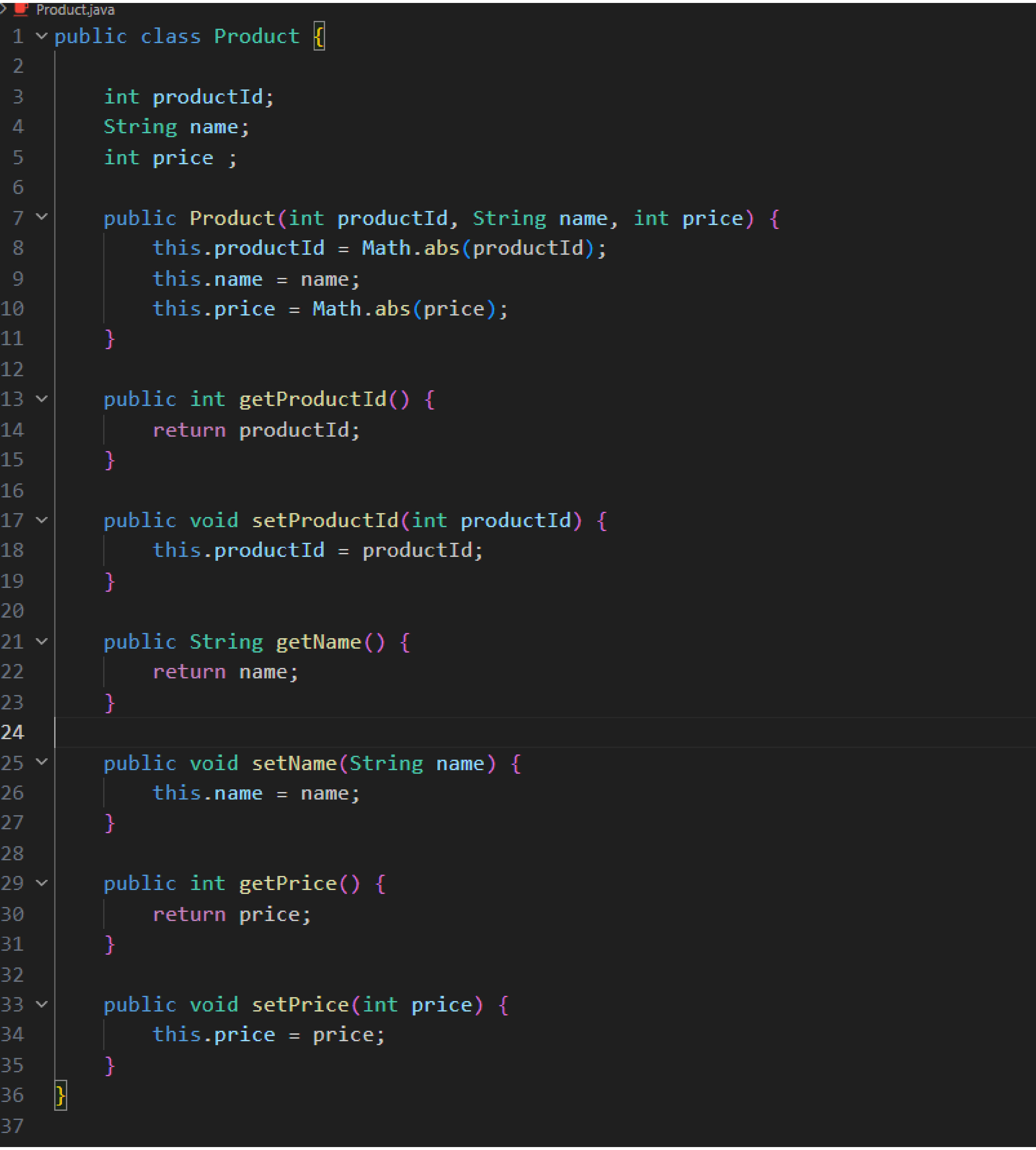
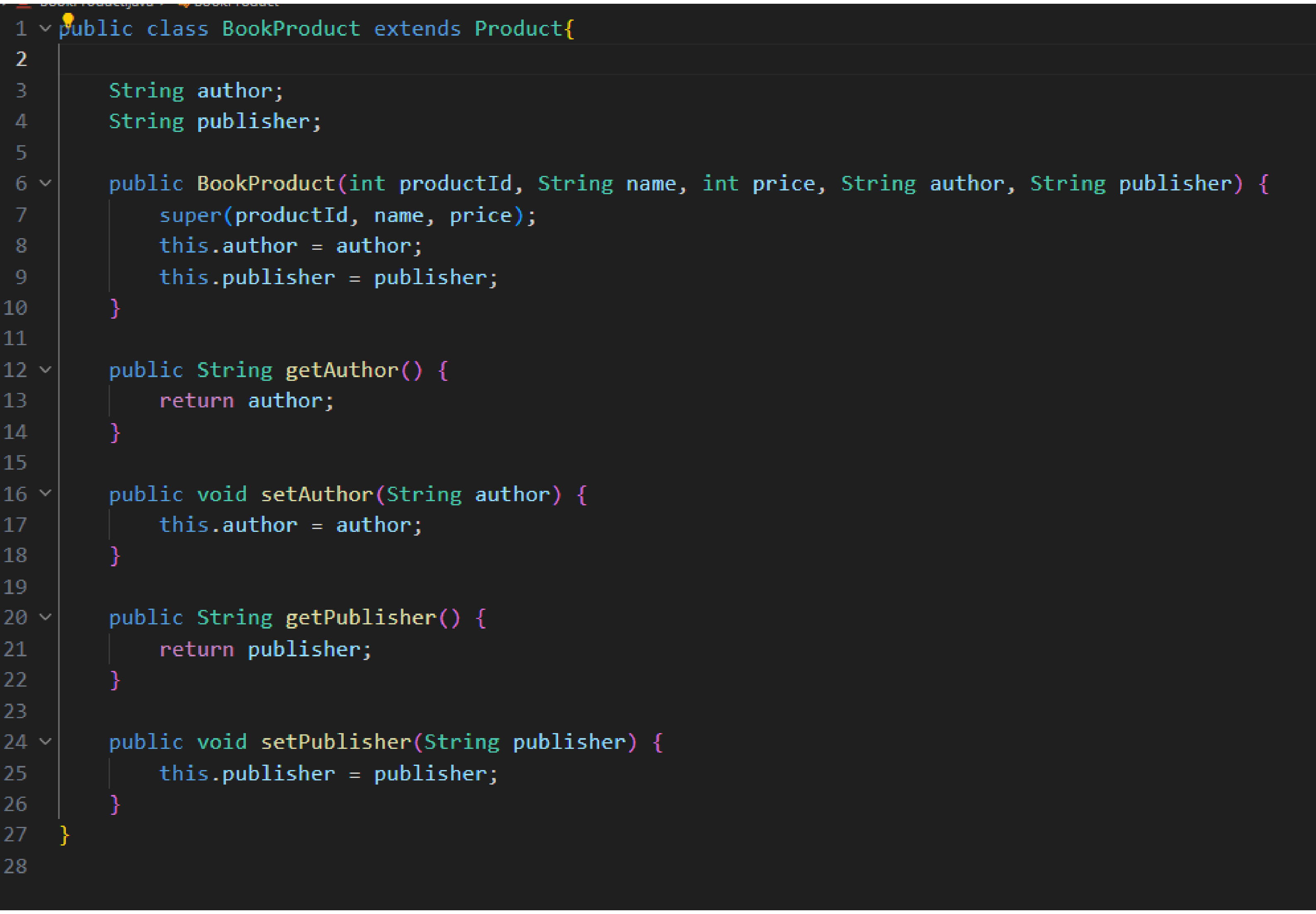
