```
public class Product {
 protected  int productid;
 protected String name ;
  float price;
  Product (String name , int productid,  float price)
  {
     this.productid= Math.abs(productid) ;
     this.name= name ;
     this.price= Math.abs(price);
   }

   public int getProductid() {
      return productid;
   }

   public void setProductid(int productid) {
      this.productid = productid;
   }

   public String getName() {
      return name;
   }

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

   public float getPrice() {
```

```
    return price;
  }

  public void setPrice(float price) {
    this.price = price;
  }
 }
public class Electronic_product extends Product {
 private  String brand;
  private int warrantyPeriod;

  public Electronic_product( String name,int productid, float price,String brand, int
warrantyPeriod )
  {
    super( name,productid, price);
    this.brand = brand;
    this.warrantyPeriod = Math.abs(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 = warrantyPeriod;
}

public int getProductid() {
    return productid;
}

public void setProductid(int productid) {
    this.productid = productid;
}

public String getName() {
    return name;
}

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

public float getPrice() {
    return price;
}

public void setPrice(float price) {
```

```
        this.price = price;
    }




}
public class clothing_brands  extends Product{
   private String size;
     private String fabric;


    public clothing_brands( String name, int productid, float price,String size,String
fabric )
    {
        super (name,productid, price);
        this.size = size;
        this.fabric = 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;
}

public int getProductid() {
