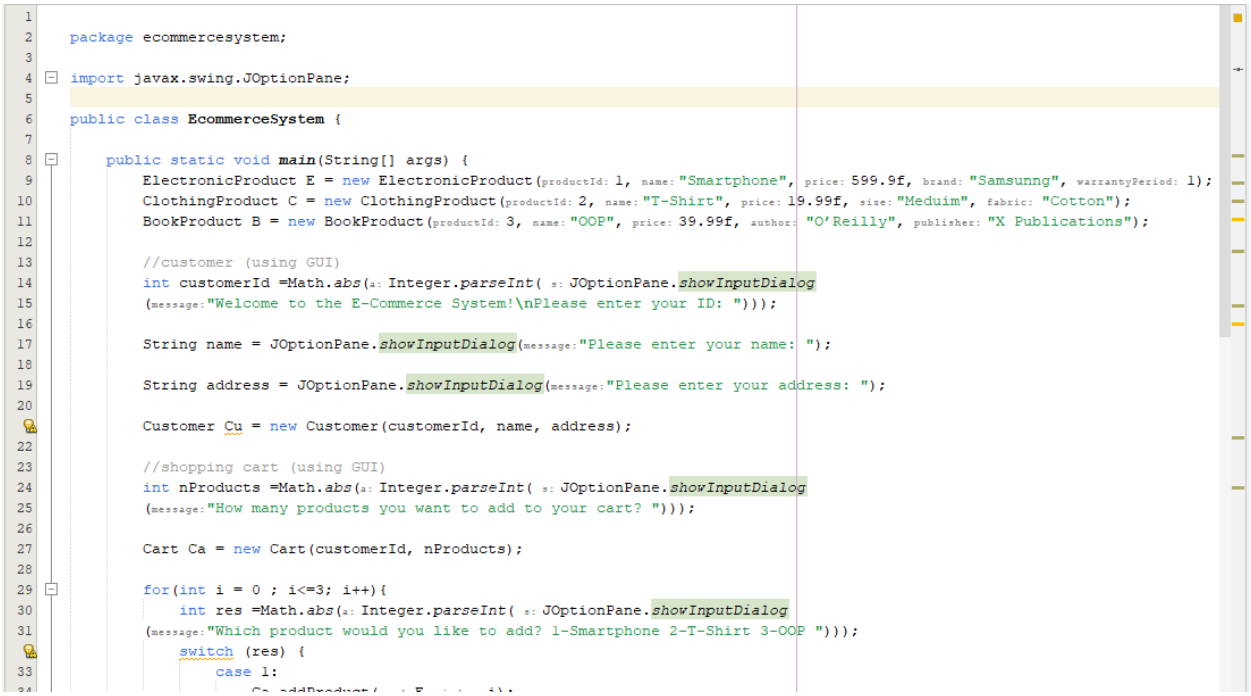
Java Project 1

Name: حبيبه حمدي عزت عبدالجواد علي

ID: 23011250

Main class:



```
package ecommercesystem;

import javax.swing.JOptionPane;

public class EcommerceSystem {

    public static void main(String[] args) {
        ElectronicProduct E = new ElectronicProduct(productId: 1, name: "Smartphone", price: 599.9f, brand: "Samsunng", warrantyPeriod: 1);
        ClothingProduct C = new ClothingProduct(productId: 2, name: "T-Shirt", price: 19.99f, size: "Meduim", fabric: "Cotton");
        BookProduct B = new BookProduct(productId: 3, name: "OOP", price: 39.99f, author: "O'Reilly", publisher: "X Publications");

        //customer (using GUI)
        int customerId =Math.abs(a: Integer.parseInt( s: JOptionPane.showInputDialog
        (message:"Welcome to the E-Commerce System!\nPlease enter your ID: ")));

        String name = JOptionPane.showInputDialog(message:"Please enter your name: ");

        String address = JOptionPane.showInputDialog(message:"Please enter your address: ");

        Customer Cu = new Customer(customerId, name, address);

        //shopping cart (using GUI)
        int nProducts =Math.abs(a: Integer.parseInt( s: JOptionPane.showInputDialog
        (message:"How many products you want to add to your cart? ")));

        Cart Ca = new Cart(customerId, nProducts);

        for(int i = 0 ; i<=3; i++){
            int res =Math.abs(a: Integer.parseInt( s: JOptionPane.showInputDialog
        (message:"Which product would you like to add? 1-Smartphone 2-T-Shirt 3-OOP ")));
            switch (res) {
                case 1:
                    Ca.addProduct(prod: E, index: i);
                    break;
                case 2:
                    Ca.addProduct(prod: C, index: i);
                     break;
                case 3:
                    Ca.addProduct(prod: B, index: i);
                    break;

                default:
                    JOptionPane.showInputDialog(message:"Invalid product. Please try again");
                    i--;
                    break;
            }
        }
        int user = Integer.parseInt(s: JOptionPane.showInputDialog("Your total is $"+Ca.calculatePrice()+
                " .Would you like to place the order? 1-Yes 2-No"));
        if(user==1){
            Ca.placeOrder();
        }else{
            System.out.println(x: "Order has not placed.");
        }
    }
}
```

Product class:

```java
package ecommercesystem;

public class Product {
    private int productId;
    private String name;
    private float price;

    public Product(int productId, String name, float price){
        this.productId = Math.abs(productId);
        this.name = name;
        this.price = Math.abs(price);
    }
    public void setProductId(int productId){
        productId = Math.abs(productId);
    }
    public void setName(String name){
        name = name;
    }
    public void setPrice(float price){
