```java
import java.util.Scanner;
public class EcommerceSystem {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
System.out.println("Welcome to the E-commerce System");
        Product p1 = new Product();

        ElectronicProduct e1 = new ElectronicProduct(1,"Smartphone", 599.9F,"Samsung",1);
        ClothingProduct c1 = new ClothingProduct(2,"T-shirt",19.99F,"Medium","Cotton");
       BookProduct b1 = new BookProduct(3,"OOP",39.99F,"O'Reilly","X Publications");

       System.out.println("Please Enter your id");
        int id = input.nextInt();

        System.out.println("Please Enter your name ");
        String name = input.next();

        System.out.println("Please Enter your address ");
        String ads = input.next();

        Customer cu1 = new Customer(id,name,ads);

        System.out.println("How many products you want to add ? ");
        int num = input.nextInt();
        Cart cart = new Cart(id,num);
        Order o1 = new Order(id,1);

        for (int k =0; k<num ; k++){
            System.out.println("Which product you Want to add ? 1-Smartphone 2- T-shirt 3- OOP");
            int IDofP = input.nextInt();
            if (IDofP == 1){
                cart.addProduct(e1,k);
            } else if (IDofP==2) {
                cart.addProduct(c1,k);
            } else if (IDofP == 3) {
                cart.addProduct(b1,k);
            }
            else {
                System.out.println("Invalid choise , please choose from given choises");           }
        }
        Order o2 = new Order(id , num , (float) cart.calculatePrice());
        System.out.println("Your total is $"+cart.calculatePrice()+".Would you like to place an
order?\t 1-Yes 2-No");
        int answer = input.nextInt();
        if (answer == 1){
            cart.placeOrder(1);
            o1.printOrderInfo();
            System.out.println("PRODUCTS:");
            for (int i = 0; i <num; i++) {
                System.out.println(cart.products[i].getName()+ "-$"+ cart.products[i].getPrice());
        }
        cart.calculatePrice();
        }
        else {
            System.out.println("THE ORDER IS CANCELED");
        }
    }
    }
```

```java
public class Product {
    private int productId;
    private String name;
    private float 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 float getPrice() {
        return price;
    }

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

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

    public Product() {
    }

}
```

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

    public ElectronicProduct() {
    }

    public ElectronicProduct(int productId, String name, float price, String brand, int
warrantyPeriod) {
        super(productId, name, price);
        this.brand = brand;
        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
public class BookProduct extends Product{
    private String author,publisher;

    public BookProduct() {
    }

    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;
    }
}
```

```java
public class ClothingProduct extends Product {
private String size,fabric;

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

    public ClothingProduct() {
    }

    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 Customer {
    int customerId;
    String name , address;

    public Customer() {
    }

    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;
    }
}
```

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

    public Cart() {
    }

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

    public int getnProducts() {
        return nProducts;
    }

    public void setnProducts(int nProducts) {
        this.nProducts = nProducts;
    }

    public int getCustomerId() {
        return customerId;
    }

    public void setCustomerId(int customerId) {
        this.customerId = customerId;
    }
    public void addProduct(Product s , int m){
        if (nProducts <= products.length) {
            products[m] = s;
        } else {
            System.out.println("Cart is full!");
        }
    }
public void removeproduct(Product product){
    for (int i = 0; i < nProducts; i++) {
        if (products[i] == product) {
            for (int j = i; j < nProducts - 1; j++) {
                products[j] = products[j + 1];
            }
            products[--nProducts] = null;
            break;
} else { System.out.println("Product not found in the cart!");}
    }
}
    public double calculatePrice() {
        double totalPrice = 0;
        for (int i = 0; i < nProducts; i++) {
            totalPrice += products[i].getPrice();
        }
        return totalPrice;
    }
    public Order placeOrder(int orderId) {
        return new Order(customerId,orderId, (float) calculatePrice());
    }

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


}
```

```
public class Order {
    int cusomerId;
    int orderId ;
    float totalPrice;
    int nProducts;
    Product [] products= new Product[nProducts];


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

    public Order(int cusomerId, int orderId) {
        this.cusomerId = cusomerId;
        this.orderId = orderId;
    }

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

    public void setProducts(Product products , int index) {
        if (index>=0){
            this.products[index]= products;
        }
    }

    public Order() {
    }
Cart C1 = new Cart();
    @Override
    public String toString() {
        return "Here's your Order" + "\n cusomerId=" + cusomerId + "\norderId=" + orderId + "\n
totalPrice="+totalPrice ;
    }

    public void printOrderInfo(){
       System.out.println("Here's your Order's summary :\ncusomerId=" + cusomerId + "\norderId="+
orderId);

    }
}
```

```
C:\Users\User\.jdks\openjdk-21.0.2\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2023.3.1\lib\idea_rt.jar=61031:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2023.3.1\bin" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -Dsun.stderr.encoding=UTF-8 -classpath C:\Users\User\IdeaProjects\EcommerceSystem\out\production\EcommerceSystem EcommerceSystem
Welcome to the E-commerce System
Please Enter your id
23011600
Please Enter your name
Nourhan
Please Enter your address
Alexandria
How many products you want to add ?
4
Which product you Want to add ? 1-Smartphone 2- T-shirt 3- OOP
3
Which product you Want to add ? 1-Smartphone 2- T-shirt 3- OOP
2
Which product you Want to add ? 1-Smartphone 2- T-shirt 3- OOP
1
Which product you Want to add ? 1-Smartphone 2- T-shirt 3- OOP
2
Your total is $679.8700256347656.Would you like to place an order?   1-Yes 2-No
1
Here's your Order's summary :
cusomerId=23011600
orderId=1
PRODUCTS:
OOP-$39.99
T-shirt-$19.99
Smartphone-$599.9
T-shirt-$19.99

Process finished with exit code 0
```