   return productid;
}

public void setProductid(int productid) {
   this.productid = productid;
}

public String getName() {
   return name;
}

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

public float getPrice() {
   return price;
}

public void setPrice(float price) {
   this.price = price;
```

```
    }


}
public class Book_product extends Product {
   private  String author;
    private String publisher;


    public Book_product(String name,int productid, float price ,String author ,String
publisher )
    {
        super(name,productid,price);
        this.author = author;
        this.publisher = publisher;
    }
     public String getauthor()
     {
         return author;
     }
     public void setauthor(String author)
     {
         this.author= author;
     }
     public String getpublisher()
     {
         return publisher;
     }
     public void setpublisher(String publisher)
     {
```

```
        this.publisher= publisher;
    }

    public int getProductid() {
        return productid;
    }

    public void setProductid(int productid) {
        this.productid = productid;
    }

    public String getName() {
        return name;
    }

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

    public float getPrice() {
        return price;
    }

    public void setPrice(float price) {
        this.price = price;
    }

}
```

```
public class customer {
  private  int customerid;
   private String name;
   private String address;

   public customer(int customerid, String name, String address)
   {
      this.customerid = customerid;
      this.name = name;
      this.address = address;
      if ( customerid<0)
      {
         Math.abs(customerid);
      }

   }

   public int getCustomerid() {
