

```
1 package ecommercesystem;
2 public class Product {
3     protected int productId;
4     protected String name;
5     protected double price;
6     public Product() {}
7     public Product(int productId, String name, double price) {
8         this.productId = Math.abs(productId);
9         this.name = name;
10        this.price = Math.abs(price);
11    }
12    public void setProductId(int productId) {
13        this.productId = Math.abs(productId);
14    }
15    public int getProductId() {
16        return productId;
17    }
18    public void setName(String name) {
19        this.name = name;
20    }
21    public String getName() {
22        return name;
23    }
24    public void setPrice(double price) {
25        this.price = Math.abs(price);
26    }
27    public double getPrice() {
28        return price;
29    }
30 }
```

```
1  package ecommerceSystem;
2
3  public class ElectronicProduct extends Product{
4      protected String brand;
5      protected int warrantyPeriod;
6
7      public ElectronicProduct() {}
8
9      public ElectronicProduct(int productId, String name, double price, String brand, int warrantyPeriod) {
10         super(productId, name, price);
11         this.brand = brand;
12         this.warrantyPeriod = Math.abs(warrantyPeriod);
13     }
14
15     public void setBrand(String brand) {
16         this.brand = brand;
17     }
18
19     public String getBrand() {
20         return brand;
21     }
22
23     public void setWarrantyPeriod(int warrantyPeriod) {
24         this.warrantyPeriod = Math.abs(warrantyPeriod);
25     }
26
27     public int getWarrantyPeriod() {
28         return warrantyPeriod;
29     }
30 }
```

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

Source History

```
1 package ecommerceSystem;
2
3 public class ClothingProduct extends Product{
4     protected String size;
5     protected String fabric;
6     public ClothingProduct() {}
7     public ClothingProduct(int productId, String name, double price, String size, String fabric) {
8         super(productId, name, price);
9         this.size=size;
10        this.fabric=fabric;
11    }
12    public void setSize(String size) {
13        this.size = size;
14    }
15    public String getSize() {
16        return size;
17    }
18    public void setFabric(String fabric) {
19        this.fabric = fabric;
20    }
21    public String getFabric() {
22        return fabric;
23    }
24 }
```

```
1  package ecommerceSystem;
2
3  public class BookProduct extends Product {
4      protected String author;
5      protected String publisher;
6      public BookProduct() {}
7      public BookProduct(int productId, String name, double price, String author, String publisher) {
8          super(productId, name, price);
9          this.author=author;
10         this.publisher=publisher;
11     }
12     public void setAuthor(String author) {
13         this.author = author;
14     }
15     public String getAuthor() {
16         return author;
17     }
18     public void setPublisher(String publisher) {
19         this.publisher = publisher;
20     }
21     public String getPublisher() {
22         return publisher;
23     }
24 }
```

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

Source History

```
1 package ecommerceSystem;
2 public class Customer extends Product {
3     protected int customerId;
4     protected String name;
5     protected String address;
6     public Customer() {}
7     public Customer(int customerId, String name, String address) {
8         this.customerId=customerId;
9         this.name=name;
10        this.address=address; }
11    public void setCustomerId(int customerId) {
12        this.customerId = Math.abs(customerId);
13    }
14    public int getCustomerId() {
15        return customerId;
16    }
17    @Override
18    public void setName(String name) {
19        this.name = name;
20    }
21    @Override
22    public String getName() {
23        return name;
24    }
25    public void setAddress(String address) {
26        this.address = address;
27    }
28    public String getAddress() {
29        return address;
30    }
31 }
```

```
1 package ecommerceSystem;
2 public class Cart extends Product {
3     protected int customerId;
4     protected int nProducts;
5     protected Product[] products;
6     public Cart() {}
7     public Cart(int customerId, int nProducts) {
8         this.customerId = Math.abs(customerId);
9         this.nProducts = Math.abs(nProducts);
10        this.products = new Product[nProducts];
11    }
12    public int getCustomerId() {
13        return customerId;
14    }
15    public void setCustomerId(int customerId) {
16        this.customerId = customerId;
17    }
18    public int getnProducts() {
19        return nProducts;
20    }
21    public void setnProducts(int nProducts) {
22        this.nProducts = nProducts;
23    }
24    public Product[] getProducts() {
25        return products;
26    }
27    public void setProducts(Product[] products) {
28        this.products = products;
29    }
```



```
30 public void addProduct(Product product, int index) {
31     if (index >= 0 && index < nProducts) {
32         products[index] = product;
33     }
34 }
35 public void removeProduct(int index) {
36     if (index >= 0 && index < nProducts) {
37         products[index] = null;
38     }
39 }
40 public float calculatePrice() {
41     float totalPrice = 0;
42     for (Product product : products) {
43         if (product != null) {
44             totalPrice += product.getPrice();
45         }
46     }
47     return totalPrice;
48 }
49 }
```

