```java
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this lic
 */

package com.mycompany.ecommercesystem;
import java.lang.Math;
import java.util.Scanner;

class Product {
    private int productId;
    private String name;
    private float price;

    public Product(int productId, String name, float 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 = Math.abs(productId);
    }

    public String getName() {
        return name;
    }

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

    public float getPrice() {
        return price;
    }

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

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

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    public ElectronicProduct(int productId, String name, float 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 = Math.abs(warrantyPeriod);
    }
}

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

    public ClothingProduct(int productId, String name, float 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;
```

```
}

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

    public BookProduct(int productId, String name, float 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;
    }
}

class Customer {
    private int customerId;
    private String name;
    private 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 = Math.abs(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;
    }
}

class Cart {
    private int customerId;
    private int nProducts;
    public Product[] products;
    public Cart(int clientId,int totalItems){
        customerId = Math.abs(clientId);
        nProducts = totalItems;
        products = new Product[totalItems];
    }
    public int getCustomerId() {
        return customerId;
    }

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

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

    public void addProduct(Product product){
        // First let's search how many elements in product are set to "Zero"
        int FoundaZero = 0;
        for(int I=0;I < nProducts;I++){
            if(products[I] == null){
                products[I] = product;
                FoundaZero++;
                break;
            }
        }
```

```
193         if(FoundaZero <= 0){
194             System.out.println("You can not add more products, you exceeds the maximum number you have ente
195         }
196     }
197
198     public void removeProduct(Product product){
199         // It will remove only one product per time
200         for(int I=0;I < nProducts;I++){
201             if(products[I] == product){
202                 products[I] = null;
203                 break;
204             }
205         }
206     }
207
208     public float calculatePrice() {
209         float totalPrice = 0;
210         for (Product product : products) { // I have got this from the internet :)
211             totalPrice += product.getPrice();
212         }
213         return totalPrice;
214     }
215 }
216
217 class Order {
        private int customerId;
        private int orderId;
220     public Product[] products;
        private float totalPrice;
222
223     public Order(int customerId, int orderId ,Product[] products , float totalPrice) {
224         this.customerId = Math.abs(customerId);
225         this.orderId = Math.abs(orderId);
226         this.products = products;
227         this.totalPrice = Math.abs(totalPrice);
228     }
229
230     public void printOrderInfo() {
231         System.out.println("Here is your order summary: ");
232         System.out.println("Order ID: " + orderId);
233         System.out.println("Customer ID: " + customerId);
234         System.out.println("Products:");
235         for (Product product : products) {
236             System.out.println(product.getName() + " - $" + product.getPrice());
237         }
238         System.out.println("Total Price: $" + totalPrice);
239     }
240 }
```

```
] --- exec:3.1.0:exec (default-cli) @ EcommerceSystem ---
  Welcome to Ecommerce System!
  Please enter your name:
  Yousef Ashraf
  Please enter your address:
  Seif Street
  Please enter your ID:
  23011628
  How many products you want to add in your cart?
  4
  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
  Your total is 679.87. Would you like to place the order? 1- Yes 2- No
  1
  Here is your order summary:
  Order ID: 1
  Customer ID: 23011628
  Products:
  Smart Phone - $599.9
  T Shirt - $19.99
  T Shirt - $19.99
  OOP - $39.99
- Total Price: $679.87
  ------------------------------------------------------------------------
  BUILD SUCCESS
  ------------------------------------------------------------------------
  Total time:  34.024 s
  Finished at: 2024-04-20T16:23:03-07:00
```

```
244     public static void main(String[] args) {
245         Product smartPhone = new ElectronicProduct(1, "Smart Phone", 599.9f, "Samsung", 1);
246         Product tshirt = new ClothingProduct(2, "T Shirt", 19.99f, "Medium", "Cotton");
247         Product oop = new ClothingProduct(3, "OOP", 19.99f, "O'Reilly", "X Publications");
248         System.out.println("Welcome to Ecommerce System!");
249         Scanner input = new Scanner(System.in);
250         int customerId;
            String customerName;
            String customerAddress;
253         int cartSize;
254         int confirm;
255         System.out.println("Please enter your name:");
256         customerName = input.nextLine();
257         System.out.println("Please enter your address:");
258         customerAddress = input.nextLine();
259         System.out.println("Please enter your ID:");
260         customerId = input.nextInt();
261         System.out.println("How many products you want to add in your cart?");
262         cartSize = input.nextInt();
263         Cart cart = new Cart(customerId,cartSize);
264         int ChosenProduct;
265         for(int I=0; I < cartSize;I++){
266             System.out.println("Which product would you like to add? 1- SmartPhone 2- T-shirt 3- OOP");
267             ChosenProduct = input.nextInt();
                switch(ChosenProduct){
269                 case 1:
270                     cart.addProduct(smartPhone);
271                     break;
272                 case 2:
273                     cart.addProduct(tshirt);
274                     break;
275                 case 3:
276                     cart.addProduct(oop);
277                     break;
278             }
279         }
280         System.out.println("Your total is " + cart.calculatePrice() + ". Would you like to place the order?
281         confirm = input.nextInt();
282         if(confirm == 1){
283             Order order = new Order(customerId, 1, cart.getProducts(), cart.calculatePrice());
284             order.printOrderInfo();
285         }else{
286             System.out.println("Thank you for stopping by <3");
287         }
288     }
289 }
290
```