      return customerid;
   }

   public void setCustomerid(int customerid) {
      this.customerid = customerid;
   }

   public String getName() {
```

```
        return name;
    }

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

    public String getAddress() {
        return address;
    }

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



}
public class cart {
    protected int customerid;
    protected int nproducts;
    protected Product[]products ;
    protected  int i =0;
    public cart(int customerid, int nproducts) {
        this.customerid=Math.abs(customerid);
        this.nproducts=Math.abs(nproducts);
       this.products= new Product[nproducts];
    }
public int getCustomerid() {
```

```
    return customerid;
  }

  public void setCustomerid(int customerid) {
    this.customerid = customerid;
  }

  public int getNproducts() {
    return nproducts;
  }

  public void setNproducts(int nproducts) {
    this.nproducts = nproducts;
  }

  public Product[] getProducts() {
    return products;
  }

  public void setProducts(Product[] products) {
    this.products = products;
  }
public void  addProduct(  Product product)
  {
   products[i]=product;

    i++;
     }
```

```
public void removeProduct( int index)
{
 if ( index>=0&&index<nproducts)
 {
    for ( int i = index;i <nproducts;i++)
    {
       products[i]=products[i+1];

    }
    nproducts--;
    products [nproducts]= null;
 }else
 {
    System.out.println("invaled index");
 }

}
 public float calculateProduct()
{
    float totalprice =0;
   for ( Product product:products)
   {
    totalprice += product.getPrice();
 }
   return totalprice;
 }
 public void placeOrder ( )
 {
```

```
      Order o1 = new Order( customerid, 12, products,calculateProduct()) ;
