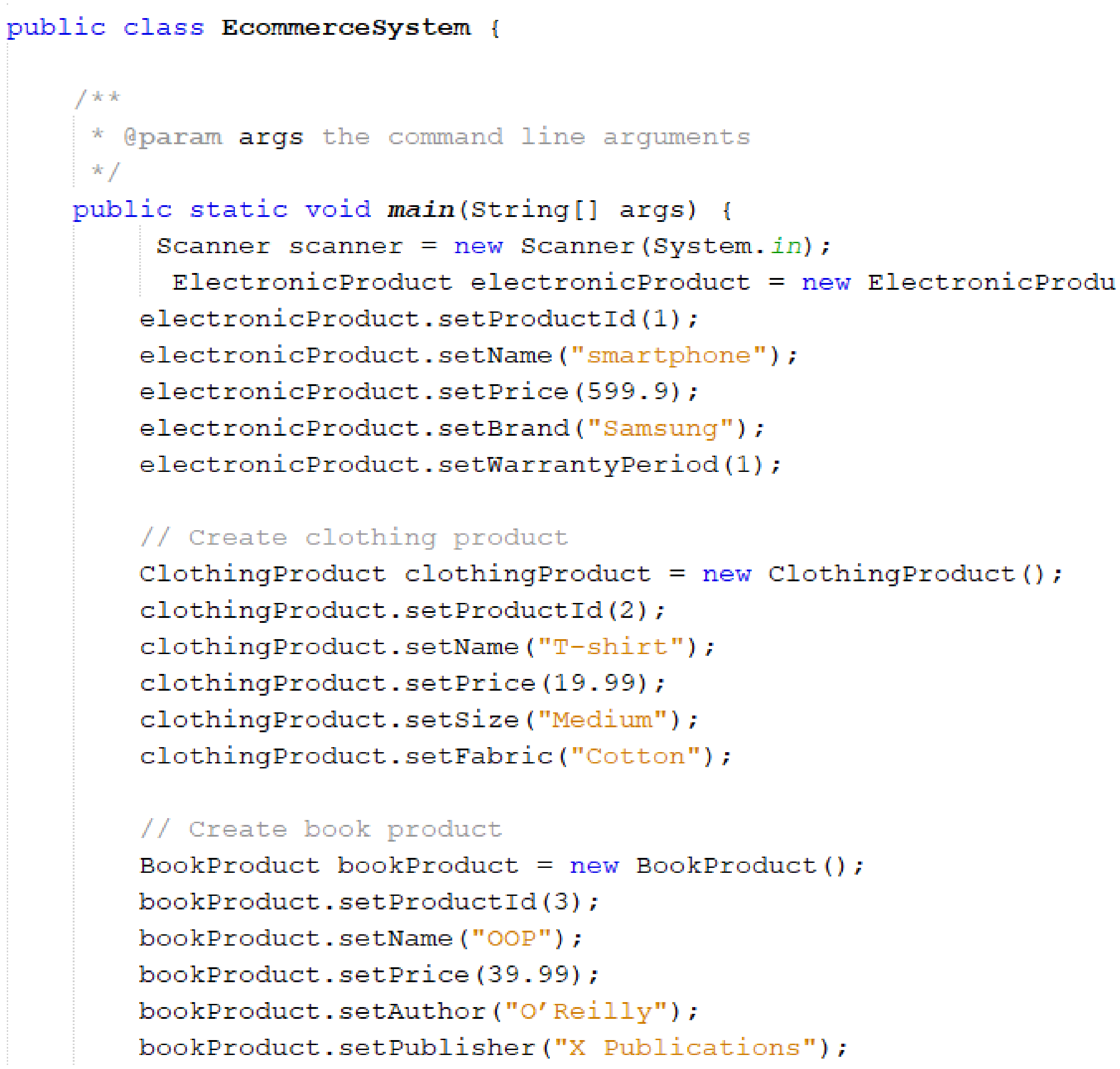
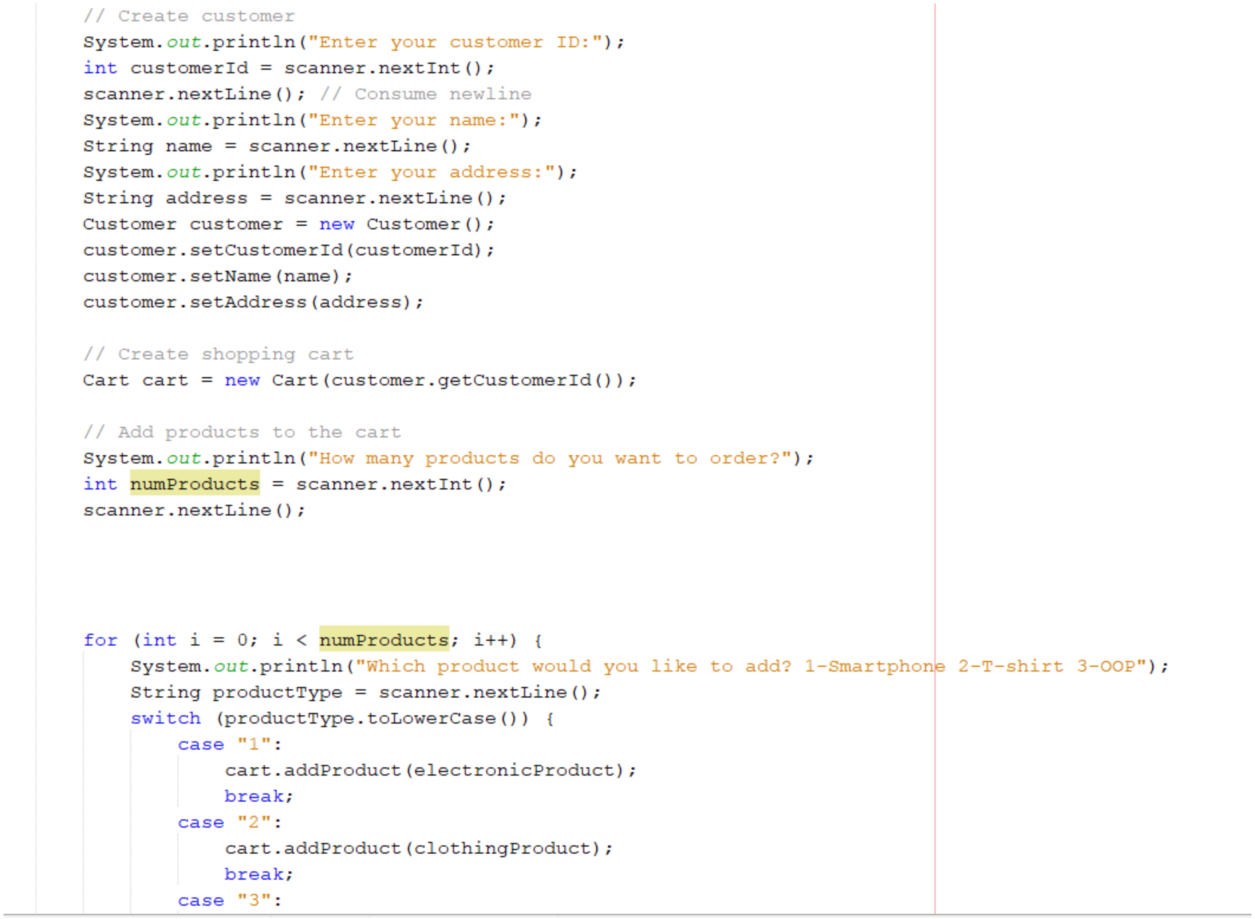
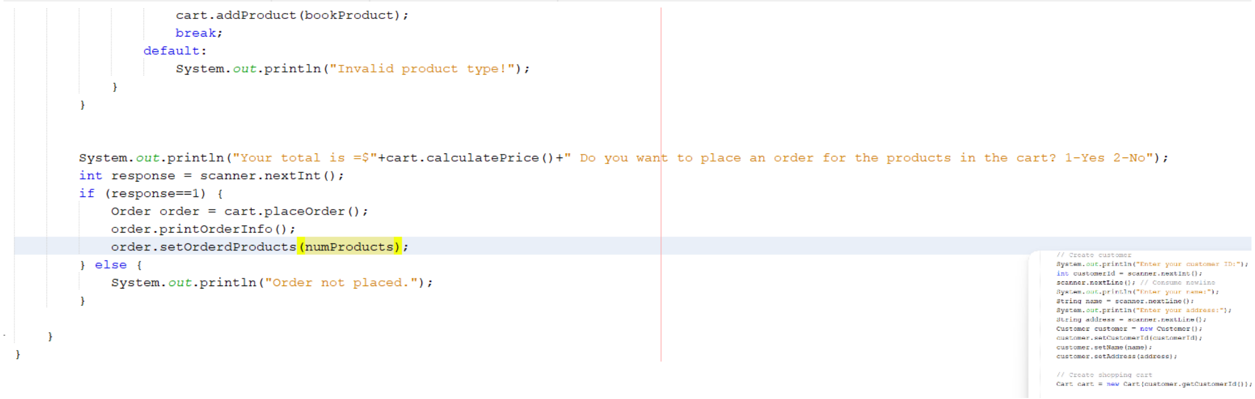
Main class:



```java
public class EcommerceSystem {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
         Scanner scanner = new Scanner(System.in);
          ElectronicProduct electronicProduct = new ElectronicProdu
        electronicProduct.setProductId(1);
        electronicProduct.setName("smartphone");
        electronicProduct.setPrice(599.9);
        electronicProduct.setBrand("Samsung");
        electronicProduct.setWarrantyPeriod(1);

        // Create clothing product
        ClothingProduct clothingProduct = new ClothingProduct();
        clothingProduct.setProductId(2);
        clothingProduct.setName("T-shirt");
        clothingProduct.setPrice(19.99);
        clothingProduct.setSize("Medium");
        clothingProduct.setFabric("Cotton");

        // Create book product
        BookProduct bookProduct = new BookProduct();
        bookProduct.setProductId(3);
        bookProduct.setName("OOP");
        bookProduct.setPrice(39.99);
