EcommerceSystem.java | Product.java | ElectronicProduct.java | ClothingProduct.java | BookProduct.java | Customer.java | Cart.java | Order.java

```java
import java.util.Scanner;
new *
public class EcommerceSystem {
    new *
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        Product p = new Product();
        Order order = new Order();
        Cart cart = new Cart();
        Customer cust = new Customer();
        order.setOrderID(1);

        ElectronicProduct EP = new ElectronicProduct( name: "SmartPhone" , ID: 1 , price: 599.9f, brand: "Samsung" , WarrantyPeriod: 1);
        ClothingProduct CP = new ClothingProduct( name: "T-shirt" , ID: 2, price: 19.99f, size: "Medium" , fabric: "Cotton");
        BookProduct BP = new BookProduct( name: "OOP" , ID: 3 , price: 39.99f, author: "O'Reilly" , publisher: "X Publications");

        System.out.println("Welcome to the E-commerce System! \nPlease enter your ID");
        int ID = in.nextInt();
        cust.setCustomerID(ID);
        System.out.println("Please enter your name");
        String name = in.next();
        cust.setName(name);
        System.out.println("Please enter your address");
        String address = in.next();
        cust.setAddress(address);

        System.out.println("How many products you want to add to your cart?");
        int nProducts = in.nextInt();
        cart.setNProducts(nProducts);


        for (int i = 0; i < cart.getNProducts() ; i++) {
            System.out.println("Which product would you like to add? 1.Smartphone  2.T-shirt  3.OOP");
            int select = in.nextInt();

            /* switch (select) {
                 case 1 : cart.addProduct(EP,i);
                     break;
                 case 2 : cart.addProduct(CP,i);
                     break;
                 case 3 : cart.addProduct(BP,i);
                     break;
                 default:
```

```
            if (select == 1) {
                cart.addProduct(EP, i);
            }else if (select == 2) {
                cart.addProduct(CP,i);
            }else if (select == 3) {
                cart.addProduct(BP,i);
            }else {
                System.out.println("Invalid response!");
            }
        }

        System.out.println("Your total is $" + cart.calculatePrice() +"\nDo you want to place an order?  1.Yes  2.No");
        int placeOrder = in.nextInt();
        if (placeOrder == 1) {
            System.out.println("Here's your order's summary:");
            System.out.println("Order ID: " + order.getOrderId());
            System.out.println("Customer ID: " + cust.getCustomerID());
            System.out.println("Products:\n ");
            cart.placeOrder();
            System.out.println("Total price: $" + cart.calculatePrice());


        } else if (placeOrder == 2) {
            System.out.println("Thank you for your time!");
        } else {
            System.out.println("Invalid response!");
             }
    }
}

```

EcommerceSystem.java | Product.java | ElectronicProduct.java | ClothingProduct.java | BookProduct.java | Customer.java | Cart.java | Order.java

```java
10 usages  3 inheritors
public class Product {
    5 usages
    protected int productID;
    6 usages
    protected String Name;
    5 usages
    protected float Price;
    no usages
    public void setID(int ID){
        if(ID < 0){
            ID = Math.abs(ID);
        }
        this.productID = ID;
    }
    no usages
    public void setName(String n) { this.Name = n; }
    no usages
    public void setPrice(float price){
        if (price < 0){
            price = Math.abs(price);
        }
        Price = price;
    }
    no usages
    public int getID () { return productID; }
    public String getName() { return Name; }
    1 usage
    public float getPrice() { return Price; }
}
```

EcommerceSystem.java | Product.java | ElectronicProduct.java × | ClothingProduct.java | BookProduct.java | Customer.java | Cart.java

```java
2 usages  new *
public class ElectronicProduct extends Product {
    3 usages
    String Brand;
    3 usages
    int warrantyPeriod;
    1 usage  new *
    public ElectronicProduct (String name, int ID, float price, String brand , int WarrantyPeriod){
        Name = name;
        productID = ID;
        Price = price;
        Brand = brand;
        warrantyPeriod = WarrantyPeriod;
    }
    no usages  new *
    public void setBrand(String b) { this.Brand = b; }
    no usages  new *
    public void setWarrantyPeriod(int WP){
        if (WP < 0){
            WP = Math.abs(WP);
        }
        this.warrantyPeriod = WP;
    }
    no usages  new *
    public String getBrand() { return Brand; }
    no usages  new *
    public int getWarrantyPeriod() { return warrantyPeriod; }
}
```

EcommerceSystem.java | Product.java | ElectronicProduct.java | ClothingProduct.java | BookProduct.java | Customer.java | Cart.java

```java
2 usages  new *
public class BookProduct extends Product {
    3 usages
    String Author;
    3 usages
    String Publisher;
    1 usage  new *
    public BookProduct (String name, int ID, float price, String author , String publisher) {
        Name = name;
        productID = ID;
        Price = price;
        Author = author;
        Publisher = publisher;
    }
    no usages  new *
    public void setAuthor (String a){
        this.Author = a;
    }
    no usages  new *
    public String getAuthor(){
        return Author;
    }
    no usages  new *
    public void setPublisher (String p){
        this.Publisher = p;
    }
    no usages  new *
    public String getPublisher(){
        return Publisher;
    }
}
```

