```java
package com.mycompany.e.commerce;
import java.util.*;

public class ECommerce {

public static void main(String[] args) throws Exception {
Scanner input = new Scanner(source: System.in);

ElectronicProduct smartphone = new ElectronicProduct();
smartphone.setName(name: "smartphone");
smartphone.setProductId(productId: 1);
smartphone.setPrice(price: 599.9);
smartphone.setBrand(brand: "Samsung");
smartphone.setWarrantyPeriod(warrantyPeriod: 1);

ClothingProduct shirt = new ClothingProduct();
shirt.setName(name: "T-Shirt");
shirt.setProductId(productId: 2);
shirt.setPrice((float) 19.99);
shirt.setSize(size: "Medium");
shirt.setFabric(fabric: "Cotton");

BookProduct b=new  BookProduct();
b.setName(name: "OOP");
b.setProductId(productId: 3);
b.setPrice((float) 39.99);
b.setAuthor(author: "O'Reilly");
b.setPubliaher(publiaher: "Publications");


System.out.println(x: "Welcome to the E-Commerce system!");
System.out.println(x: "please enter your id: ");
int id = input.nextInt();
System.out.println(x: "please enter your name: ");
input.nextLine();
String Name = input.nextLine();
System.out.println(x: "please enter your Adress: ");
String Adress =input.nextLine();

System.out.println(x: "How many products you want to add to your cart ? ");
int p = input.nextInt();
```

```
Customer c = new Customer();
c.setName (name: Name);
c.setCustomerId(customerId: id);
c.setAddress(adress: Adress);

Cart k = new Cart();
k.setCustomerId(customerId: id);
k.setnProducts(nProducts: p);

for (int x = 0; x <p; x++) {
System.out.println(x: "Which product would you like to add? 1-Smartphone 2- T-Shirt 3- OOP");
int y =input.nextInt();
if (y==1) {
k.addProduct(prod: smartphone);
}else if(y == 2){
   k.addProduct(prod: shirt);
}else if(y == 3){
    k.addProduct(prod: b);
}else{
    System.out.println(x: "Wrong input!!");
}
}


System.out.println("Your total price is: " + k.calculatePrice()+  ". Would you like to place the order? 1- Yes 2- No");
int i = input.nextInt();
if (i == 1) {
k.placeOrder();
} else if (i == 2) {
k.removeProducts();
} else {
System.out.println(x: "wrong input");
return;
}
 }
  }
```

```java
public class Product {
    private int productId;
    private String name;
    private double price;

    public int getProductId() {
        return productId;
    }

    public void setProductId(int productId) {
        this.productId = Math.abs(a: 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 = Math.abs(a: price);
    }
```

```java
public class ElectronicProduct extends Product{
    private String brand;
    private int 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( a: warrantyPeriod);
    }


}
```

```java
public class ClothingProduct extends Product {
    private String size;
    private String 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 {
    private String author;
    private String publiaher;

    public String getAuthor() {
        return author;
    }

    public void setAuthor(String author) {
        this.author = author;
    }

    public String getPubliaher() {
        return publiaher;
    }

    public void setPubliaher(String publiaher) {
        this.publiaher = publiaher;
    }

}
```

```java
public class Customer {
    private String name;
    private String adress;
    private int customerId;

    public String getName() {
        return name;
    }

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

    public String getAddress() {
        return adress;
    }

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

    public int getCustomerId() {
        return customerId;
    }

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

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

    public Cart(){
    }

    public int getCustomerId() {
        return customerId;
    }

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

    public int getnProducts() {
        return nProducts;
    }

    public void setnProducts(int nProducts) {
          this.nProducts = nProducts;
        products = new Product[nProducts];

    }

    public void addProduct(Product prod){
        for(int i =0; i < nProducts ;i++){
            if(products[i] == null){
            products[i] = prod ;
            System.out.println(x: "Product added. ");
            return;
            }
        }
    }

    public void removeProducts (){
        for(int i =0; i < nProducts ;i++){
             products[i] = null;
        }
    }
```

```
public double calculatePrice (){
    double totalPrice = 0.0 ;
    for(int i = 0 ; i <nProducts ; i++){
        if (products[i] != null){
            totalPrice += products[i].getPrice();
        }
    }
    return totalPrice;
}
public void placeOrder(){
    Order order1 = new Order(customerId, orderId: 1 , products , totalPrice:calculatePrice());
    order1.printOrderInfo();
}

}
```

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

    public Order(int customerId, int orderId,  Product[] products , double totalPrice) {
        this.customerId = customerId;
        this.orderId = orderId;
        this.products = products;
        this.totalPrice = totalPrice;
    }
    public void printOrderInfo(){
        System.out.println(x: "Here is your order summary : ");
        System.out.println("Order ID : " + orderId);
        System.out.println("Customer ID" + customerId);
        System.out.println(x: "Products: ");
        for(Product p : products){
            System.out.println("  "+ p.getName() + " - $"+p.getPrice());
        }
        System.out.println("Total price: "+totalPrice);
    }
}
```

```
Welcome to the E-Commerce system!
please enter your id:
23012192
please enter your name:
ziad magdy gaber
please enter your Adress:
alex
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
Product added.
Which product would you like to add? 1-Smartphone 2- T-Shirt 3- OOP
3
Product added.
Which product would you like to add? 1-Smartphone 2- T-Shirt 3- OOP
2
Product added.
Which product would you like to add? 1-Smartphone 2- T-Shirt 3- OOP
1
Product added.
Your total price is: 679.8700012207031. Would you like to place the order? 1- Yes 2- No
1
Here is your order summary :
Order ID : 1
Customer ID23012192
Products:
  T-Shirt - $19.989999771118164
  OOP - $39.9900016784668
  T-Shirt - $19.989999771118164
  smartphone - $599.9
Total price: 679.8700012207031
------------------------------------------------------------------------
BUILD SUCCESS
```