```java
package e_commerce;

public class Product {

    protected String name;
    protected int productId;
    protected float price;

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

    public String getName() {
        return name;
    }

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

    public int getProductId() {
        return productId;
    }

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

    public float getPrice() {
        return price;
    }

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

```java
package e_commerce;

public class ElectronicProduct extends Product {

    private String brand;
    private int warrantyPeriod;

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

}
```

```java
package e_commerce;

public class ClothingProduct extends Product {

  private  String size;
  private  String fabric;

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

public class BookProduct extends Product {

    private  String author;
    private  String publisher;

      public BookProduct(String name, int productId, float price, String author, String publisher) {
          super(name, productId, 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 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;
    }

}
```

```java
package e_commerce;

public class Cart {

    private int customerId;
    private int nProducts;
     Product Products[];

    public Cart(int customerId, int nProducts) {
        this.customerId = Math.abs(customerId);
        this.nProducts = Math.abs(nProducts);
        this.Products = new Product[nProducts];
    }

    public int getCustomerId() {
        return customerId;
    }

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

    public int getnProducts() {
        return nProducts;
    }

    public void setnProduct(int nProduct) {
        this.nProducts = Math.abs(nProduct);
    }

    public void addProduct(Product p, int index) {
        if (Products[nProducts - 1] != null) {
            System.out.println("The cart is full.");
        } else {
            Products[index] = p;
        }
    }
}
```

```java
    public void removeProduct(int n) {
        if (n <= Products.length) {
            Products[n - 1] = null;
        } else {
            System.out.println("Invalid number.");
        }
    }

    public float CalculatePrice() {
        float sum = 0;
        for (int i = 0; i < Products.length; i++) {
            sum += Products[i].price;

        }
        return sum;

    }

    public boolean placeOrder(int x) {
        if (x == 1) {
            return true;
        } else {
            return false;
        }

    }

}
```

```java
package e_commerce;

public class Order {

    private int orderId;
    private int customerId;
    private float totalPrice;
     Product Products[];

    public Order(int customerId, int orderId, float totalPrice) {
        this.customerId = Math.abs(customerId);
        this.orderId = Math.abs(orderId);
        this.totalPrice = Math.abs(totalPrice);
    }

    public void printOrderInfo() {
        System.out.println("OrderId : " + orderId + "\nCustomer ID " + customerId + "\nProducts : ");
        for (int i = 0; i < Products.length; i++) {
            if (Products[i] == null) {
                continue;
            } else {
                System.out.println(Products[i].name + " - $" + Products[i].price);
            }
        }
        System.out.println("Total Price: $" + totalPrice);


    }
}
```

```java
package e_commerce;

import java.util.Scanner;

public class EcommerceSystem {

    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        ElectronicProduct p1 = new ElectronicProduct("smartPhone", 1, 599.99f, "Samsung", 1);
        ClothingProduct p2 = new ClothingProduct("T-shirt", 2, 19.99f, "Medium", "Cotton");
        BookProduct p3 = new BookProduct("OOP", 3, 39.99f, "O'Reilly", "X Publications");
        System.out.println("Welcome to the E-Commerce System!\nPlease enter your id");
        int id = Math.abs(in.nextInt());
        System.out.println("Please Enter your name");
        in.nextLine();
        String name = in.nextLine();
        System.out.println("Please Enter your address");
        String address = in.nextLine();
        Customer c1 = new Customer(id, name, address);
        System.out.println("How many Products you want to add to your cart?");
        int nproducts = in.nextInt();
        Cart ca = new Cart(id, nproducts);
        for (int i = 0; i < nproducts; i++) {
            System.out.println("Which product would you like to add ? 1- SmartPhone 2- T-Shirt 3- OOP");
            int option = in.nextInt();
            switch (option) {
                case 1:
                    ca.addProduct(p1, i);
                    break;
                case 2:
                    ca.addProduct(p2, i);
                    break;
                case 3:
                    ca.addProduct(p3, i);
                    break;
                default:
                    System.out.println("Invalid Number.");
        }}
```

```java
        System.out.println("Your total is $" + ca.CalculatePrice() + " Would you like to place the order? 1-Yese 2-No");
        int q = in.nextInt();
        if (ca.placeOrder(q)) {
            Order o1 = new Order(id, 1, ca.CalculatePrice());
            o1.Products = ca.Products;
            System.out.println("Here's your order's summary:");
            o1.printOrderInfo();
        } else {
            System.out.println("Your order is not placed.\nThank you.");
        }

    }

}
```

Welcome to the E-Commerce System!
Please enter your id
23010109
Please Enter your name
ziad mohammed husein
Please Enter your address
Alexandria aboQuir
How many Products you want to add to your cart?
4
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
Which product would you like to add ? 1- SmartPhone 2- T-Shirt 3- OOP
1
Your total is $679.95996 Would you like to place the order? 1-Yese 2-No
1
Here's your order's summary:
OrderId : 1
Customer ID 23010109
Products :
T-shirt - $19.99
OOP - $39.99
T-shirt - $19.99
smartPhone - $599.99
Total Price: $679.95996