

```

5 package ecommercesystem;
6 import java.util.Scanner;
7 public class EcommerceSystem {
8
9     public static void main(String[] args) {
10
11         Scanner input = new Scanner(System.in);
12         ElectronicProduct electprod = new ElectronicProduct(1, "smartphone", 599.99F, "Samsung", 1);
13         ClothingProduct clothprod = new ClothingProduct(2, "T-shirt", 19.99F, "Medium", "Cotton");
14         BookProduct bookprod = new BookProduct(3, "OOP", 39.99F, "O'Reilly", "X Publication");
15         System.out.println("Welcome to my E-commerce System!");
16         System.out.println("please enter your ID: ");
17         int cId = input.nextInt();
18         System.out.println("please enter your name: ");
19         String cName = input.next();
20         System.out.println("please enter your address ");
21         String cAddress = input.next();
22         Customer customer = new Customer(cId, cName, cAddress);
23         System.out.println("How many products you want to add to your cart?");
24         int nProducts = input.nextInt();
25         Cart cart = new Cart(customer.getCustomerId(), nProducts);
26         for (int i = 0; i < nProducts; i++) {
27             System.out.println("Which product would you like to add? 1-Smartphone 2- T-shirt 3- OOP ");
28             int type = input.nextInt();
29             switch (type) {
30                 case 1 -> cart.addProduct(electprod);
31                 case 2 -> cart.addProduct(clothprod);
32                 case 3 -> cart.addProduct(bookprod);
33                 default -> System.out.println("invalid product type");
34             }
35         }
36         cart.placeOrder();
37     }
38
39 }
40

```

```
5 package ecommerceSystem;
6
7
8 public class Product {
9     private int productId;
10    private String name;
11    private float price;
12
13    public Product() {}
14
15    public Product(int productId , String name , float price){
16        this.productId = Math.abs(productId);
17        this.name = name;
18        this.price = Math.abs(price); }
19
20    public void setProductId(int productId){
21        this.productId = Math.abs(productId); }
22
23    public int getProductId(){
24        return productId; }
25
26    public void setName(String name){
27        this.name = name; }
28
29    public String getName(){
30        return name; }
31
32    public void setPrice(float price){
33        this.price = Math.abs(price); }
34
35    public float getPrice(){
36        return price; }
37 }
```

```
5 package ecommerceSystem;
6
7 public class ElectronicProduct extends Product {
8
9     private String brand;
10    private int warrantyPeriod;
11
12    public ElectronicProduct() {}
13
14    public ElectronicProduct(int productId , String name , float price , String brand , int warrantyPeriod){
15        super(productId, name, price);
16        this.brand = brand;
17        this.warrantyPeriod = Math.abs(warrantyPeriod);
18    }
19
20    public void setBrand(String brand){
21        this.brand = brand; }
22
23    public String getBrand(){
24        return brand; }
25
26    public void setWarrantyPeriod(int warrantyPeriod){
27        this.warrantyPeriod = Math.abs(warrantyPeriod); }
28
29    public int getWarrantyPeriod(){
30        return warrantyPeriod; }
31
32 }
33
```

```
5 package ecommerceSystem;
6
7 public class ClothingProduct extends Product {
8
9     private String size;
10    private String fabric;
11
12    public ClothingProduct(){}
13
14    public ClothingProduct(int productId , String name , float price , String size , String fabric){
15        super(productId, name, price);
16        this.size = size;
17        this.fabric = fabric;
18    }
19
20    public void setSize(String size){
21        this.size = size; }
22
23    public String getSize(){
24        return size; }
25
26    public void setFabric(String fabric){
27        this.fabric = fabric; }
28
29    public String getFabric(){
30        return fabric; }
31 }
32
```



```
5 package ecommerceSystem;
6
7 public class BookProduct extends Product {
8
9     private String author;
10    private String publisher;
11
12    public BookProduct() {}
13
14    public BookProduct(int productId , String name , float price , String author , String publisher){
15        super(productId, name, price);
16        this.author = author;
17        this.publisher = publisher;
18    }
19
20    public void setAuthor(String author){
21        this.author = author; }
22
23    public String getAuthor(){
24        return author; }
25
26    public void setPublisher(String publisher){
27        this.publisher = publisher; }
28
29    public String getPublisher(){
30        return publisher; }
31 }
```

```
5 package ecommerceSystem;
6
7 public class Customer {
8
9     private int customerId;
10    private String name;
11    private String address;
12
13    public Customer() {}
14
15    public Customer(int customerId , String name , String address){
16        this.customerId = Math.abs(customerId);
17        this.name = name;
18        this.address = address;
19    }
20
21    public void setCustomerId(int customerId){
22        this.customerId = Math.abs(customerId); }
23
24    public int getCustomerId(){
25        return customerId; }
26
27    public void setName(String name){
28        this.name = name; }
29
30    public String getName(){
31        return name; }
32
33    public void setAddress(String address){
34        this.address = address; }
35
36    public String getAddress(){
37        return address; }
38
39 }
```

```
5 package ecommerceSystem;
6
7
8 public class Order {
9
10     int customerId;
11     int orderId;
12     Product[] products;
13     float totalPrice;
14
15     public Order() {}
16
17     public Order(int customerId, int orderId, Product[] products, float totalPrice) {
18         this.customerId = customerId;
19         this.orderId = orderId;
20         this.products = products;
21         this.totalPrice = totalPrice;
22     }
23
24     public void printOrderInfo() {
25         System.out.println("Customer ID: " + customerId);
26         System.out.println("Order ID: " + orderId);
27
28         if (products.length == 0) {
29             System.out.println("There are no products in the cart");
30         }
31         else {
32             System.out.println("Products: ");
33             for (Product product : products) {
34                 System.out.println(product.getName() + " --> " + product.getPrice() + "$");
35             }
36         }
37         System.out.println("Total price: " + totalPrice + "$");
38     }
39 }
40
```

```
5 package ecommerceSystem;
6 import java.util.Scanner;
7 import java.util.Random;
8 public class Cart {
9     Scanner input= new Scanner(System.in);
10
11     private int customerId;
12     private int nProduct;
13     protected Product[]products;
14     private Random rand = new Random();
15
16     public Cart(){}
17
18     public Cart(int customerId , int nProduct){
19         this.customerId = Math.abs(customerId);
20         this.nProduct = Math.abs(nProduct);
21         this.products = new Product[nProduct]; }
22
23     public void setCustomerId(int customerId){
24         this.customerId = Math.abs(customerId); }
25
26     public int getCustomerId(){
27         return customerId; }
28
29     public void setNproduct(int nProduct){
30         this.nProduct = Math.abs(nProduct); }
31
32     public int getNproduct(){
33         return nProduct; }
```



```

35 public void addProduct(Product newP){
36     for(int i=0; i< products.length; i++){
37         if(products[i]==null){
38             products[i]=newP;
39             return;
40         }}
41     }
42
43 public void removeProduct(Product pToRemove){
44     int indexToRemove = -1;
45     Product[]newProducts = new Product[nProduct-1];
46     for(int i=0; i< products.length; i++){
47         if (products[i] == pToRemove) {
48             indexToRemove=i;
49             break;}
50     }
51     if(indexToRemove != -1){
52         for(int i=0,j=0; i<products.length; i++){
53             if(i!= indexToRemove){
54                 newProducts[j]= products[i];
55                 j++;}}
56         System.out.println(pToRemove.getName()+" is removed from the cart");
57     }
58
59     else
60         System.out.println("Product not found in the cart.");
61
62     if(indexToRemove != -1){
63         for(int i=0; i<newProducts.length; i++){
64             products[i]=newProducts[i];}
65     }
66 }

