```java
package ecommercesystem.ecommercesystem;

public class ElectronicProduct extends Product{
    private String brand;
    private int warrantyPeriod;

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

        if (warrantyPeriod <0)
            this.warrantyPeriod = (-1 * warrantyPeriod);
        else
            this.warrantyPeriod = 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;
    }
}
```

```java
        int productChoice = 0;
        for (int i = 0; i < nProducts; i++) {
            System.out.println(x: "Which product would you like to add? 1 - Smartphone , 2 - T-Shirt , 3 - OOP");
            productChoice = scanner.nextInt();
            switch (productChoice){
                case 1:
                    cart.addProduct(product: smartphone);
                    break;
                case 2:
                    cart.addProduct(product: tShirt);
                    break;
                case 3:
                    cart.addProduct(product: OOP);
                    break;
            }
        }

        System.out.println("Your products' total is: $"+cart.calculatePrice()+". Place the order? 1 - Yes , 2 - No");
        int orderChoice = scanner.nextInt();
        if (orderChoice == 1){
            Order order = cart.placeOrder();
            order.printOrderInfo();
        } else if (orderChoice == 2){
            System.out.println(x: "You chose not to continue with the order.");
        }
    }
}
```

```java
package ecommercesystem.ecommercesystem;

public class  BookProduct extends Product{
    private String author;
    private String publisher;

    public BookProduct(int productId, String name, double 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
package ecommercesystem.ecommercesystem;

public class ClothingProduct extends Product{
    private String size;
    private String fabric;

    public ClothingProduct(int productId, String name, double 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
package ecommercesystem.ecommercesystem;
import java.util.Scanner;

public class EcommerceSystem {

    public static void main(String[] args) {
ElectronicProduct smartphone = new ElectronicProduct(productId:1, name: "smartphone", price: 599.9, brand: "samsung", warrantyPeriod: 1);
        ClothingProduct tShirt = new ClothingProduct(productId:2, name: "t-shirt", price: 19.99, size: "medium", fabric:"cotton");
            BookProduct OOP = new BookProduct(productId:3, name: "oop", price: 39.99, author:"o'reilly", publisher:"x publications");

            Scanner scanner = new Scanner(source:System.in);
            System.out.println(x: "Welcome to the E-Commerce system!");

            System.out.print(s: "Enter your name: ");
            String name = scanner.nextLine();

            System.out.print(s: "Enter your address: ");
            String address = scanner.nextLine();

            System.out.print(s: "Enter your ID: ");
            int customerId = scanner.nextInt();

            System.out.print(s: "Enter how many products you want: ");
            int nProducts = scanner.nextInt();

        Customer customer = new Customer(customerId, name, address);

            Cart cart = new Cart(customerId, nProducts);
```

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

    public Order(int customerId, int orderId, Product[] products, double totalPrice){
        if (customerId < 0)
            this.customerId = (-1 * customerId);
        else
            this.customerId = customerId;

        if (orderId < 0)
            this.orderId = (-1 * orderId);
        else
            this.orderId = orderId;

        this.products = products;

        if (totalPrice < 0)
            this.totalPrice = (-1 * totalPrice);
        else
            this.totalPrice = totalPrice;
    }
    public void printOrderInfo(){
        System.out.println("\nOrder summary::" +
                "\nOrder ID: " + orderId +
                "\nCustomer ID: " + customerId +
                "\nProducts:");
        for (int i = 0; i < products.length; i++) {
            System.out.println(products[i].getName() + " - $" + products[i].getPrice());
        }
        System.out.println("\nTotal Price: " + totalPrice);
    }
}
```

```java
29                        }
30            }
31            public void removeProduct(Product product){
32                    for (int i = 0; i < nProducts; i++) {
33                            if (products[i]==product){
34                                    products[i] = null;
35                                    break;
36                            } else
                                    continue;
38                    }
39            }
40
41            public double calculatePrice(){
42                    double totalPrice = 0;
43                    for (int i = 0; i < nProducts; i++) {
44                            totalPrice+=products[i].getPrice();
45                    }
46                    return totalPrice;
47            }
48
49            public Order placeOrder(){
50
51      Order order = new Order(customerId, orderId: 1, products, totalPrice: calculatePrice());
52      return order;
53            }
54  public int getCustomerId() {
55      return customerId;
56  }
57  public void setCustomerId(int customerId) {
58      this.customerId = customerId;
59  }
60      }
61
```

```
Welcome to the E-Commerce system!
Enter your name: mazen
Enter your address: miami
Enter your ID: 23012196
Enter how many products you want: 6
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
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
2
Which product would you like to add? 1 - Smartphone , 2 - T-Shirt , 3 - OOP
3
Which product would you like to add? 1 - Smartphone , 2 - T-Shirt , 3 - OOP
2
Your products' total is: $1299.76. Place the order? 1 - Yes , 2 - No
1

Order summary::
Order ID: 1
Customer ID: 23012196
Products:
smartphone - $599.9
smartphone - $599.9
t-shirt - $19.99
t-shirt - $19.99
oop - $39.99
t-shirt - $19.99
```

```java
package ecommercesystem.ecommercesystem;
public class Product {
    private int productId;
    private String name;
    private double price;
    public Product(int productId, String name, double price) {
        if (productId < 0)
            this.productId = (-1 * productId);
        else
            this.productId = productId;

        this.name = name;

        if (price < 0)
            this.price = (-1 * price);
        else
            this.price = 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 double getPrice() {
        return price;
    }
    public void setPrice(double price) {
        this.price = price;
    }
}
```

```java
package ecommercesystem.ecommercesystem;
  public class Customer {
    private int customerId;
    private String name;
    private String address;

    public Customer(int customerId, String name, String address) {
        if (customerId < 0)
            this.customerId = (-1 * customerId);
        else
            this.customerId = 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;
    }


    }
```

```java
package ecommercesystem.ecommercesystem;

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

    public Cart(int customerId, int nProducts) {
        if (customerId < 0)
            this.customerId = (-1 * customerId);
        else
            this.customerId = customerId;

        if (nProducts < 0)
            this.nProducts = (-1 * nProducts);
        else
            this.nProducts = nProducts;

        products = new Product[nProducts];
    }

    public void addProduct(Product product){
        for (int i = 0; i < nProducts; i++) {
            if (products[i]==null){
                products[i] = product;
                break;
            } else
                continue;
        }
    }
}
```