        price = Math.abs(price);
    }
    public int getProductId(){
        return productId;
    }
     public String getName(){
         return name;
     }
      public float getPrice(){
          return price;
      }
}
```

Electronic Product class:

```java
package ecommercesystem;

public class ElectronicProduct extends Product {
    private String brand;
    private int warrantyPeriod;

    public ElectronicProduct(int productId, String name, float price, String brand, int warrantyPeriod) {
        super(productId, name, price);
        this.brand = brand;
        this.warrantyPeriod = Math.abs(warrantyPeriod);
    }
        public void setbrand(String brand){
        brand = brand;
    }
    public void setWarrantyPeriod(int warrantyPeriod){
        warrantyPeriod = Math.abs(warrantyPeriod);
    }
     public String getBrand(){
         return brand;
     }
      public float getWarrantyPeriod(){
          return warrantyPeriod;
      }
}
```

Clothing Product class:

```java

package ecommercesystem;

public class ClothingProduct extends Product {
    private String size, fabric;
    public ClothingProduct(int productId, String name, float price, String size, String fabric){
        super(productId, name, price);
        this.size = size;
        this.fabric = fabric;
    }
    public void setSize(String size){
        size = size;
    }
    public void setFabric(String fabric){
        fabric = fabric;
    }
    public String getSize(){
        return size;
    }
    public String getFabric(){
        return fabric;
    }
}

```

Book Product class:

```java

package ecommercesystem;

public class BookProduct extends Product {
    private String author, publisher;
    public BookProduct (int productId, String name, float price, String author, String publisher){
        super(productId, name, price);
        this.author = author;
        this.publisher = publisher;
    }
    public void setAuthor(String author){
        author = author;
    }
    public void setPublisher(String publisher){
        publisher = publisher;
    }
    public String getAuthor(){
        return author;
    }
    public String getPublisher(){
        return publisher;
    }
}

```

Customer class:

```java

package ecommercesystem;

public class Customer {
    private int customerId;
    private String name , address;
    public Customer(int customerId, String name, String address){
        this.customerId = Math.abs(a: customerId);
        this.name = name;
        this.address = address;
    }
    public void setCustomerId(int customerId){
        customerId = Math.abs(a: customerId);
    }
    public void setName(String name){
        name = name;
    }
    public void setAddress(String address){
        address = address;
    }
    public int getCustomerId(){
        return customerId;
    }
    public String getName(){
        return name;
    }
    public String getAddress(){
        return address;
    }
}