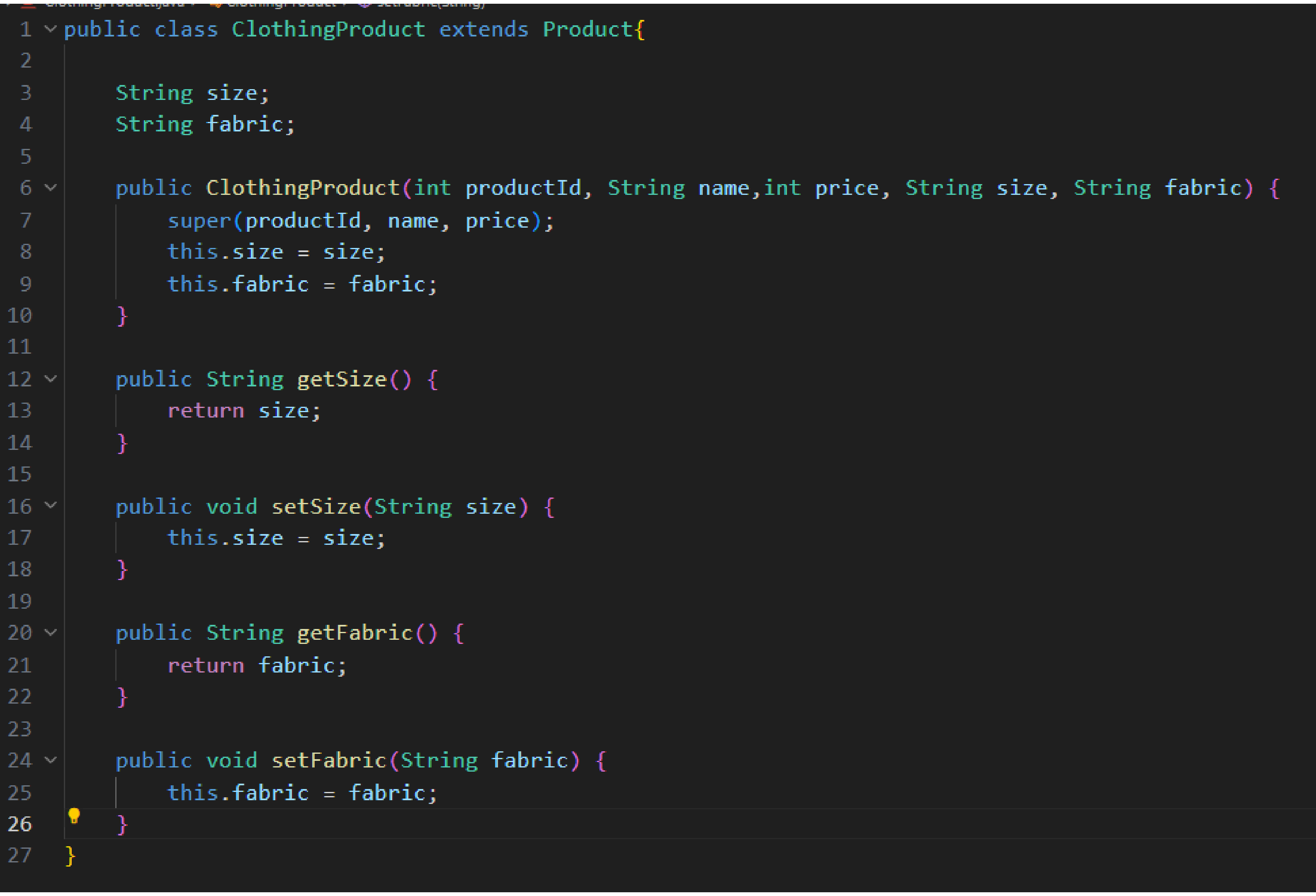