      o1.printOrderInfo();

    }



}
public class Order {
  private  int customerid;
   private int orderid;
   private Product[]products2;
   private float totalprice;

   public Order(int customerid, int orderid, Product[]products2, float totalprice) {
     super();
      this.customerid = Math.abs(customerid);
      this.orderid = Math.abs(orderid);
      this.products2 = products2;
      this.totalprice = Math.abs(totalprice);
   }

   public int getCustomerid() {
      return customerid;
   }

   public void setCustomerid(int customerid) {
      this.customerid = customerid;
```

```
}

public int getOrderid() {
   return orderid;
}

public void setOrderid(int orderid) {
   this.orderid = orderid;
}

public Product[] getProducts2() {
   return products2;
}

public void setProducts2(Product[] products2) {
   this.products2 = products2;
}

public float getTotalprice() {
   return totalprice;
}

public void setTotalprice(float totalprice) {
   this.totalprice = totalprice;
```

```
    }

    public void printOrderInfo()
    {
        System.out.println("here is your order summary:"+ "+"\norder id "+" "+orderid+" "
        +"\ncustomer id "+" "+customerid
        +"\nproducts:");
        for ( Product products2:this.products2){
            System.out.println(products2.getName()+" "+"$"+products2.getPrice());
        }
        System.out.println("total price :"+ totalprice);
    }

}
import java.util.Scanner;

public class EcommerceSystem {


    public static void main(String[] args) {
    Scanner s= new Scanner(System.in);
    //products
    Electronic_product p1= new
Electronic_product("Smartphone",1,(float)599.9 ,"sumsung",1 );
    clothing_brands p2 = new clothing_brands("T-shirt",2,(float)19.99,"meduim","cotton");