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

Source History


```
1 package ecommerceSystem;
2 public class Order extends Product {
3     protected int customerId;
4     protected int orderId;
5     protected Product[] products;
6     protected float totalPrice;
7     public Order(int customerId, int orderId, Product[] products) {
8         this.customerId = Math.abs(customerId);
9         this.orderId = Math.abs(orderId);
10        this.products = products;
11        this.totalPrice = calculateTotalPrice(); }
12    private float calculateTotalPrice() {
13        float totalPrice = 0;
14        for (Product product : products) {
15            if (product != null) {
16                totalPrice += product.getPrice(); }
17        }
18        return totalPrice;
19    }
20    public void printOrderInfo() {
21        System.out.println("Order ID: " + orderId);
22        System.out.println("Customer ID: " + customerId);
23        System.out.println("Products:");
24        for (Product product : products) {
25            if (product != null) {
26                System.out.println(product.getName() + " - $" + product.getPrice()); }
27        }
28        System.out.println("Total Price: $" + totalPrice);
29    }}
```



```
1 package ecommercesystem;
2
3 import java.util.Scanner;
4
5 public class EcommerceSystem {
6     public static void main(String[] args) {
7         Scanner input = new Scanner(System.in);
8         System.out.println("welcome to the E-commerce system!");
9         System.out.println("please enter your id:");
10        int customerId = input.nextInt();
11        input.nextLine();
12        System.out.println("please enter your name:");
13        String name = input.nextLine();
14        System.out.println("please enter your address:");
15        String address = input.nextLine();
16
17        Customer customer1 = new Customer(customerId, name, address);
18
19        ElectronicProduct electronicProduct1 = new ElectronicProduct(1, "smartphone", 599.9f, "Apple", 1);
20        ClothingProduct clothingProduct1 = new ClothingProduct(2, "T-shirt", 19.99f, "large", "Cotton");
21        BookProduct bookProduct1 = new BookProduct(3, "OOP", 39.99f, "O'Reilly", "X Publications");
22
23        System.out.println("How many products do you want to add to your cart?");
24        int numProducts = input.nextInt();
25        Cart cart1 = new Cart(customer1.getCustomerId(), numProducts);
26
27        for (int i = 0; i < numProducts; i++) {
28            System.out.println("Which product would you like to add? (1 - Smartphone, 2 - T-shirt, 3 - OOP)");
29            int choice = input.nextInt();
```

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

Source History



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```
switch (choice) {
    case 1:
        cart1.addProduct(electronicProduct1, i);
        break;
    case 2:
        cart1.addProduct(clothingProduct1, i);
        break;
    case 3:
        cart1.addProduct(bookProduct1, i);
        break;
    default:
        System.out.println("Invalid choice!");
}

float totalPrice = cart1.calculatePrice();
System.out.println("Your total is $" + totalPrice + ". Would you like to place the order? 1 - yes, 2 - no");
int placeOrderChoice = input.nextInt();
if (placeOrderChoice == 1) {
    Order order1 = new Order(customer1.getCustomerId(), 1, cart1.getProducts());
    System.out.println("Here is your order summary:");
    order1.printOrderInfo();
} else {
    System.out.println("Order not placed.");
}
```

Output - Run (EcommerceSystem) X

```
--- exec:3.1.0:exec (default-cli) @ EcommerceSystem ---
welcome to the E-commerce system!
please enter your id:
23011582
please enter your name:
Nada Ahmed
please enter your address:
adress
How many products do you want to add to your cart?
4
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
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)
1
Your total is $679.87. Would you like to place the order? 1 - yes, 2 - no
1
Here is your order summary:
Order ID: 1
Customer ID: 23011582
Products:
T-shirt - $19.989999771118164
OOP - $39.9900016784668
T-shirt - $19.989999771118164
smartphone - $599.9000244140625
Total Price: $679.87
-----
BUILD SUCCESS
-----
Total time: 44.742 s
Finished at: 2024-04-20T08:39:57+02:00
-----
```