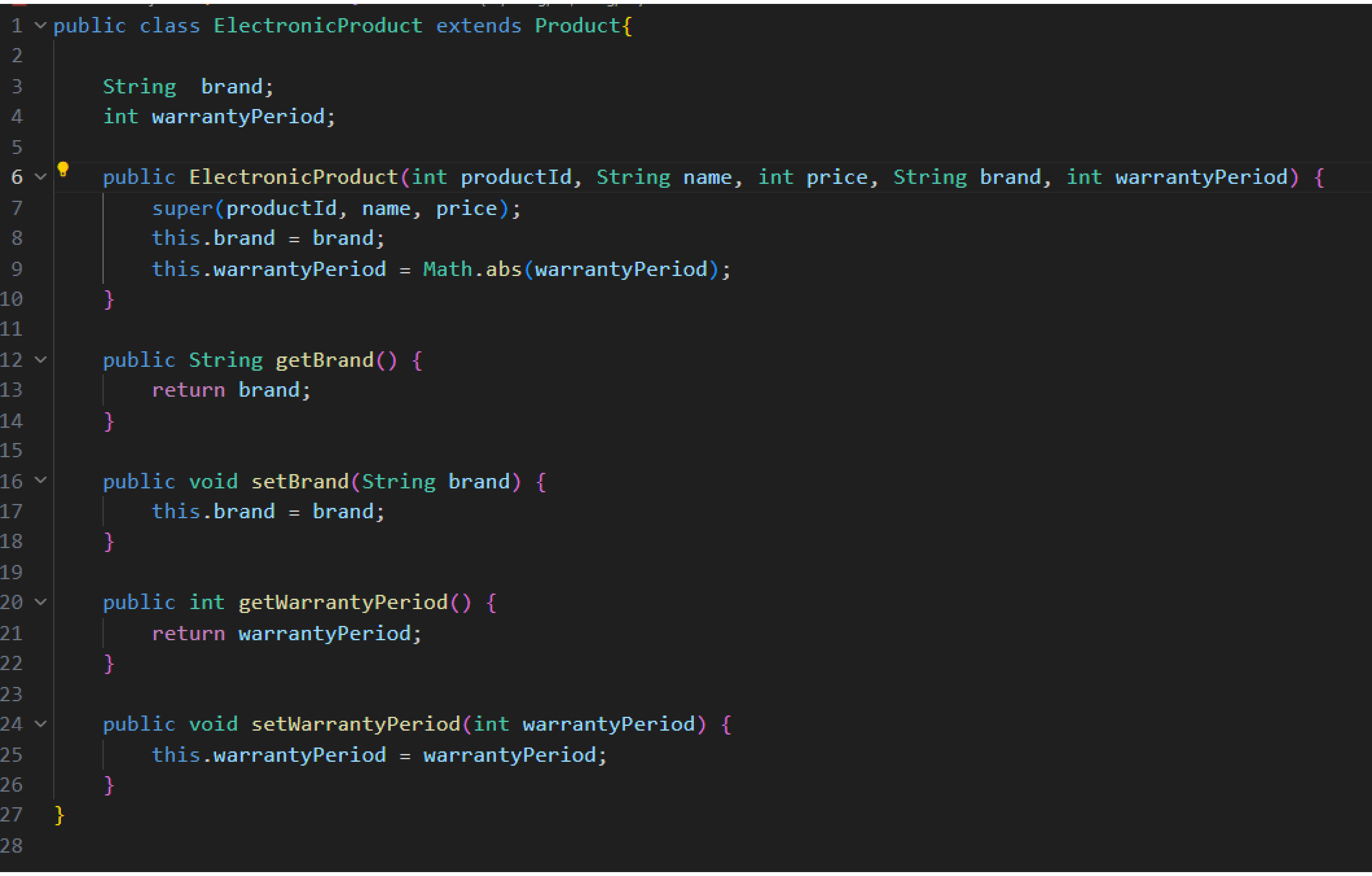
```java
public class Product {

    int productId;
    String name;
    int price ;

    public Product(int productId, String name, int price) {
        this.productId = Math.abs(productId);
        this.name = name;
        this.price = Math.abs(price);
    }

    public int getProductId() {
        return productId;
    }

    public void setProductId(int productId) {
        this.productId = productId;
    }

    public String getName() {
        return name;
    }

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

    public int getPrice() {
        return price;
    }

    public void setPrice(int price) {
        this.price = price;
    }
}