        bookProduct.setAuthor("O’Reilly");
        bookProduct.setPublisher("X Publications");
```



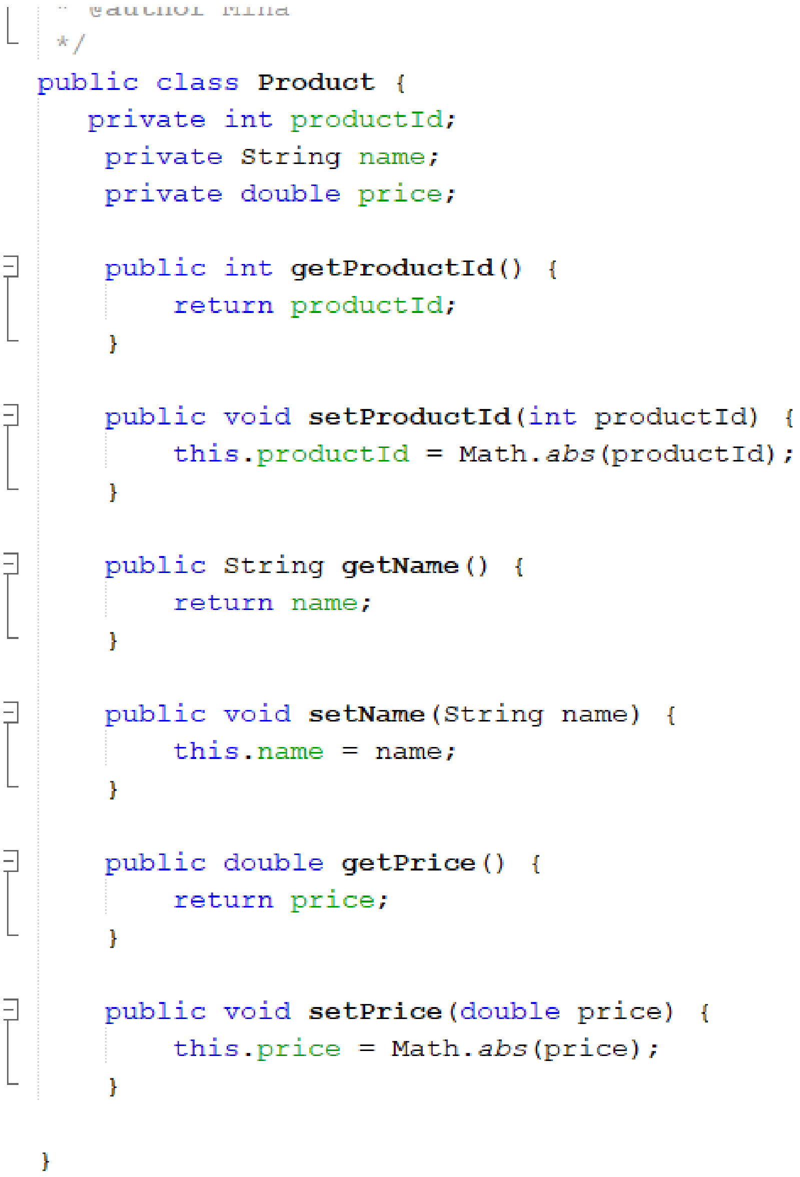
```java
        // Create customer
        System.out.println("Enter your customer ID:");
        int customerId = scanner.nextInt();
        scanner.nextLine(); // Consume newline
        System.out.println("Enter your name:");
        String name = scanner.nextLine();
        System.out.println("Enter your address:");
        String address = scanner.nextLine();
        Customer customer = new Customer();
        customer.setCustomerId(customerId);
        customer.setName(name);
        customer.setAddress(address);

        // Create shopping cart
        Cart cart = new Cart(customer.getCustomerId());

        // Add products to the cart
        System.out.println("How many products do you want to order?");
        int numProducts = scanner.nextInt();
        scanner.nextLine();




        for (int i = 0; i < numProducts; i++) {
            System.out.println("Which product would you like to add? 1-Smartphone 2-T-shirt 3-OOP");