EcommerceSystem.java | Product.java | ElectronicProduct.java | ClothingProduct.java × | BookProduct.java | Customer.java | Cart.java

```java
2 usages  new *
public class ClothingProduct extends Product {
    3 usages
    String Size;
    3 usages
    String Fabric;
    1 usage  new *
    public ClothingProduct (String name, int ID, float price, String size , String fabric) {
        Name = name;
        productID = ID;
        Price = price;
        Size = size;
        Fabric = fabric;
    }
    no usages  new *
    public void setSize (String s){
        this.Size = s;
    }
    no usages  new *
    public void setFabric (String f){
        this.Fabric = f;
    }
    no usages  new *
    public String getSize(){
        return Size;
    }
    no usages  new *
    public String getFabric(){
        return Fabric;
    }
}
```

EcommerceSystem.java | Product.java | ElectronicProduct.java | ClothingProduct.java | BookProduct.java | Customer.java | Cart.java

```java
2 usages  new *
public class Customer {
    2 usages
    int customerID;
    2 usages
    String Name;
    2 usages
    String Address;
    1 usage  new *
    public void setCustomerID(int ID){
        if(ID < 0){
            ID = Math.abs(ID);
        }
        this.customerID = ID;
    }
    1 usage  new *
    public int getCustomerID() { return customerID; }
    1 usage  new *
    public void setName (String n) { this.Name = n; }
    new *
    public String getName() { return Name; }
    1 usage  new *
    public void setAddress (String add) { this.Address = add; }
    no usages  new *
    public String getAddress() { return Address; }
}
```

```java
2 usages  new *
public class Cart {
    2 usages
    int customerID;
    3 usages
    int nProducts;
    10 usages
    Product[] object;
    no usages  new *
    public void setCustomerID(int id) {
        if (id < 0) {
            id = Math.abs(id);
        }
        this.customerID = id;
    }

    no usages  new *
    public int getCustomerId() { return customerID; }

    1 usage  new *
    public void setNProducts(int np) {
        if (np < 0) {
            np = Math.abs(np);
        }
        this.nProducts = np;
        this.object = new Product[np];
    }

    1 usage  new *
    public int getNProducts() {
        return nProducts;
    }
    3 usages  new *
    public void addProduct(Product pdt, int index) {
        if(index >= 0 && index < object.length){
            object[index] = pdt;
        }else System.out.println("The cart is full");
    }

    no usages  new *
    public void removeProduct(Product a) {
        for (int i = 0; i < nProducts; i++) {
            if (object[i] != null && object[i].equals(a)) {
```

```java
    no usages  new *
    public void removeProduct(Product a) {
        for (int i = 0; i < nProducts; i++) {
            if (object[i] != null && object[i].equals(a)) {
                object[i] = null;
                break;
            }
        }
    }

    2 usages  new *
    public float calculatePrice() {
        float totalPrice = 0.0f;
        for(int i = 0; i < object.length; i++) {
            if (object[i] != null) {
                totalPrice += object[i].getPrice();
            }
        }
        return totalPrice;
    }

    1 usage  new *
    public void placeOrder() {
        for (Product product : object) {
            System.out.println(product.Name);
        }
    }
}
```

EcommerceSystem.java | Product.java | ElectronicProduct.java | ClothingProduct.java | BookProduct.java | Customer.java | Cart.java

```java
import java.util.Arrays;
2 usages  new *
public class Order {
    2 usages
    int customerID;
    2 usages
    int orderID;
    3 usages
    float totalPrice;

    no usages  new *
    public void setCustomerID(int cID) {
        if (cID < 0) {
            cID = Math.abs(cID);
        }
        this.customerID = cID;
    }

    no usages  new *
    public float getCustomerID() {
        return customerID;
    }

    1 usage  new *
    public void setOrderID(int oID) {
        if (oID < 0) {
            oID = Math.abs(oID);
        }
        this.orderID = oID;
    }

    1 usage  new *
    public float getOrderId() { return orderID; }

    no usages  new *
    public void setTotalPrice(float total) {
        this.totalPrice = total;
    }

    no usages  new *
    public float getTotalPrice() {
        return totalPrice;
    }
```

```java
    int customerID;
    2 usages
    int orderID;
    3 usages
    float totalPrice;

    no usages  new *
    public void setCustomerID(int cID) {
        if (cID < 0) {
            cID = Math.abs(cID);
        }
        this.customerID = cID;
    }

    no usages  new *
    public float getCustomerID() {
        return customerID;
    }

    1 usage  new *
    public void setOrderID(int oID) {
        if (oID < 0) {
            oID = Math.abs(oID);
        }
        this.orderID = oID;
    }

    1 usage  new *
    public float getOrderId() { return orderID; }

    no usages  new *
    public void setTotalPrice(float total) {
        this.totalPrice = total;
    }

    no usages  new *
    public float getTotalPrice() {
        return totalPrice;
    }

    no usages  new *
    public float printOrderInfo() { return totalPrice; }
}
```

```
"C:\Program Files\Java\jdk-19\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.1.1\lib\idea_rt.jar=53735:C:\Program Fi
Welcome to the E-commerce System!
Please enter your ID
23011070
Please enter your name
HaneenTarek
Please enter your address
haneenembabe@gmail.com
How many products you want to add to your cart?
3
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
3
Your total is $659.88
Do you want to place an order?  1.Yes  2.No
1
Here's your order's summary:
Order ID: 1.0
Customer ID: 23011070
Products:

SmartPhone
T-shirt
OOP
Total price: $659.88

Process finished with exit code 0
```