```



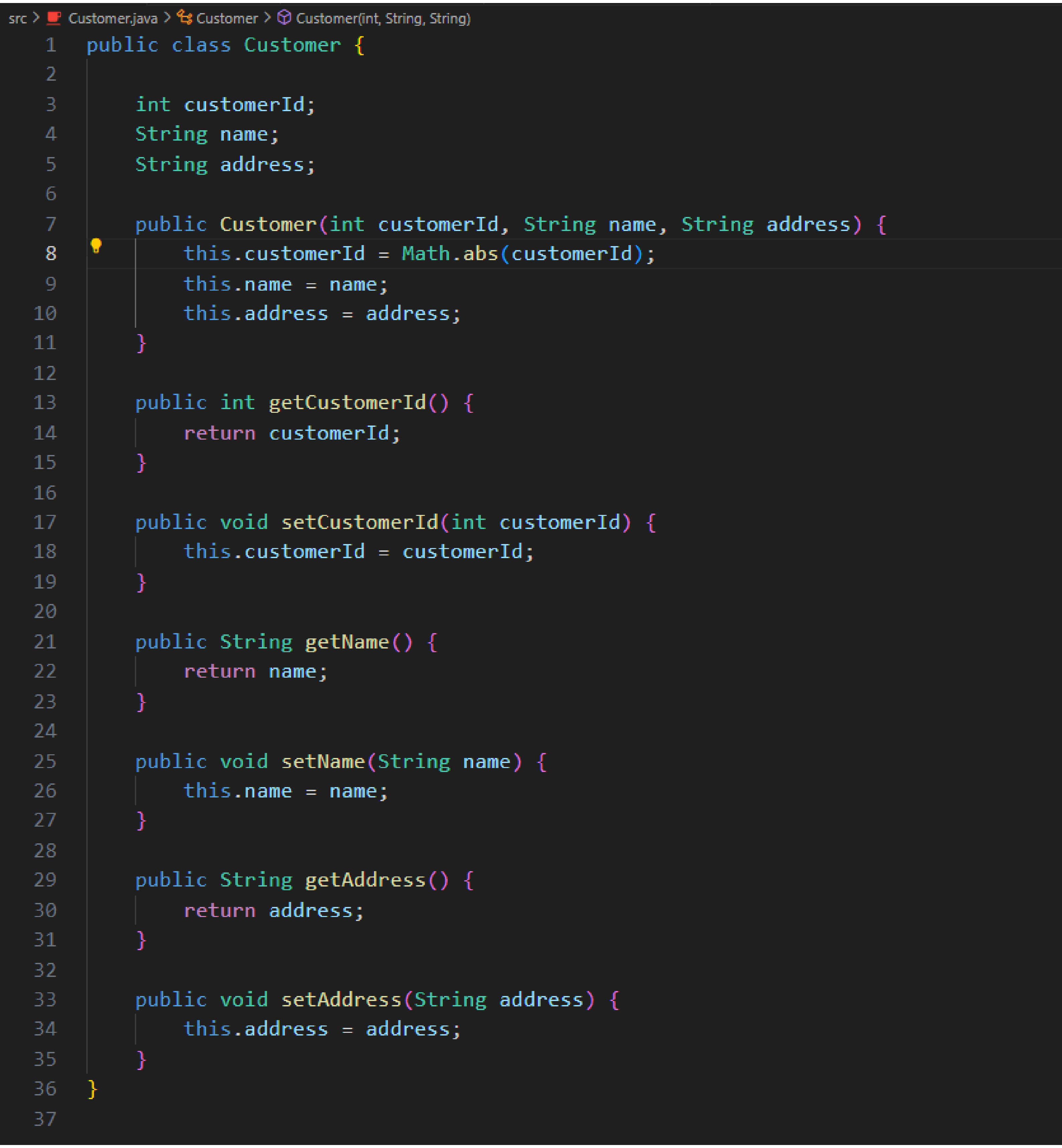
```java
public class BookProduct extends Product{

    String author;
    String publisher;

    public BookProduct(int productId, String name, int price, String author, String publisher) {
        super(productId, name, price);
        this.author = author;
        this.publisher = 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;
    }
}
```