            String productType = scanner.nextLine();
            switch (productType.toLowerCase()) {
                case "1":
                    cart.addProduct(electronicProduct);
                    break;
                case "2":
                    cart.addProduct(clothingProduct);
                    break;
                case "3":
```



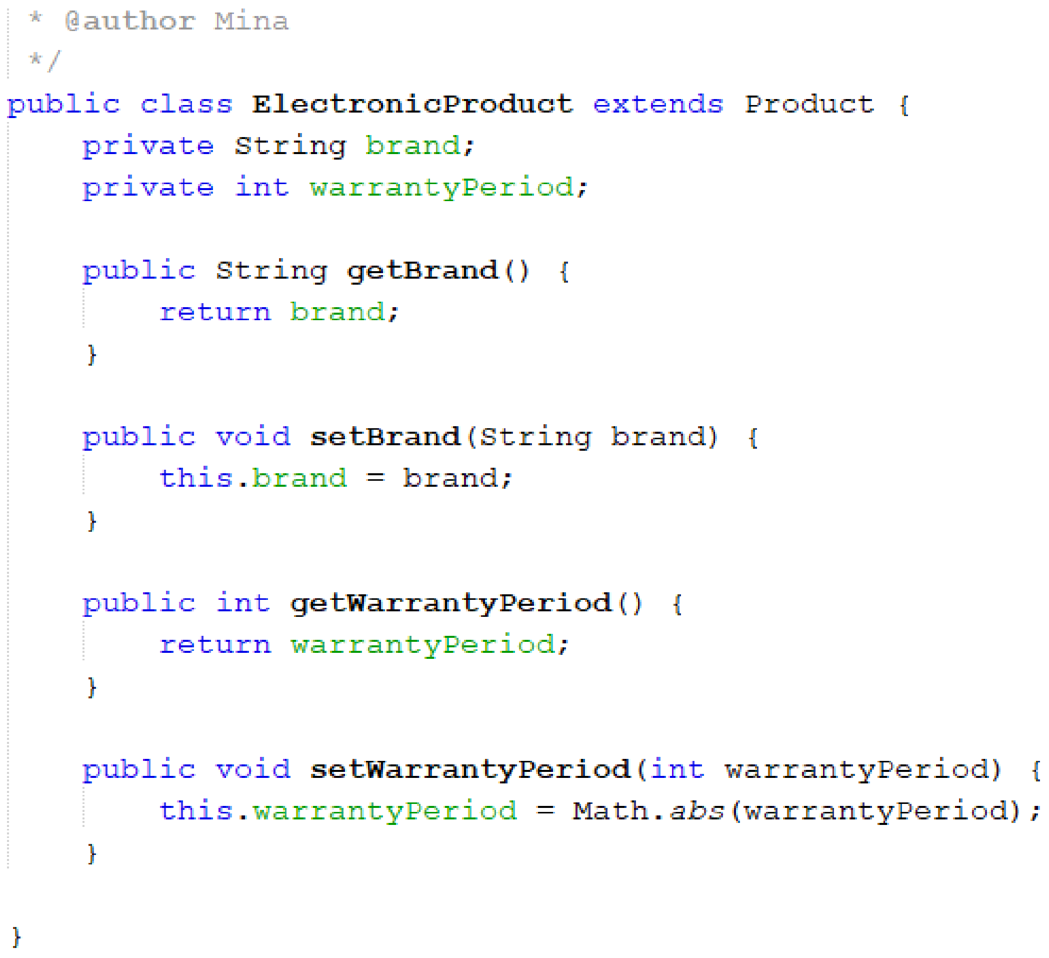
```java
                    cart.addProduct(bookProduct);
                    break;
                default:
                    System.out.println("Invalid product type!");
            }
        }


        System.out.println("Your total is =$"+cart.calculatePrice()+" Do you want to place an order for the products in the cart? 1-Yes 2-No");
        int response = scanner.nextInt();
        if (response==1) {
            Order order = cart.placeOrder();
            order.printOrderInfo();
            order.setOrderdProducts(numProducts);
        } else {
            System.out.println("Order not placed.");
        }

    }
}
```

```java
// Create customer
System.out.println("Enter your customer ID:");
