```java
import java.util.Scanner;
public class ECommerce {
    public static void main(String[] args) {
  Scanner input=new Scanner(System.in);
  ElectronicProduct p1 = new ElectronicProduct(1,"smartphone",599.9F,"samsung",1);
  ClothingProduct p2 =new ClothingProduct(2,"T-shirt",19.99F,"Medium","cotton");
  BookProduct p3 = new BookProduct(3,"OOP",39.99F,"O'Reilly","X publications");
        System.out.println("Welcome to Ecommerse system");
        Customer c1 = new Customer();
        System.out.println("please enter your name");
        String name=input.nextLine();
        c1.setName(name);
        System.out.println("please enter your id ");
        int id=input.nextInt();
        c1.setCustomerId(id);
        System.out.println("please enter your address");
        String address=input.next();
        input.nextLine();
        c1.setAddress(address);
        System.out.println("how many products you want to add");
        int nProducts = input.nextInt();
        Product[] products = new Product[nProducts];
        Cart cart = new Cart(nProducts, products, id);
        for (int i=0;i<nProducts;i++){
            System.out.println("which product would you like to add? 1-smartphone 2-tshirt 3
            int choice=input.nextInt();
            switch(choice){
                case 1:
                    cart.addProduct(p1,i);
                    break;
                case 2:
                    cart.addProduct(p2,i);
                    break;
                case 3:
                    cart.addProduct(p3,i);
                    break;
                default:
                    System.out.println("please choose among given choices");

            }
        }
        System.out.println("your total is "+cart.calculatePrice()+" would you like to place order? 1-yes 2-no");
        int choice2=input.nextInt();
        switch(choice2){

            case 1:
                cart.placeOrder();
                break;
            case 2:
                System.out.println("Order cancelled");
                break;
            default:
                System.out.println("Invalid");
                break;
        }


    }
}
```

```java
public class Product {
    protected int productId;
    protected String name;
    protected float price;

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


public void setProductId (int p){
  p=Math.abs(productId);
}
public int getProductId (){
    return productId;
}
public void setName (String n){
  n=name;
}
public String getName (){
    return name;
}
public void setPrice (float pr){
  pr=Math.abs(price);
}
public float getPrice (){
    return price;
}



}
```

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

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

    public void setBrand(String brand) {
        this.brand = brand;
    }

    public void setWarrantyPeriod(int warrantyPeriod) {
        this.warrantyPeriod = warrantyPeriod;
    }

    public String getBrand() {
        return brand;
    }

    public int getWarrantyPeriod() {
        return warrantyPeriod;
    }


}
public class ClothingProduct extends Product {
    private String size;
    private String fabric;
     public ClothingProduct(int id,String name,float price,String size,String fabric){
     super(id,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
public class BookProduct extends Product{
    String author;
    String publisher;
    public BookProduct(int id,String name,float price,String author,String publisher){
    super(id,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;
    }


}
public class Customer {
    private String name;
    private int id;
    private String address;

    public String getName() {
        return name;
    }

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

    public int getId() {
        return id;
    }

    public void setId(int id) {
        this.id = id;
    }

    public String getAddress() {
        return address;
    }

    public void setAddress(String address) {
        this.address = address;
    }
```

```java
public class Cart {
    private int OrderId;
    private int nProducts;
     Product[] products;
     public Cart(int nProducts){
         this.nProducts=Math.abs(nProducts);
         this.products=new Product[nProducts];
     }
     public void addProduct(Product newProduct,int index){
     if(index>=0&&index<products.length){
     this.products[index]=newProduct;}
     }
     public void removeProduct(Product removed){
     int newSize=products.length;
     for(int i=0;i<products.length;i++){
     if(products[i]==removed){
     newSize--;
     }
     else if(i<newSize){
     products[i]=products[i+1];
     }
     }
             }
     public float calculatrPrice(){
     float total=0;
     for(int i=0;i<products.length;i++){
     total+=products[i].getPrice();
     }
     return total;
     }
     public void placeOrder( ){
     OrderId++;
     System.out.println("order is placed");
     System.out.println("Total is "+ calculatrPrice());
             }
}
```

```java
public class Order {
    private int customerId;
    private int orderId;
    int nProducts;
    private float totalPrice=0;
    protected Product[] products;

    public Order(int customerId, int orderId, Product[] products, float totalPrice){
     this.customerId = customerId;
     this.orderId = orderId;
     this.products=products;
     this.totalPrice = totalPrice;

}

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

    public void setProducts(Product newProduct,int index) {
       if(index>=0 && index<products.length){
          this.products[index]=newProduct;
          totalPrice+=newProduct.getPrice();
       }
    }

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

```java
    public void PrintOrderInfo(){
        System.out.println("order id: "+orderId);
        System.out.println("customer id "+customerId);
        System.out.println("products: ");
        for (Product product : products){
            System.out.println(product.getName()+ "- $ " + product.getPrice());
        }
        System.out.println("total is "+totalPrice);
}
```

```
Welcome to Ecommerse system
please enter your name
Noureen Muhammed
please enter your id
23011602
please enter your address
green street
how many products you want to add
4
which product would you like to add? 1-smartphone 2-tshirt 3-OOP
2
which product would you like to add? 1-smartphone 2-tshirt 3-OOP
3
which product would you like to add? 1-smartphone 2-tshirt 3-OOP
2
which product would you like to add? 1-smartphone 2-tshirt 3-OOP
1
your total is 679.87 would you like to place order? 1-yes 2-no
1
order id: 1
customer id 23011602
products:
T-shirt- $ 19.99
OOP- $ 39.99
T-shirt- $ 19.99
smartphone- $ 599.9
total is 679.87
```