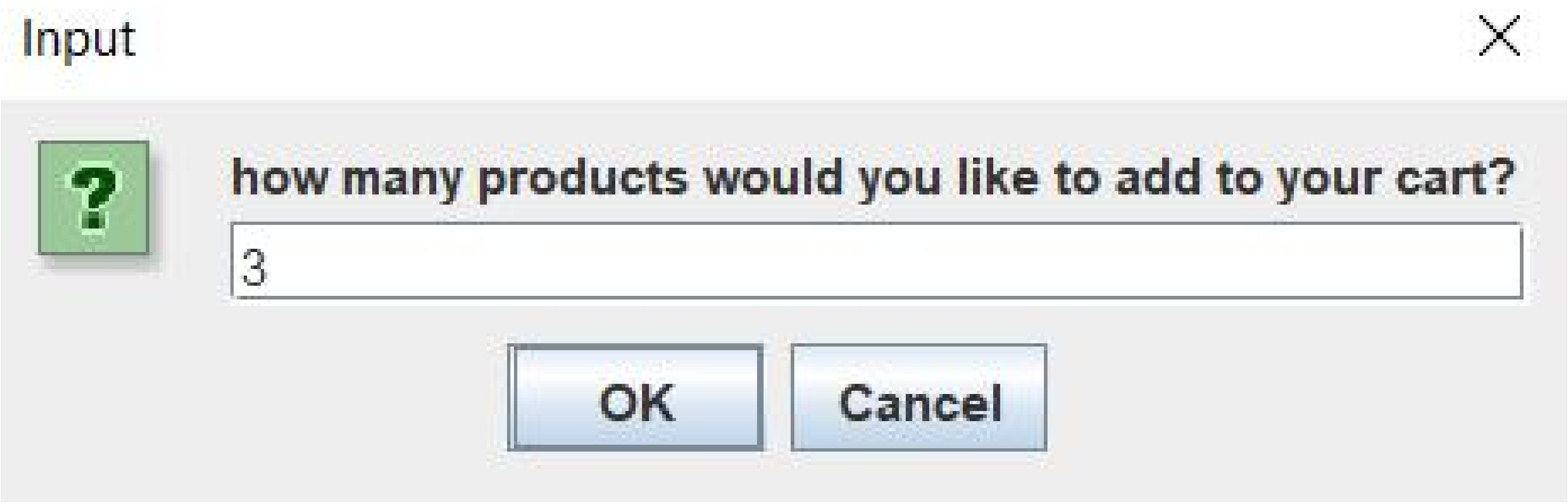
Nada Mohamed



Input

enter you address

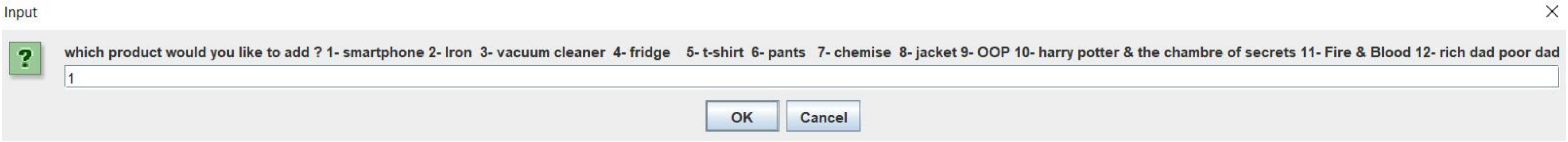
Alex



Input

how many products would you like to add to your cart?