```

Cart class:

```
2   package ecommercesystem;
3
4   import javax.swing.JOptionPane;
5
6   public class Cart {
7       private int customerId, nProducts;
8       private Product[] products;
9
10      public Cart(int customerId, int nProducts) {
11          this.customerId = Math.abs(a: customerId);
12          this.nProducts = Math.abs(a: nProducts);
13          this.products = new Product[nProducts];
14
15      }
16      public void setCustomerId(int customerId){
17          customerId = Math.abs(a: customerId);
18      }
19      public void setNProducts(int nProducts){
20          nProducts = Math.abs(a: nProducts);
21      }
22      public int getCustomerId(){
23          return customerId;
24      }
25      public int getNProducts(){
26          return nProducts;
27      }
28      public void addProduct(Product prod, int index){
29          if (index>=0 && index<nProducts){
30              products[index]=prod;
31          }else{
32              System.out.println(x: "Invalid index ");
33          }
34      }
```

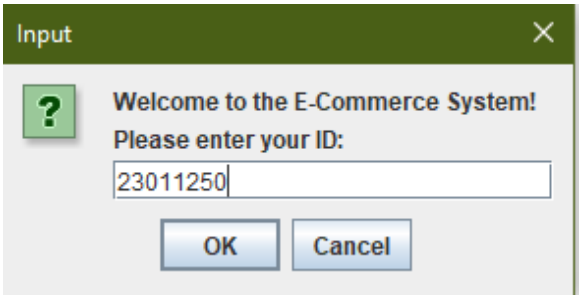
```
35      public void removeProduct(int index){
36          if(index>=0 && index<nProducts){
37              products[index]=null;
38          }else{
39              System.out.println(x: "Invalid index ");
40          }
41      }
42      public float calculatePrice(){
43          float totalPrice = 0;
44          for(Product p : products){
45              if(p!=null){
46                  totalPrice+=p.getPrice();
47              }
48          }
49          return totalPrice;
50      }
51      public void placeOrder(){
52          Order order = new Order(customerId, orderId:1, products, totalPrice: calculatePrice());
53          order.printOrderInfo();
54      }
55      public void setProducts(Product[] products){
57          products = products;
57      }
58      public Product[] getProducts(){
59          return products;
60      }
61  }
62
```

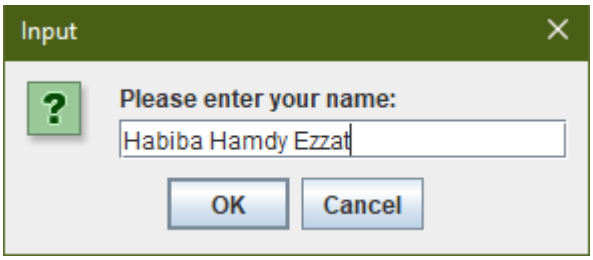
Order class:

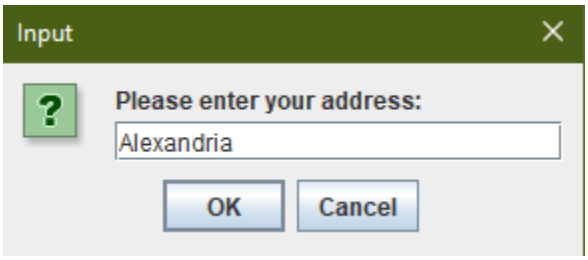
```
2   package ecommercesystem;
3
4   import javax.swing.JOptionPane;
5
6   public class Order {
7       private int customerId, orderId;
8       private Product[] products;
9       private float totalPrice;
10
11      public Order(int customerId, int orderId, Product[] products, float totalPrice){
12          this.customerId = Math.abs(a: customerId);
13          this.orderId = Math.abs(a: orderId);
14          this.products = products;
15          this.totalPrice = Math.abs(a: totalPrice);
16      }
17      public void printOrderInfo(){
18         String message = "";
19         for(Product p : products){
20            message+= (p.getName()+ " - " +p.getPrice() + "$"+"\n");
21          }
22         JOptionPane.showMessageDialog(parentComponent:null, "Here's your order's summary: \n "
23                 + "Order ID: "+orderId+
24                 "\n Customer ID: "+customerId+
25                 "\n Products: "+ "\n "+ message+
26                 " Total price : "+totalPrice+"$");
27      }
28      public void setCustomerId(int customerId){
29          customerId = Math.abs(a: customerId);
30      }
31      public void setOrderId(int orderId){
32          orderId = Math.abs(a: orderId);
33      }
```