int customerId = scanner.nextInt();
scanner.nextLine(); // Consume newline
System.out.println("Enter your name:");
String name = scanner.nextLine();
System.out.println("Enter your address:");
String address = scanner.nextLine();
Customer customer = new Customer();
customer.setCustomerId(customerId);
customer.setName(name);
customer.setAddress(address);

// Create shopping cart
Cart cart = new Cart(customer.getCustomerId());
```

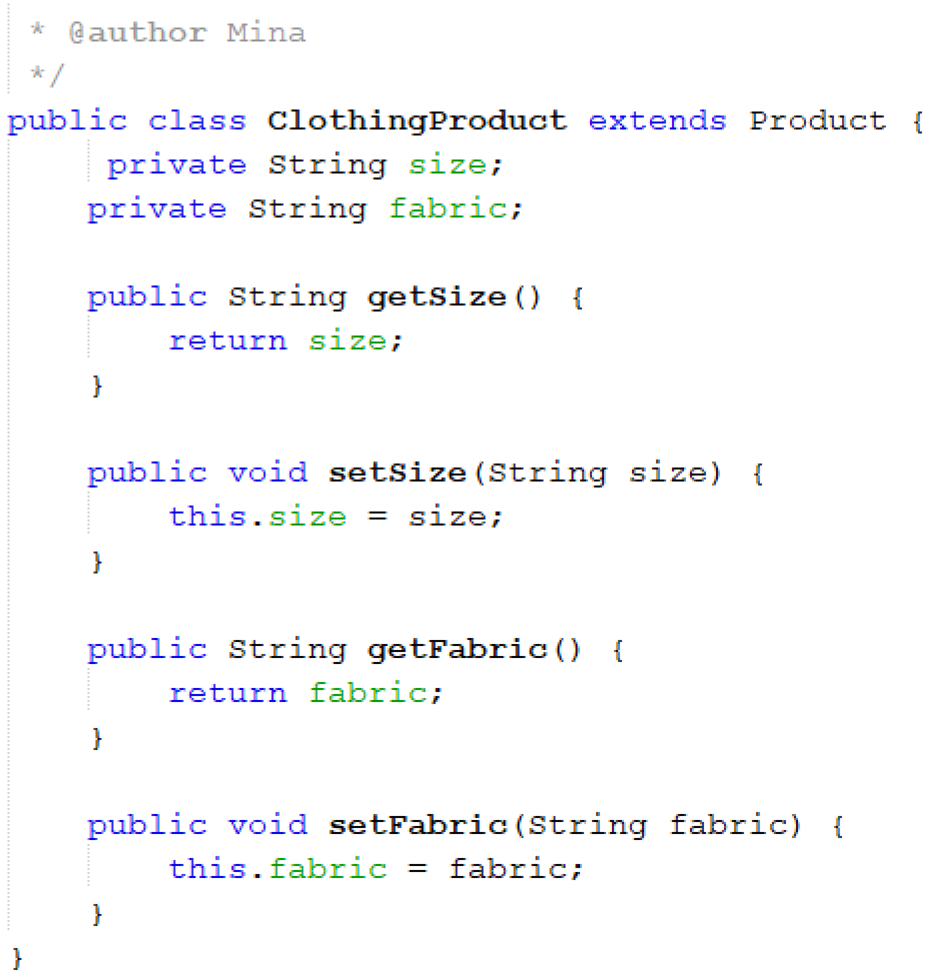
Second class:



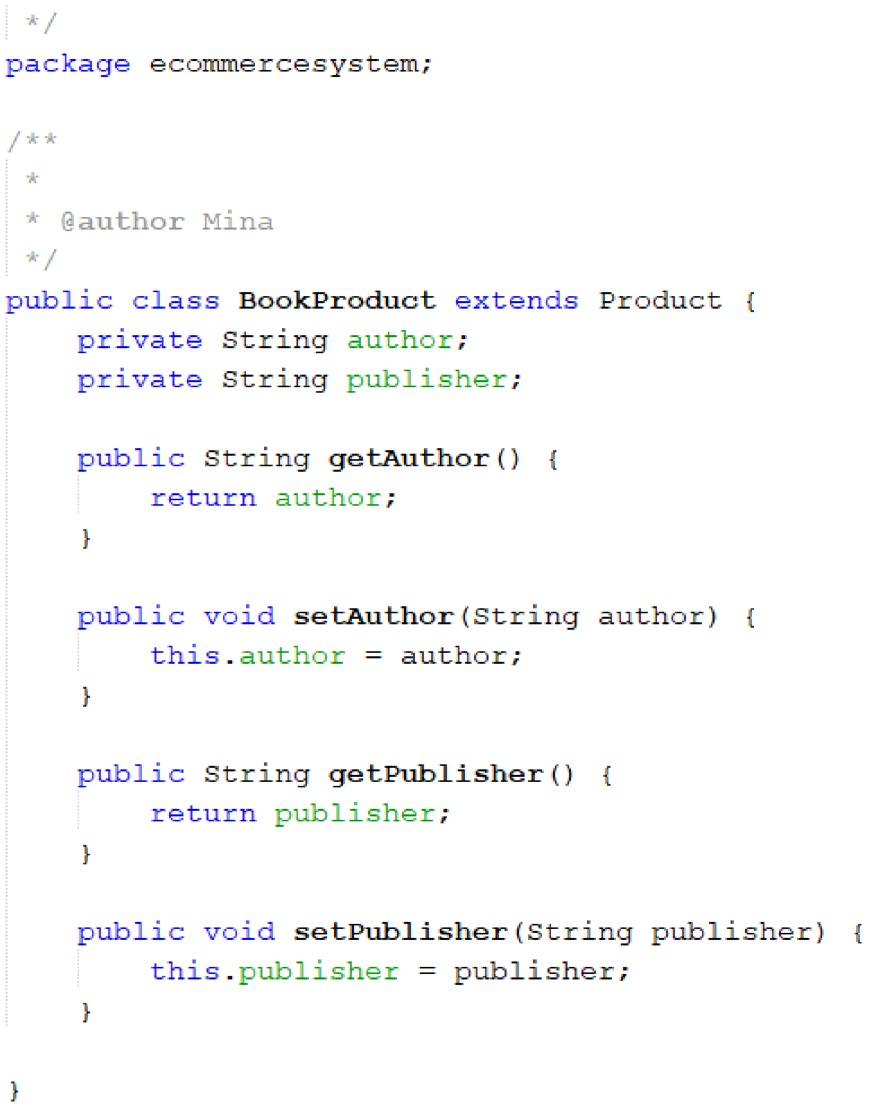
```
 * @author Mina
 */
public class Product {
   private int productId;
    private String name;
    private double price;

    public int getProductId() {
        return productId;
    }

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

    public String getName() {
        return name;
    }

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

    public double getPrice() {
        return price;
    }

    public void setPrice(double price) {
        this.price = Math.abs(price);
    }

}
```