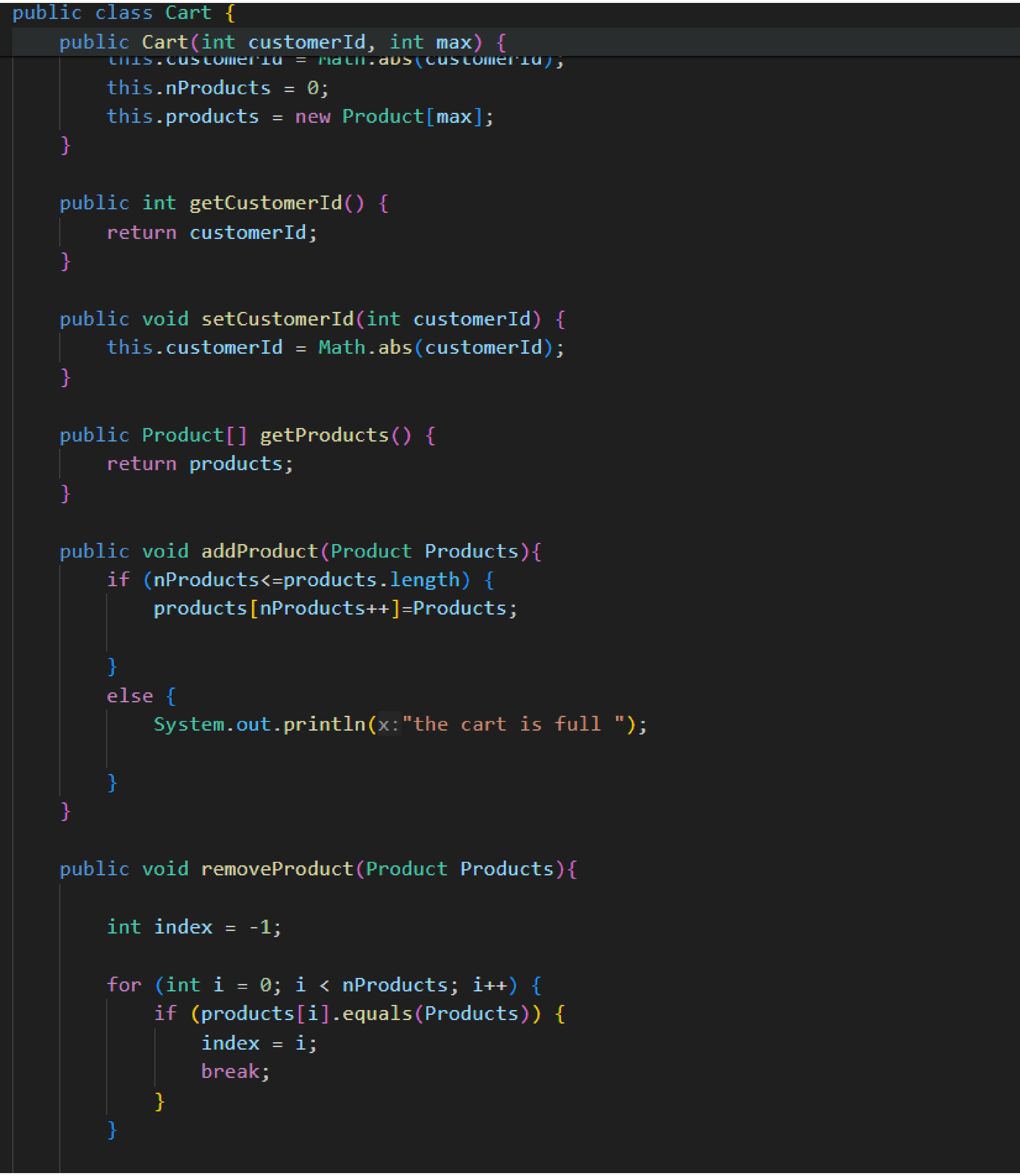
```java
public class ClothingProduct extends Product{

    String size;
    String fabric;

    public ClothingProduct(int productId, String name,int price, String size, String fabric) {
        super(productId, name, price);
        this.size = size;
        this.fabric = fabric;
    }

    public String getSize() {
        return size;
    }

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

    public String getFabric() {
        return fabric;
    }

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



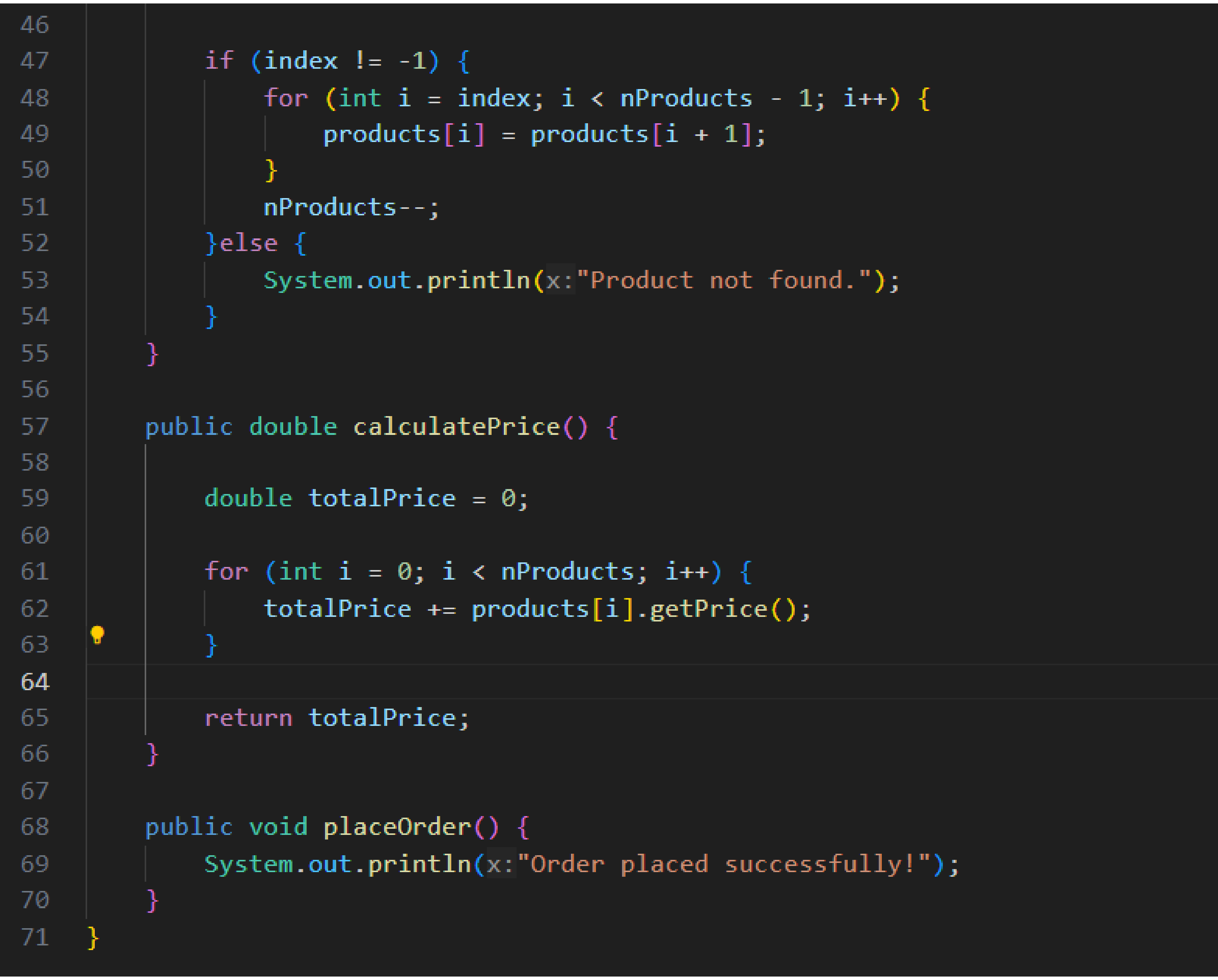
```java
public class ElectronicProduct extends Product{