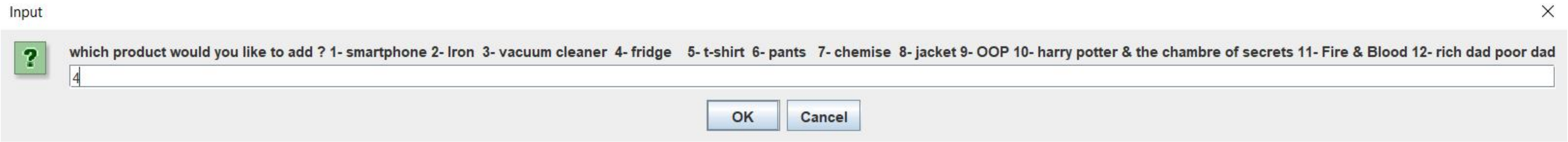
3



Input

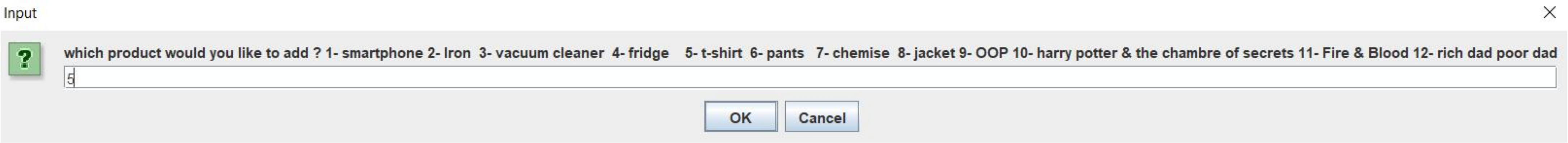
which product would you like to add ? 1- smartphone 2- Iron 3- vacuum cleaner 4- fridge   5- t-shirt 6- pants   7- chemise 8- jacket 9- OOP 10- harry potter & the chambre of secrets 11- Fire & Blood 12- rich dad poor dad

1



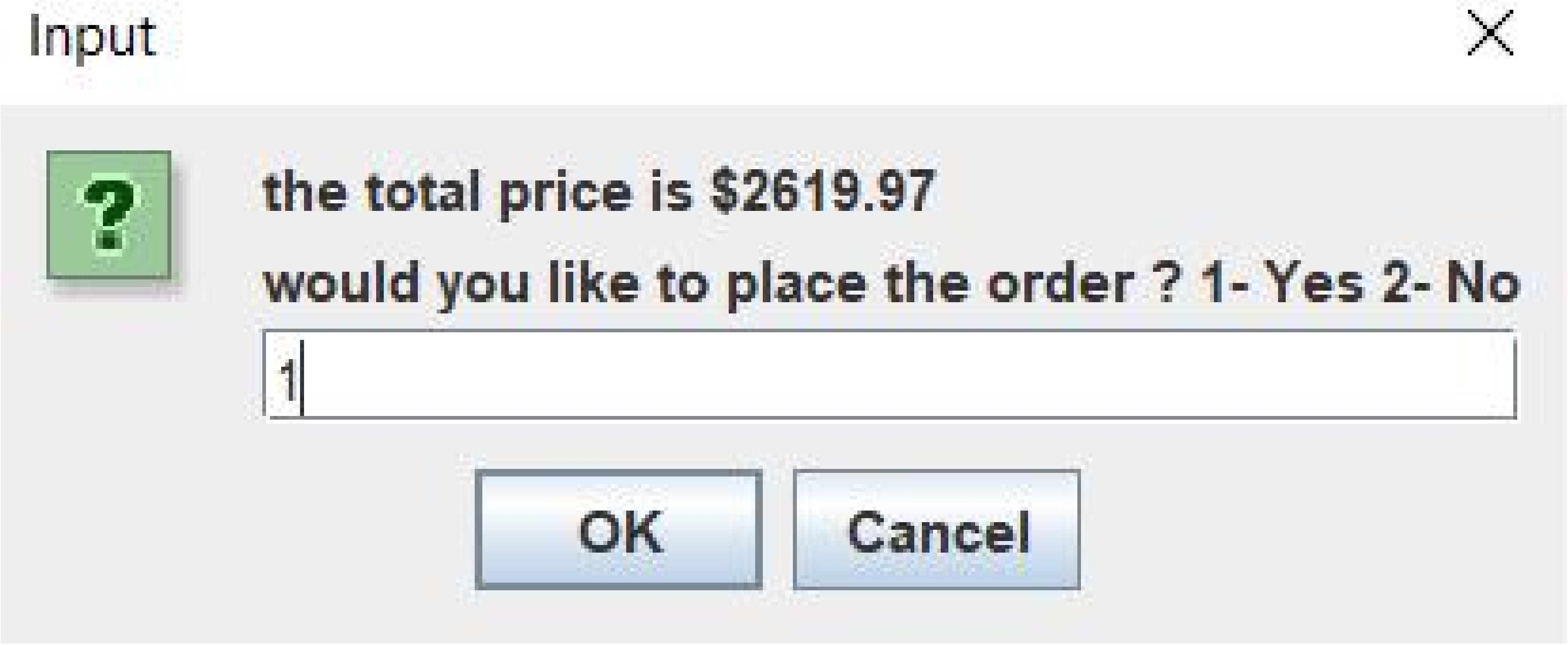
which product would you like to add ? 1- smartphone 2- Iron 3- vacuum cleaner 4- fridge   5- t-shirt 6- pants   7- chemise 8- jacket 9- OOP 10- harry potter & the chambre of secrets 11- Fire & Blood 12- rich dad poor dad