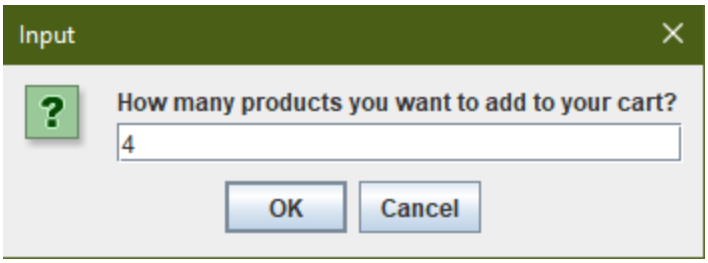
```
34      public void setProducts(Product[] products){
35          products = products;
36      }
37      public void setTotalPrice(float totalPrice){
38          totalPrice = Math.abs(a: totalPrice);
39      }
40      public int getCustomerId(){
41          return customerId;
42      }
43      public int getOrderId(){
44          return orderId;
45      }
46      public Product[] getProducts(){
47          return products;
48      }
49      public float getTotalPrice(){
50          return totalPrice;
51      }
52  }
53
```

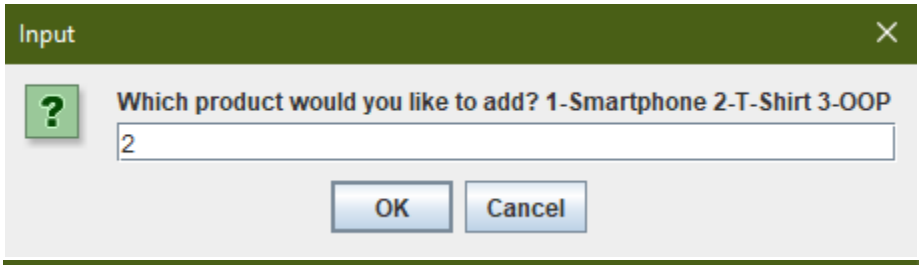
Output:

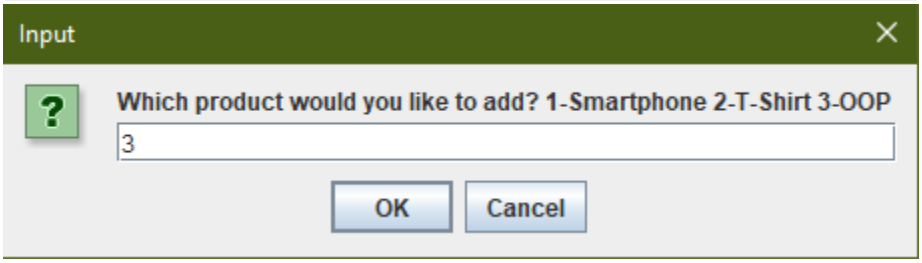

Input
Welcome to the E-Commerce System!
Please enter your ID:
23011250
OK
Cancel

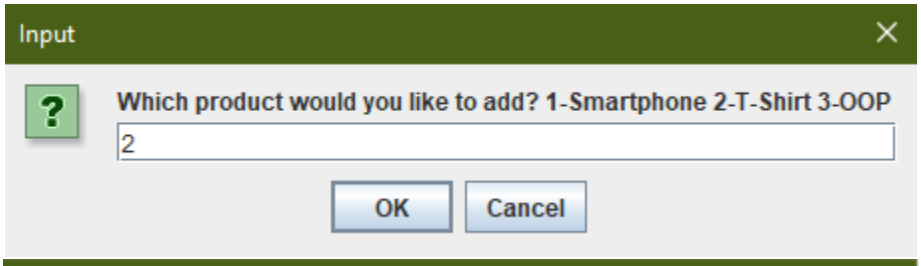

Input
Please enter your name:
Habiba Hamdy Ezzat
OK
Cancel

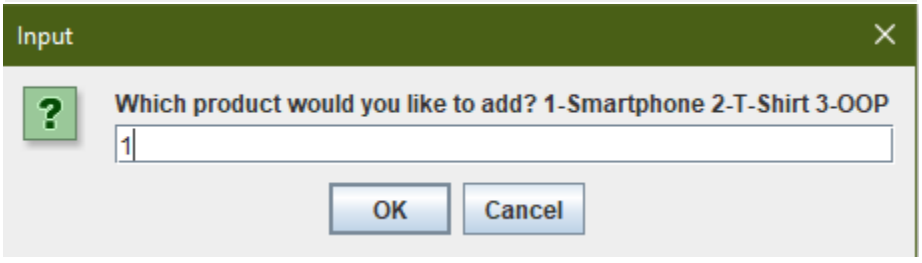

Input
Please enter your address:
Alexandria
OK
Cancel

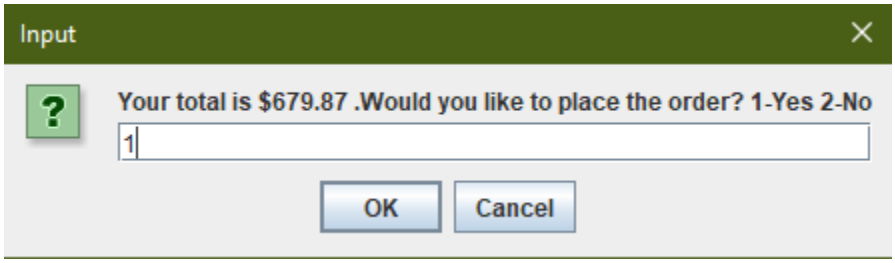

Input
How many products you want to add to your cart?
4
OK
Cancel

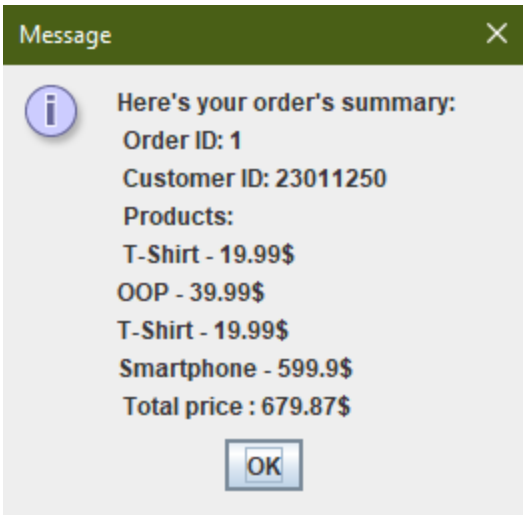

Input
Which product would you like to add? 1-Smartphone 2-T-Shirt 3-OOP
2
OK
Cancel


Input
Which product would you like to add? 1-Smartphone 2-T-Shirt 3-OOP
3
OK
Cancel


Input
Which product would you like to add? 1-Smartphone 2-T-Shirt 3-OOP
2
OK
Cancel


Input
Which product would you like to add? 1-Smartphone 2-T-Shirt 3-OOP
1
OK
Cancel


Input
Your total is $679.87 .Would you like to place the order? 1-Yes 2-No
1
OK
Cancel


Message
Here's your order's summary:
Order ID: 1
Customer ID: 23011250
Products:
T-Shirt - 19.99$
OOP - 39.99$
T-Shirt - 19.99$
Smartphone - 599.9$
Total price : 679.87$
OK