    String  brand;
    int warrantyPeriod;

    public ElectronicProduct(int productId, String name, int price, String brand, int warrantyPeriod) {
        super(productId, name, price);
        this.brand = brand;
        this.warrantyPeriod = Math.abs(warrantyPeriod);
    }

    public String getBrand() {
        return brand;
    }

    public void setBrand(String brand) {
        this.brand = brand;
    }

    public int getWarrantyPeriod() {
        return warrantyPeriod;
    }

    public void setWarrantyPeriod(int warrantyPeriod) {
        this.warrantyPeriod = warrantyPeriod;
    }
}
```


src > Customer.java > Customer > Customer(int, String, String)

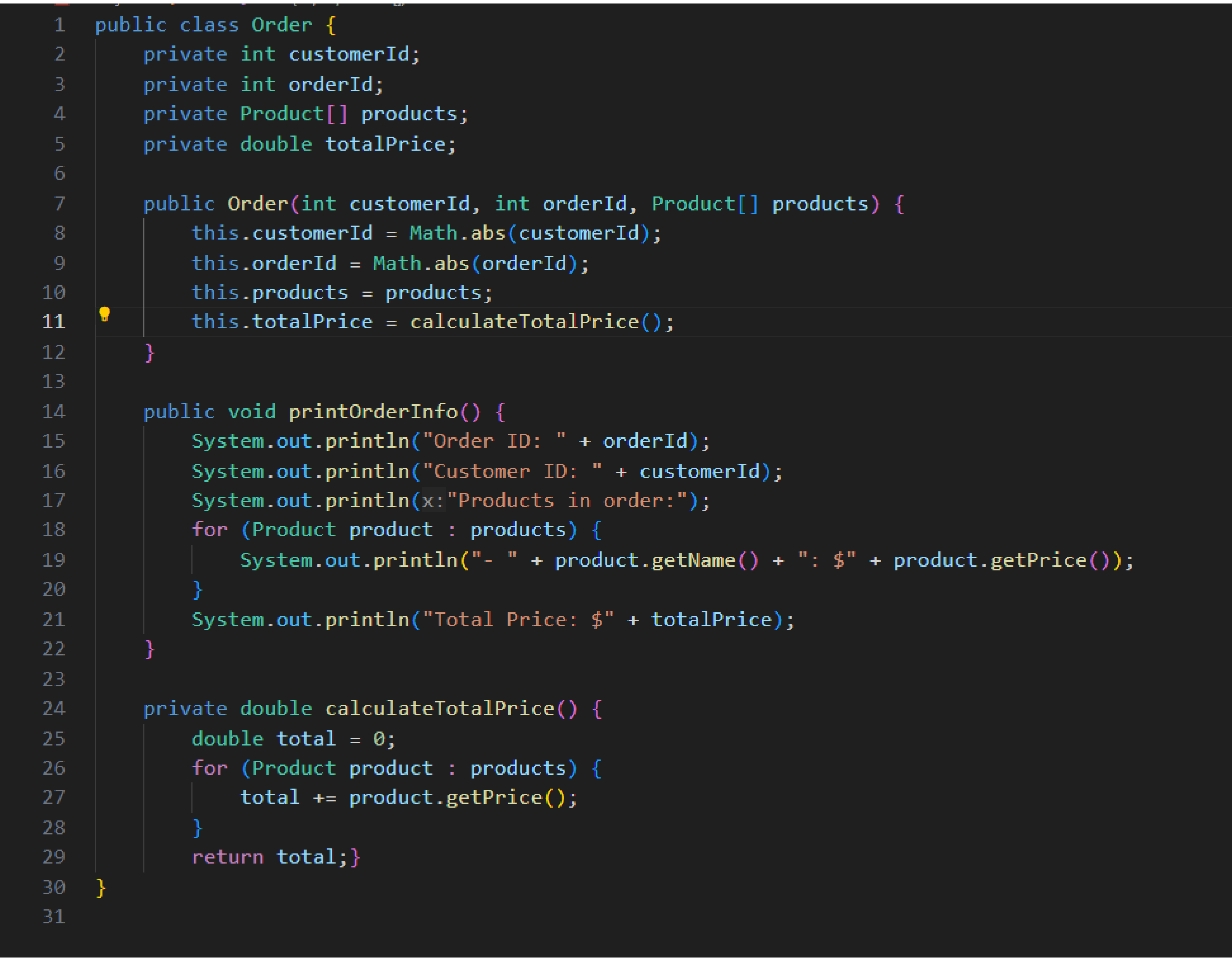
```java
public class Customer {

    int customerId;
    String name;
    String address;