    Book_product p3 = new
Book_product( "OOP",3,(float)39.99,"O'Reilly","XPublications");


    //customer
```

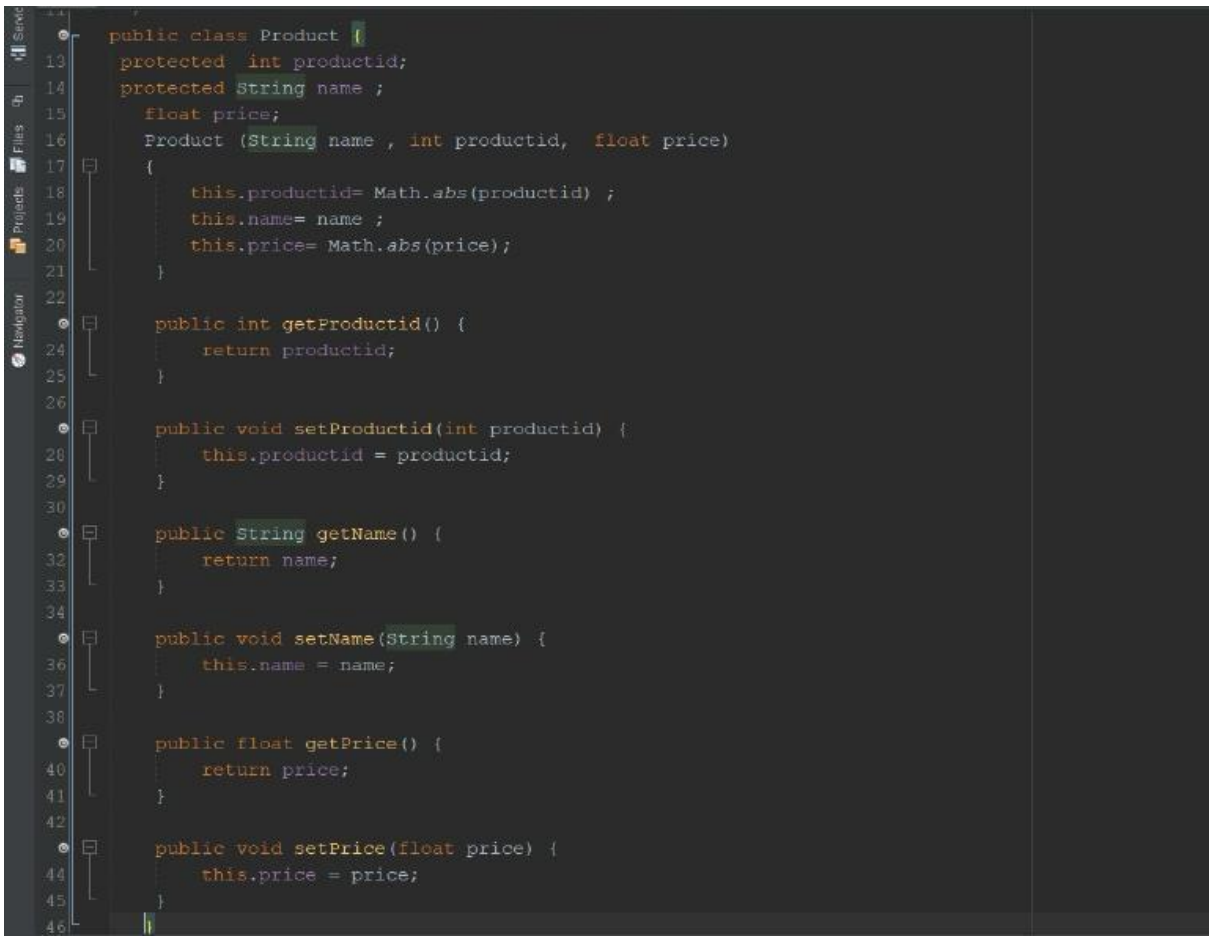
```
   System.out.println("welcome to ecommerce system ");
   System.out.println("enter customerid:");
   int id = s.nextInt();
   System.out.println("name");
   s.nextLine();
   String name = s.nextLine();
   System.out.println("enter the address ");
   String  address = s.nextLine();
   customer c1 = new customer(id,name,address);

//shopping cart
System.out.println("how many products do you want ?");
   int productsN= s.nextInt();

 cart cart= new cart ( c1.getCustomerid(),productsN);

 for ( int i =0; i< productsN ; i++)
 {System.out.println("which product do you want 1-Smartphone ,2-T-shirt ,3-OOP");
    System.out.println("enter the product id ");

    int productID= s.nextInt();
    System.out.println("enter the quantity");
    int q = s.nextInt();
   switch (productID)
   {
      case 1:
          cart.addProduct(p1);
```

```
            break;
        case 2 :
            cart.addProduct(p2);

           break;
        case 3 :
            cart.addProduct(p3);

         break;

        default :
            System.out.println("inavlid id ");
          }
      }
      //placing the order
     System.out.println("your order's total price is "+cart.calculateProduct());
     System.out.println("do you want to place the order if yes the press 1 else if no then press 2");
     int answer =s.nextInt();
     if ( answer==1)
     {
      cart.placeOrder();
     }else
     {

       System.out.println("the order is not placed");
```

}

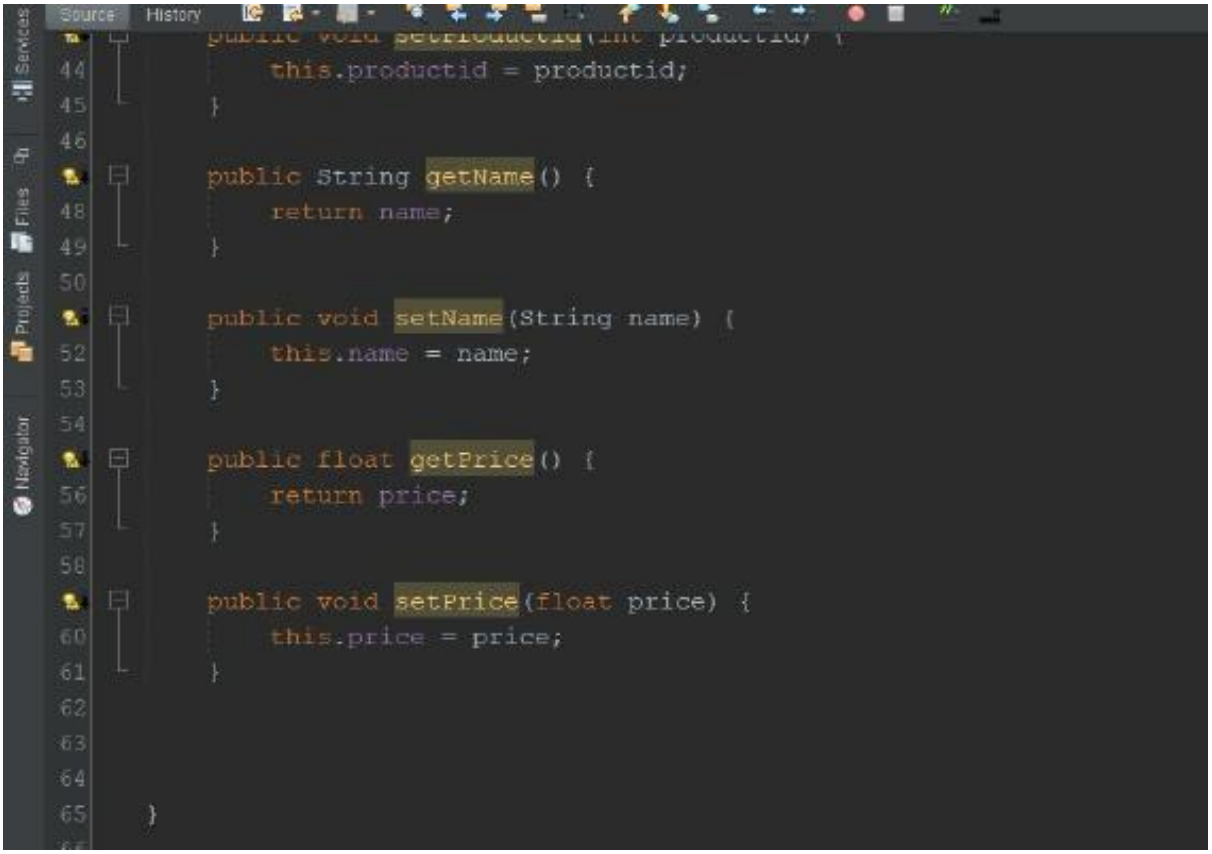
```
public class Electronic_product extends Product {
  private  String brand;
    private int warrantyPeriod;