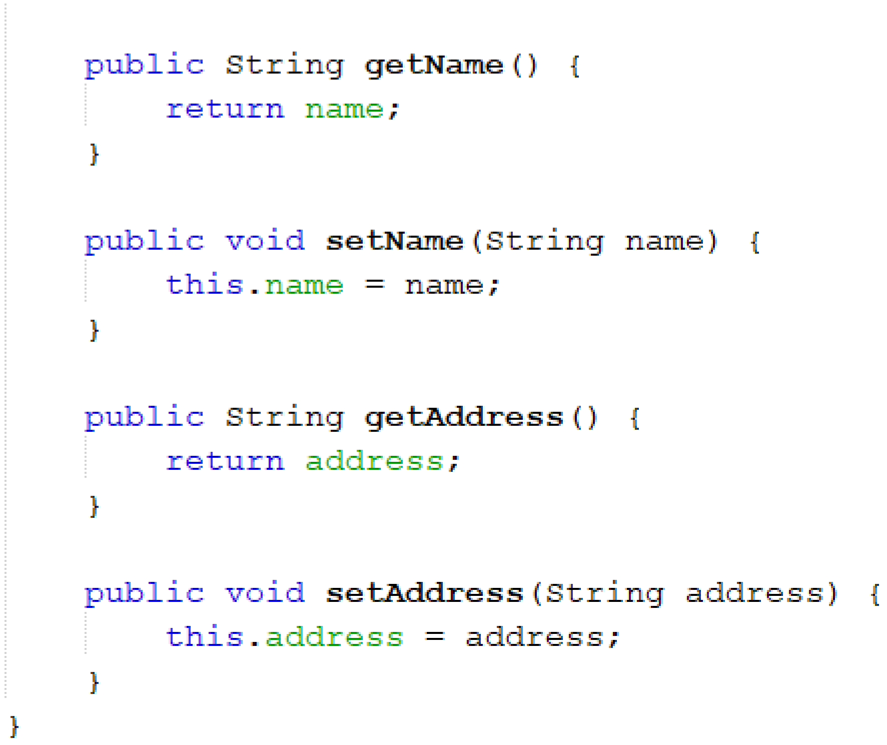
```java
 * @author Mina
 */
public class ElectronicProduct extends Product {
    private String brand;
    private int warrantyPeriod;

    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 = Math.abs(warrantyPeriod);
    }

}
```



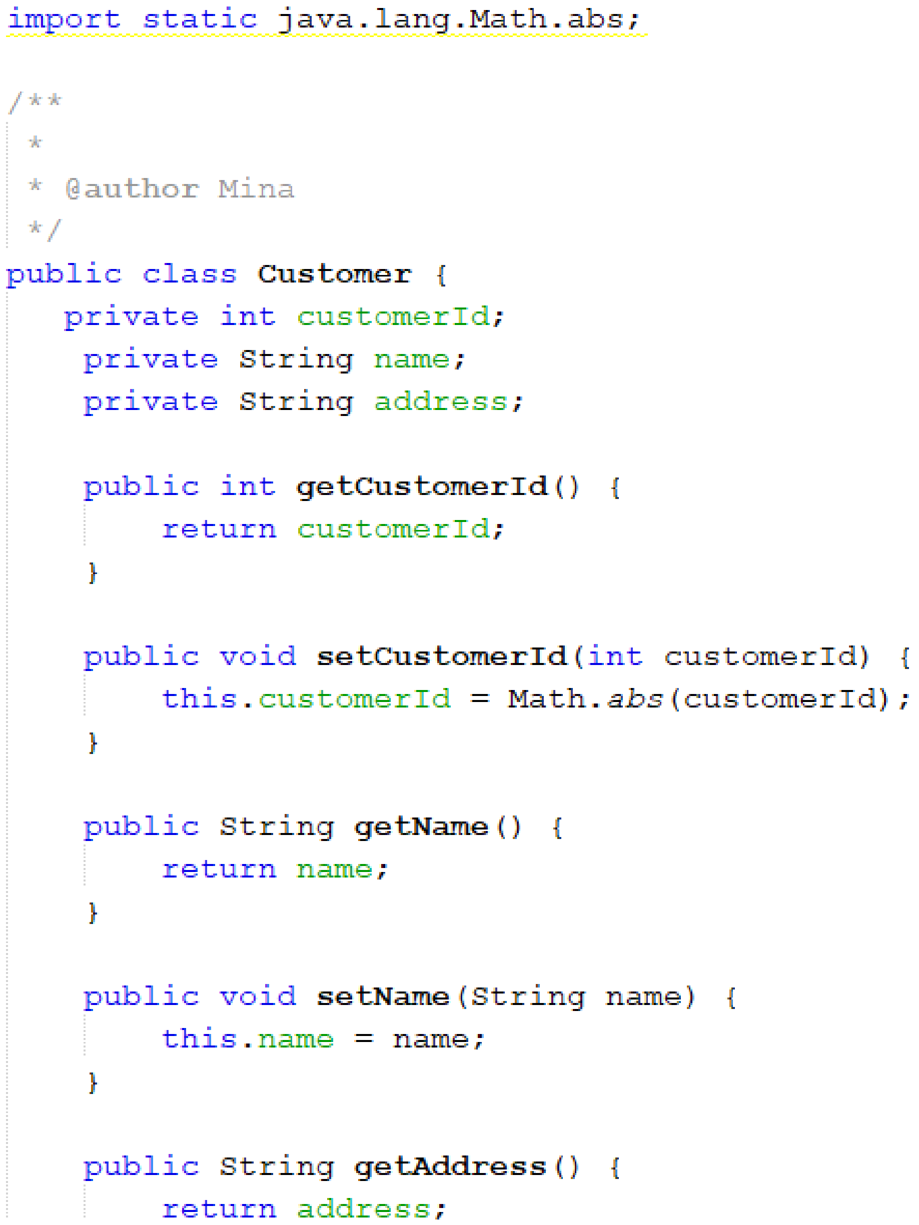
```
 * @author Mina
 */
public class ClothingProduct extends Product {
     private String size;
    private String fabric;

    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;
    }
}
```



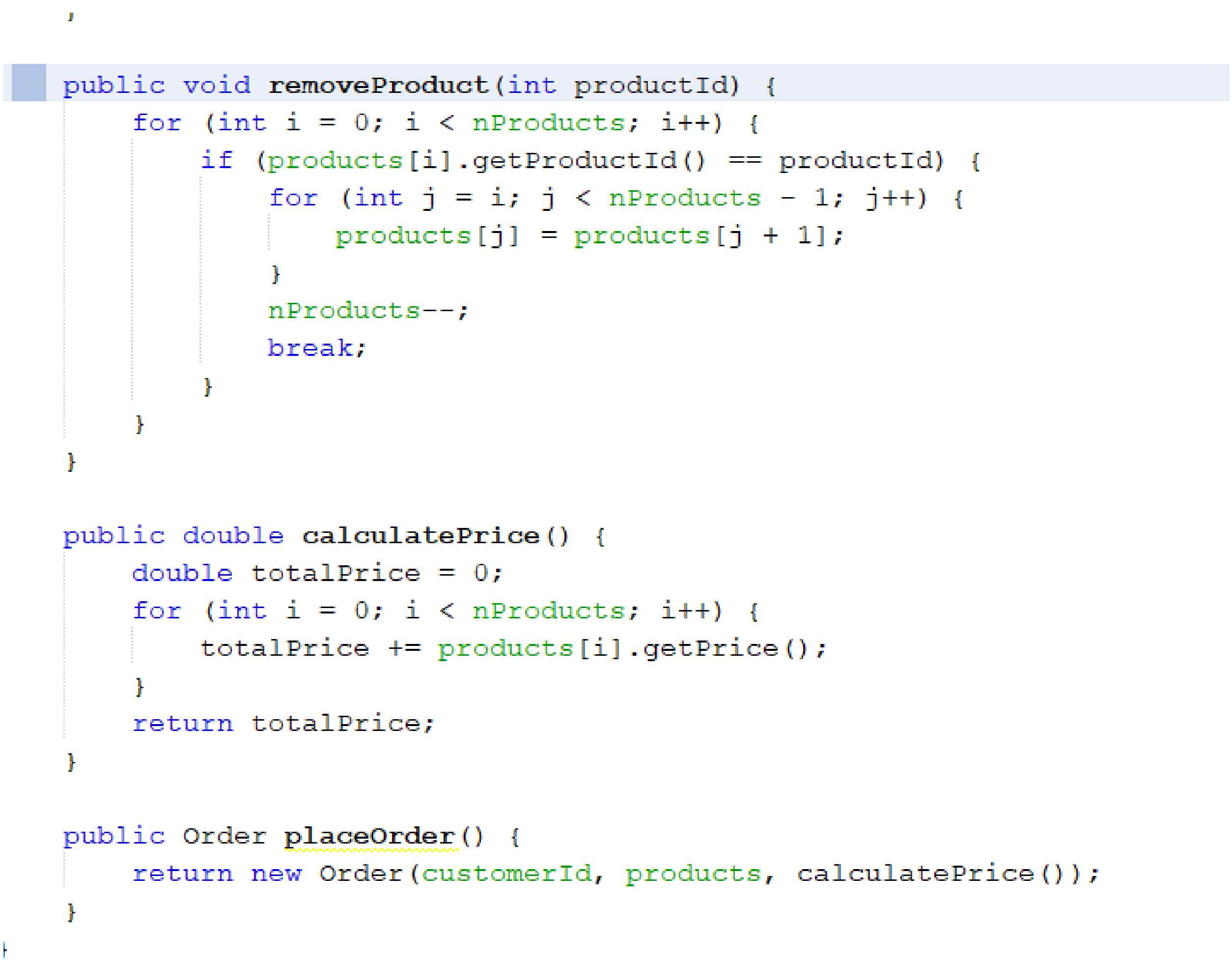
```java
 */
package ecommercesystem;

/**
 *
 * @author Mina
 */
public class BookProduct extends Product {
    private String author;
    private 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;
    }

}
```



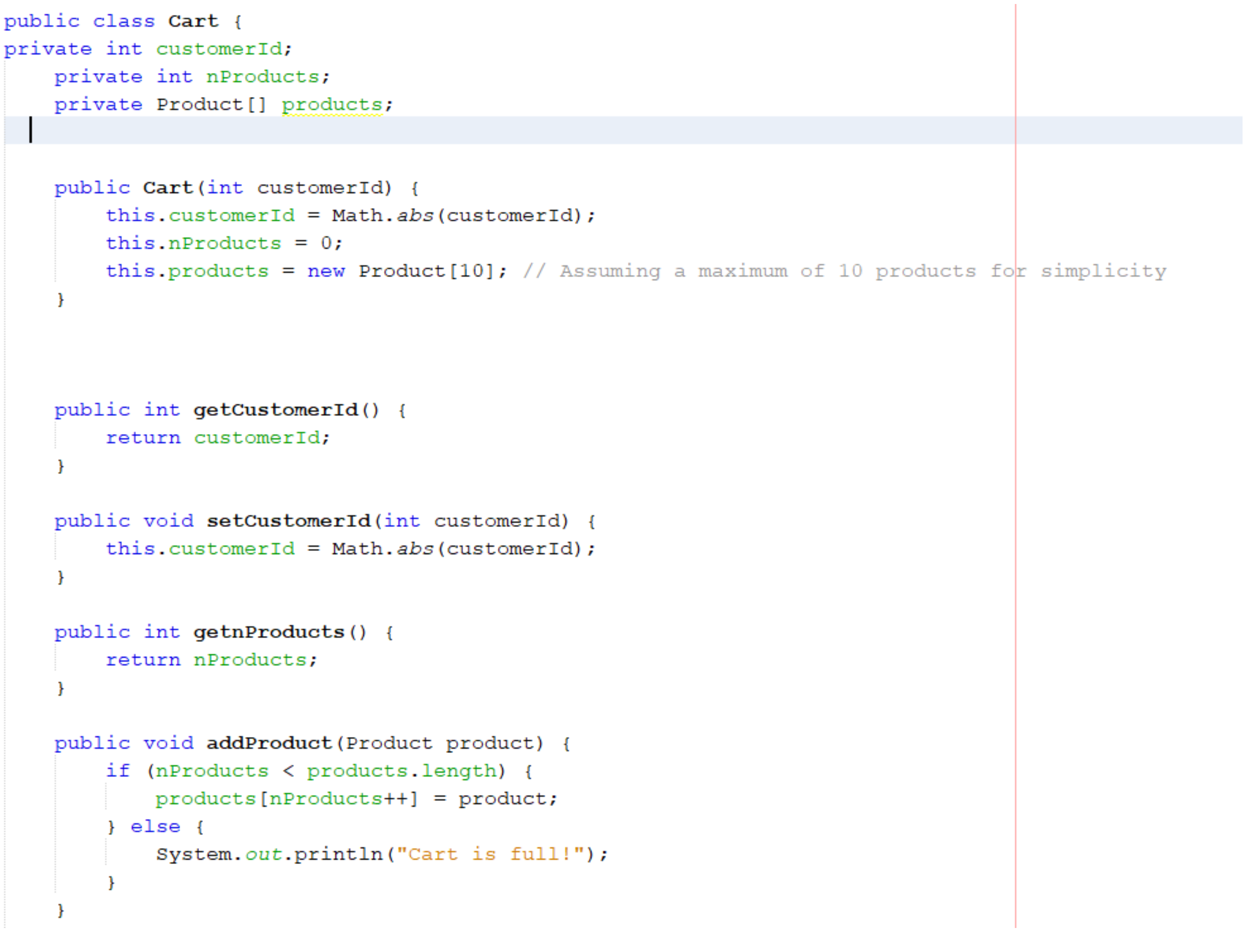
```java

    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;
    }
}
```



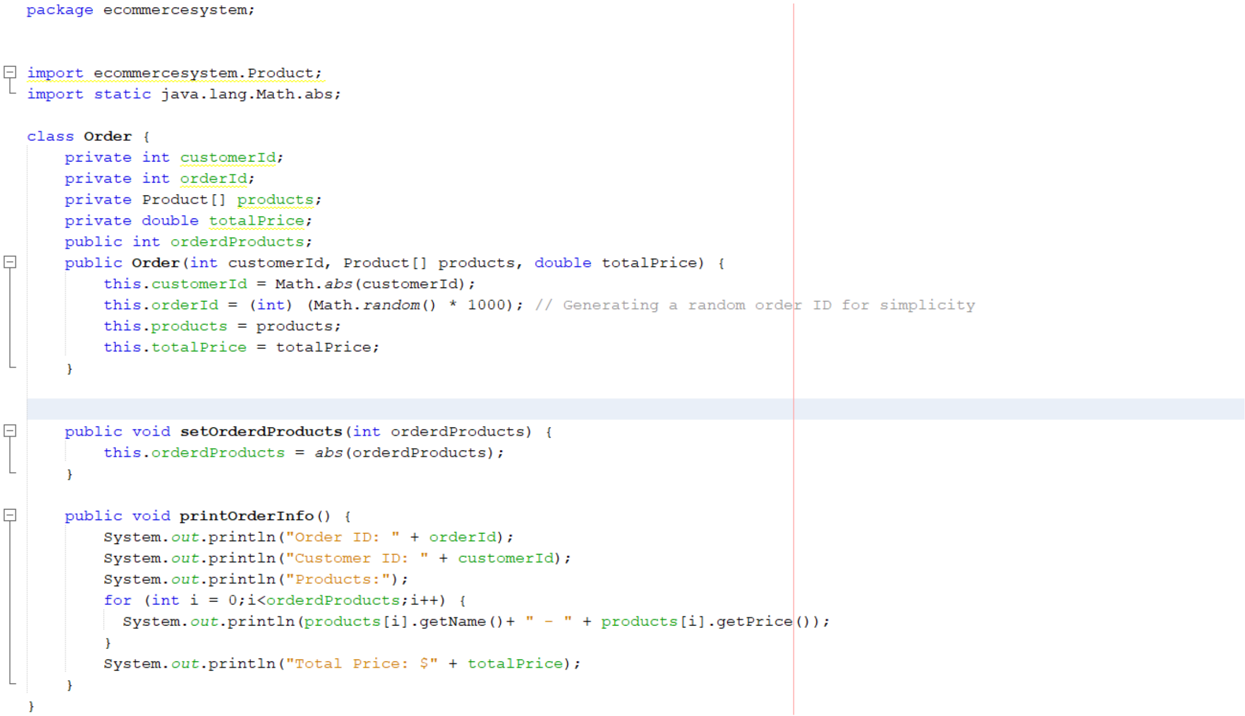
```java
import static java.lang.Math.abs;

/**
 *
 * @author Mina
 */
public class Customer {
   private int customerId;
    private String name;
    private String address;