    public Customer(int customerId, String name, String address) {
        this.customerId = Math.abs(customerId);
        this.name = name;
        this.address = address;
    }

    public int getCustomerId() {
        return customerId;
    }

    public void setCustomerId(int customerId) {
        this.customerId = customerId;
    }

    public String getName() {
        return name;
    }

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

    public String getAddress() {
        return address;
    }

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

```



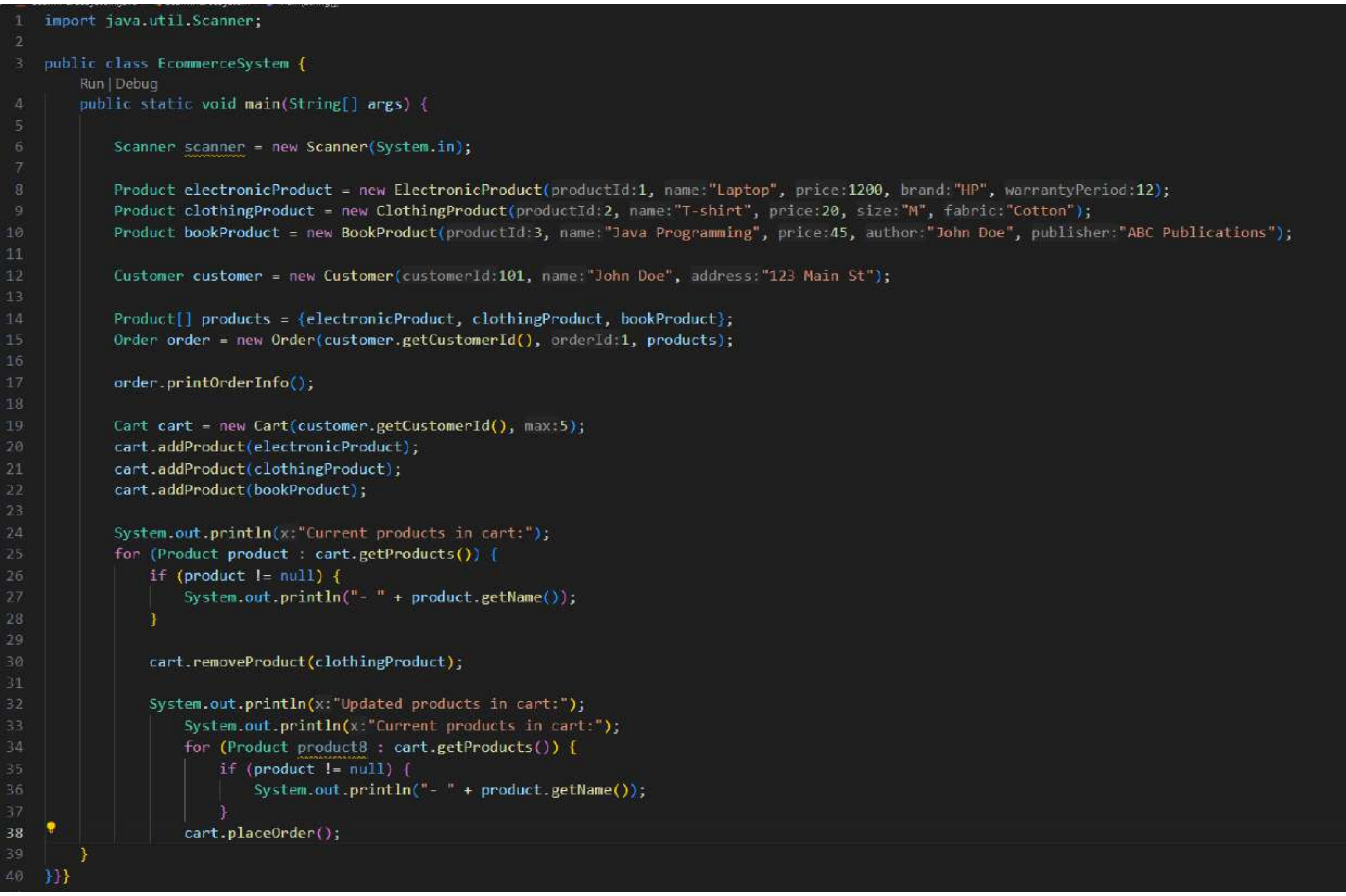
```
public class Cart {
    public Cart(int customerId, int max) {
        this.customerId = Math.abs(customerId);
        this.nProducts = 0;
        this.products = new Product[max];
    }