    public Electronic_product( String name,int productid, float price,String brand, int warrantyPeriod )
    {
        super( name,productid, price);
        this.brand = brand;
        this.warrantyPeriod = Math.abs(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 = warrantyPeriod;
    }

    public int getProductid() {
        return productid;
    }

    public void setProductid(int productid) {
        this.productid = productid;
    }
```

}

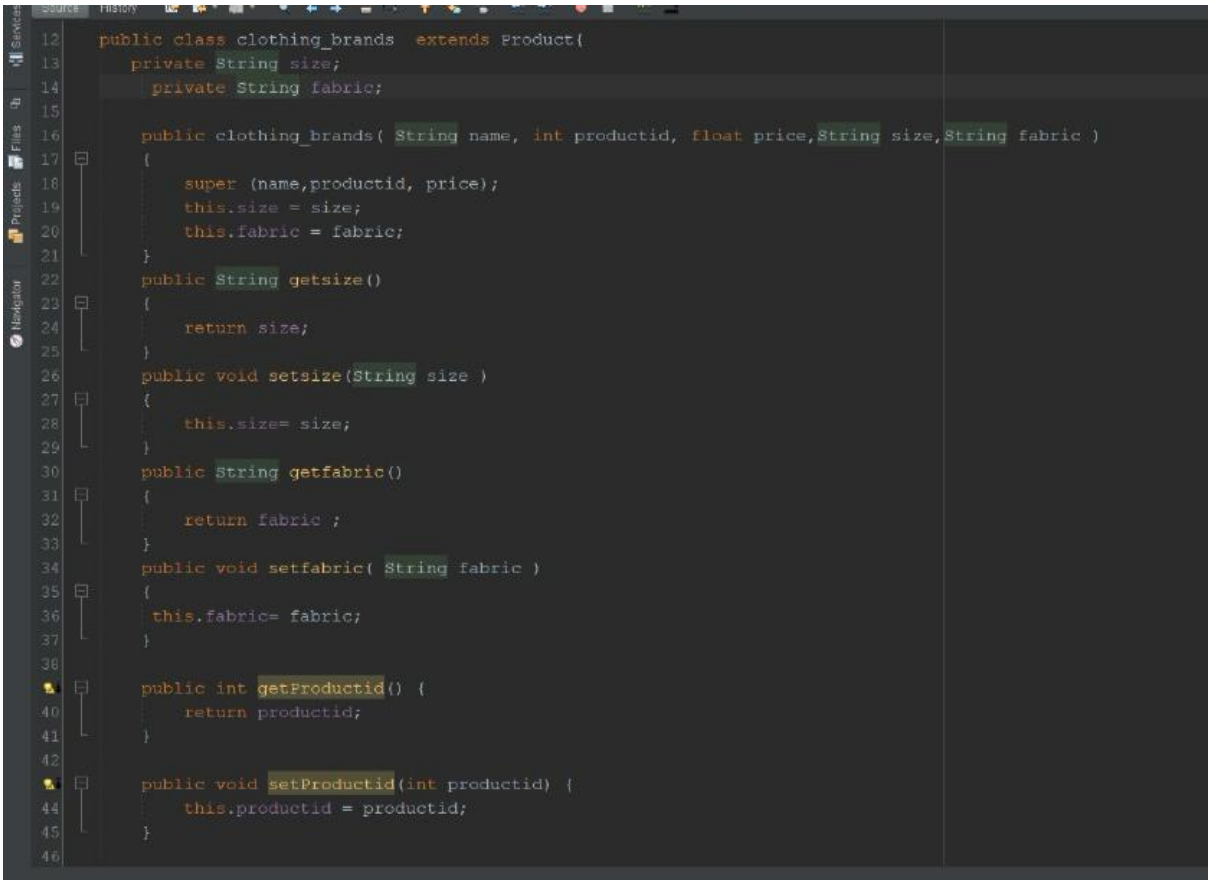


```
public class Product {
 protected  int productid;
 protected String name ;
   float price;
   Product (String name , int productid,  float price)
   {
       this.productid= Math.abs(productid) ;
       this.name= name ;
       this.price= Math.abs(price);
    }

    public int getProductid() {
        return productid;
    }

    public void setProductid(int productid) {
        this.productid = productid;
    }

    public String getName() {
        return name;
    }

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

    public float getPrice() {
        return price;
    }

    public void setPrice(float price) {
        this.price = price;
    }
}
```

}



```
        this.productid = productid;
    }

    public String getName() {
        return name;
    }

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

    public float getPrice() {
        return price;
    }

    public void setPrice(float price) {
        this.price = price;
    }


}
```



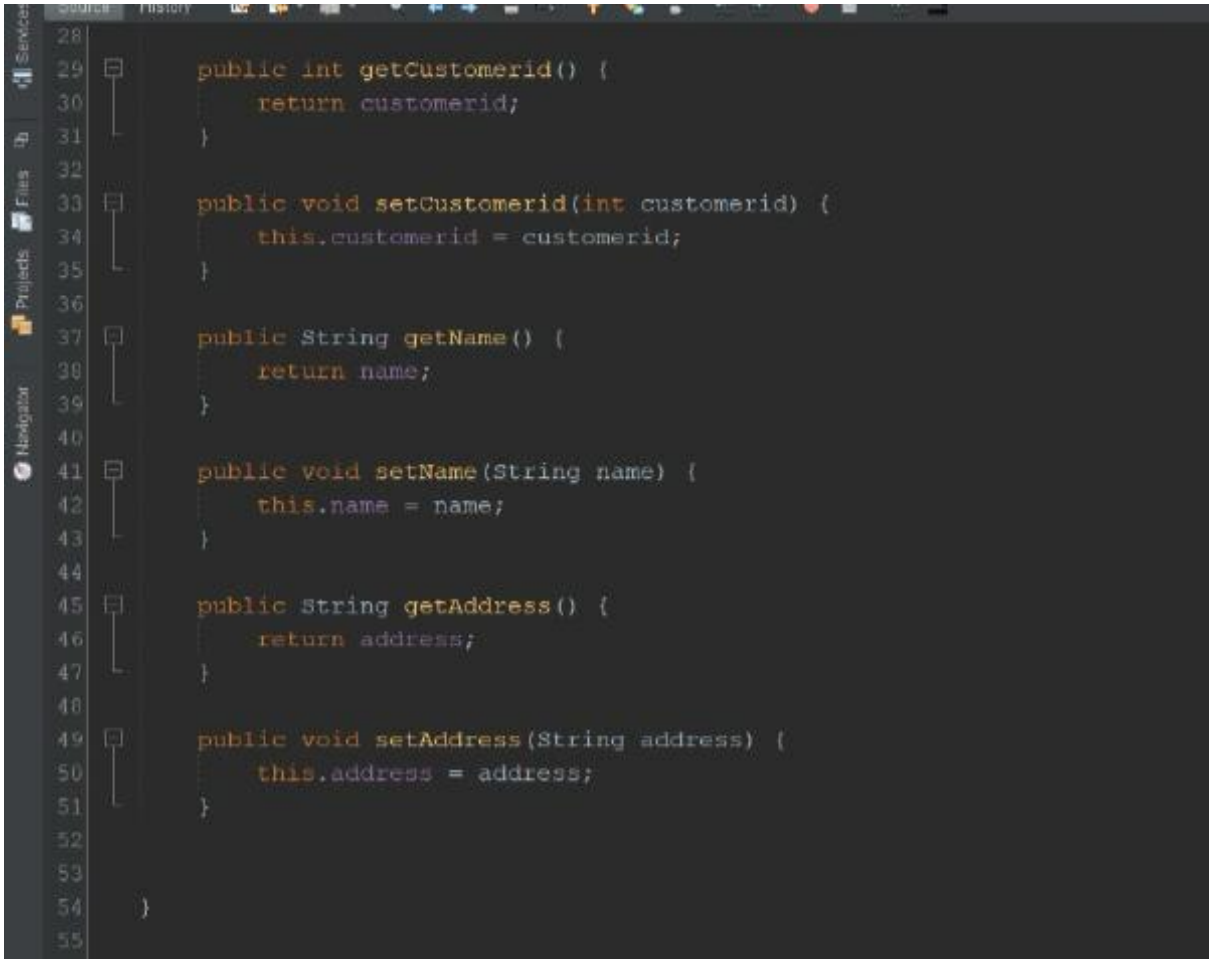
```
public class clothing_brands  extends Product{
   private String size;
    private String fabric;

    public clothing_brands( String name, int productid, float price,String size,String fabric )
    {
        super (name,productid, price);