```

```
68 public float calculateTotalPrice() {
69     float totalPrice = 0;
70     for (int i = 0; i < nProduct; i++) {
71         totalPrice += products[i].getPrice();
72     }
73     return totalPrice; }
74
75 public Order placeOrder() {
76     System.out.println("Would you like to place the order? (1=yes, 2=no)");
77     int choice = input.nextInt();
78     switch(choice) {
79         case 1 -> {
80             Order order = new Order(customerId, rand.nextInt(10000), products, calculateTotalPrice());
81             System.out.println("Order placed successfully!");
82             order.printOrderInfo();
83             return order;
84         }
85         case 2 -> {
86             System.out.println("Order canceled.");
87             return null;
88         }
89         default -> {
90             System.out.println("Invalid choice.");
91             return null;
92         }
93     }
94 }
95
```

```

9 public static void main(String[] args) {
10
11     Scanner input = new Scanner(System.in);
12     ElectronicProduct electprod = new ElectronicProduct(1, "smartphone", 599.99F, "Samsung", 1);
13     ClothingProduct clothprod = new ClothingProduct(2, "T-shirt", 19.99F, "Medium", "Cotton");
14     BookProduct bookprod = new BookProduct(3, "OOP", 39.99F, "O'Reilly", "X Publication");
15     System.out.println("Welcome to my E-commerce System!");

```

Output - EcommerceSystem (run)

```

run:
Welcome to my E-commerce System!
please enter your ID:
23012138
please enter your name:
Ganna
please enter your address
Smouha
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
1
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
3
Would you like to place the order? (1=yes, 2=no)
1
Order placed successfully!
Customer ID: 23012138
Order ID: 1141
Products:
smartphone --> 599.99$
OOP --> 39.99$
T-shirt --> 19.99$
OOP --> 39.99$
Total price: 699.95996$
BUILD SUCCESSFUL (total time: 39 seconds)

```