    public int getCustomerId() {
        return customerId;
    }

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

    public String getName() {
        return name;
    }

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

    public String getAddress() {
        return address;
```



```
    ,

    public void removeProduct(int productId) {
        for (int i = 0; i < nProducts; i++) {
            if (products[i].getProductId() == productId) {
                for (int j = i; j < nProducts - 1; j++) {
                    products[j] = products[j + 1];
                }
                nProducts--;
                break;
            }
        }
    }

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

    public Order placeOrder() {
        return new Order(customerId, products, calculatePrice());
    }
}
```

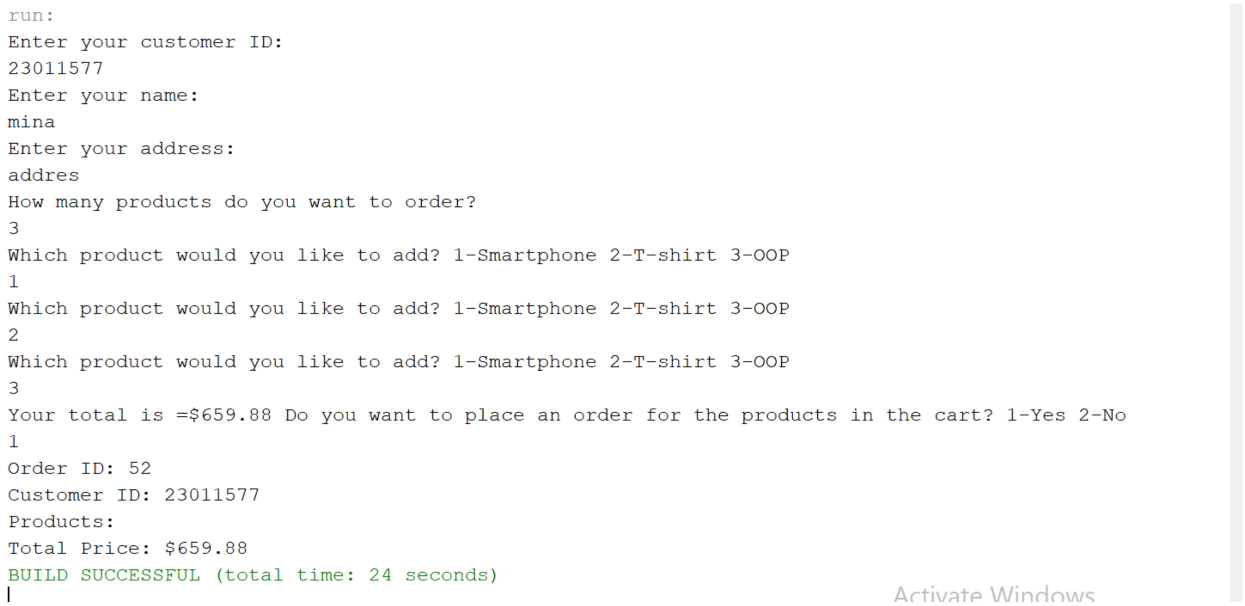


```java
public class Cart {
private int customerId;
    private int nProducts;
    private Product[] products;


    public Cart(int customerId) {
        this.customerId = Math.abs(customerId);