    public int getCustomerId() {
        return customerId;
    }

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

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

    public void addProduct(Product Products){
        if (nProducts<=products.length) {
            products[nProducts++]=Products;

        }
        else {
            System.out.println(x:"the cart is full ");

        }
    }

    public void removeProduct(Product Products){

        int index = -1;

        for (int i = 0; i < nProducts; i++) {
            if (products[i].equals(Products)) {
                index = i;
                break;
            }
        }

```



```
        if (index != -1) {
            for (int i = index; i < nProducts - 1; i++) {
                products[i] = products[i + 1];
            }
            nProducts--;
        }else {
            System.out.println(x:"Product not found.");
        }
    }

    public double calculatePrice() {

        double totalPrice = 0;

        for (int i = 0; i < nProducts; i++) {
            totalPrice += products[i].getPrice();
        }

        return totalPrice;
    }

    public void placeOrder() {
        System.out.println(x:"Order placed successfully!");
    }
}
```



```
public class Order {
    private int customerId;
    private int orderId;
    private Product[] products;
    private double totalPrice;

    public Order(int customerId, int orderId, Product[] products) {
        this.customerId = Math.abs(customerId);
        this.orderId = Math.abs(orderId);
        this.products = products;
        this.totalPrice = calculateTotalPrice();
    }

    public void printOrderInfo() {
        System.out.println("Order ID: " + orderId);
        System.out.println("Customer ID: " + customerId);
        System.out.println(x:"Products in order:");
        for (Product product : products) {
            System.out.println("- " + product.getName() + ": $" + product.getPrice());
        }
        System.out.println("Total Price: $" + totalPrice);
    }

    private double calculateTotalPrice() {
        double total = 0;
        for (Product product : products) {
            total += product.getPrice();
        }
        return total;}
}
```



```
import java.util.Scanner;

public class EcommerceSystem {
    Run | Debug
    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        Product electronicProduct = new ElectronicProduct(productId:1, name:"Laptop", price:1200, brand:"HP", warrantyPeriod:12);
        Product clothingProduct = new ClothingProduct(productId:2, name:"T-shirt", price:20, size:"M", fabric:"Cotton");
        Product bookProduct = new BookProduct(productId:3, name:"Java Programming", price:45, author:"John Doe", publisher:"ABC Publications");

        Customer customer = new Customer(customerId:101, name:"John Doe", address:"123 Main St");

        Product[] products = {electronicProduct, clothingProduct, bookProduct};
        Order order = new Order(customer.getCustomerId(), orderId:1, products);

        order.printOrderInfo();

        Cart cart = new Cart(customer.getCustomerId(), max:5);
        cart.addProduct(electronicProduct);
        cart.addProduct(clothingProduct);
        cart.addProduct(bookProduct);

        System.out.println(x:"Current products in cart:");
        for (Product product : cart.getProducts()) {
            if (product != null) {
                System.out.println("- " + product.getName());
            }

            cart.removeProduct(clothingProduct);

            System.out.println(x:"Updated products in cart:");
                System.out.println(x:"Current products in cart:");
                for (Product product8 : cart.getProducts()) {
                    if (product != null) {
                        System.out.println("- " + product.getName());
                    }
                cart.placeOrder();
    }
}}}
```