4



which product would you like to add ? 1- smartphone 2- Iron 3- vacuum cleaner 4- fridge   5- t-shirt 6- pants   7- chemise 8- jacket 9- OOP 10- harry potter & the chambre of secrets 11- Fire & Blood 12- rich dad poor dad

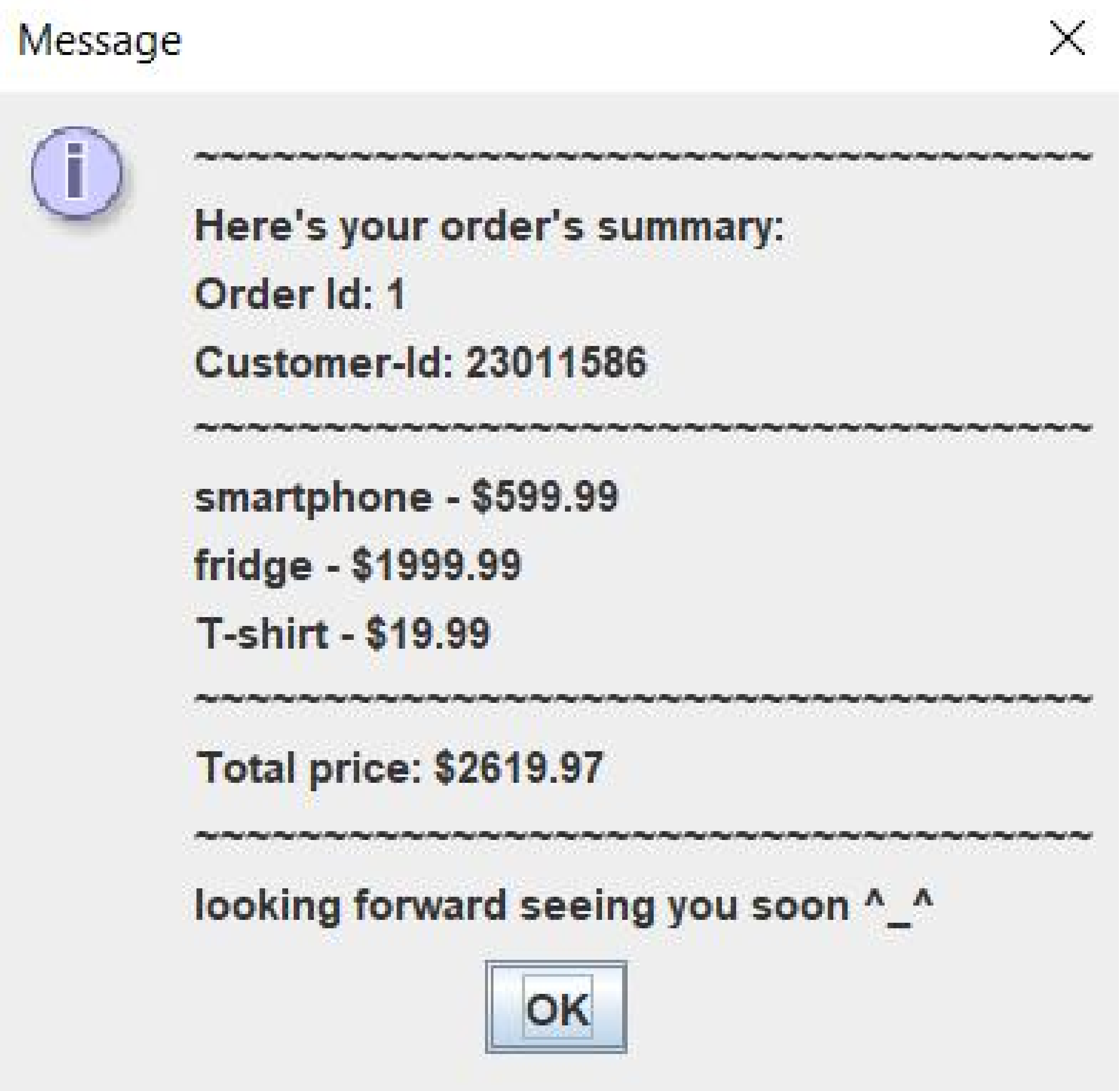
5



the total price is $2619.97

would you like to place the order ? 1- Yes 2- No

1



```
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Here's your order's summary:
Order Id: 1
Customer-Id: 23011586
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
smartphone - $599.99
fridge - $1999.99
T-shirt - $19.99
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Total price: $2619.97
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
looking forward seeing you soon ^_^
```