        this.nProducts = 0;
        this.products = new Product[10]; // Assuming a maximum of 10 products for simplicity
    }



    public int getCustomerId() {
        return customerId;
    }

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

    public int getnProducts() {
        return nProducts;
    }

    public void addProduct(Product product) {
        if (nProducts < products.length) {
            products[nProducts++] = product;
        } else {
            System.out.println("Cart is full!");
        }
    }
```



```java
package ecommercesystem;


import ecommercesystem.Product;
import static java.lang.Math.abs;

class Order {
    private int customerId;
    private int orderId;
    private Product[] products;
    private double totalPrice;
    public int orderdProducts;
    public Order(int customerId, Product[] products, double totalPrice) {
        this.customerId = Math.abs(customerId);
        this.orderId = (int) (Math.random() * 1000); // Generating a random order ID for simplicity
        this.products = products;
        this.totalPrice = totalPrice;
    }


    public void setOrderdProducts(int orderdProducts) {
        this.orderdProducts = abs(orderdProducts);
    }

    public void printOrderInfo() {
        System.out.println("Order ID: " + orderId);
        System.out.println("Customer ID: " + customerId);
        System.out.println("Products:");
        for (int i = 0;i<orderdProducts;i++) {
          System.out.println(products[i].getName()+ " - " + products[i].getPrice());
        }
        System.out.println("Total Price: $" + totalPrice);
    }
}
```

Output :



```
run:
Enter your customer ID:
23011577
Enter your name:
mina
Enter your address:
addres
How many products do you want to order?
3
Which product would you like to add? 1-Smartphone 2-T-shirt 3-OOP
1
Which product would you like to add? 1-Smartphone 2-T-shirt 3-OOP
2
Which product would you like to add? 1-Smartphone 2-T-shirt 3-OOP
3
Your total is =$659.88 Do you want to place an order for the products in the cart? 1-Yes 2-No
1
Order ID: 52
Customer ID: 23011577
Products:
Total Price: $659.88
BUILD SUCCESSFUL (total time: 24 seconds)
```