        this.size = size;
        this.fabric = 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;
    }

    public int getProductid() {
        return productid;
    }

    public void setProductid(int productid) {
        this.productid = productid;
    }

```

```
42
        public void setProductid(int productid) {
44          this.productid = productid;
45      }
46
        public String getName() {
48          return name;
49      }
50
        public void setName(String name) {
52          this.name = name;
53      }
54
        public float getPrice() {
56          return price;
57      }
58
        public void setPrice(float price) {
60          this.price = price;
61      }
62
63  }
```

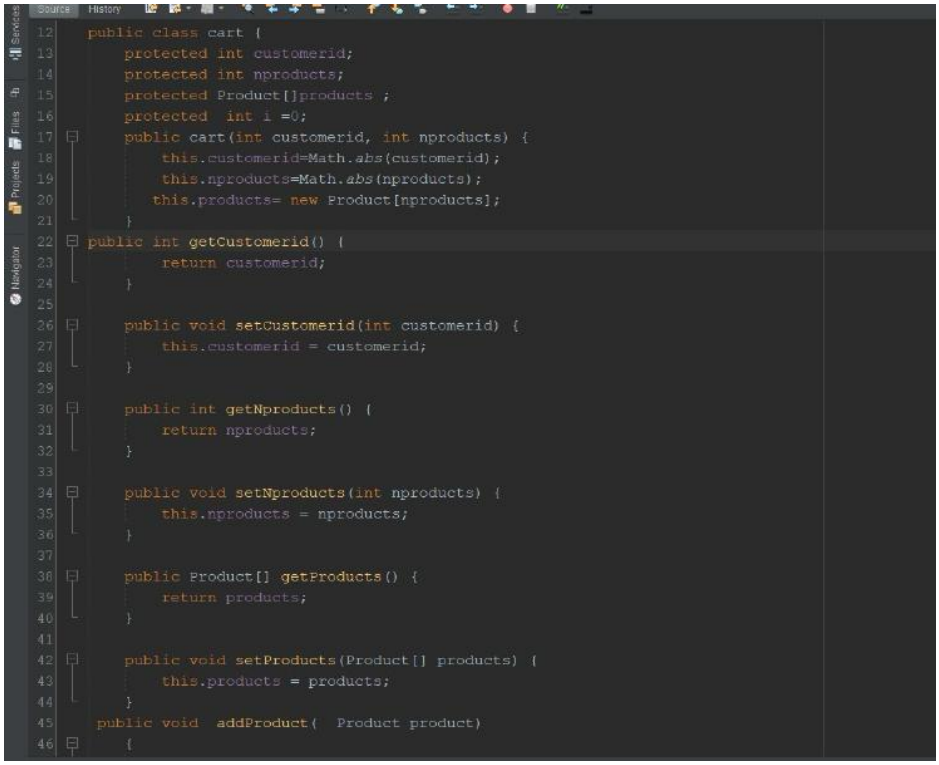
```
12  public class Book_product extends Product {
13      private  String author;
14       private String publisher;
15
16      public Book_product(String name,int productid, float price ,String author ,String publisher )
17      {
18          super(name,productid,price);
19          this.author = author;
20          this.publisher = publisher;
21      }
22       public String getauthor()
23       {
24           return author;
25       }
26       public void setauthor(String author)
27       {
28           this.author= author;
29       }
30       public String getpublisher()
31       {
32           return publisher;
33       }
34       public void setpublisher(String publisher)
35       {
36           this.publisher= publisher;
37       }
38
40      public int getProductid() {
41          return productid;
42      }
43
44      public void setProductid(int productid) {
45          this.productid = productid;
46      }
```

```
        return author;
    }
    public void setauthor(String author)
    {
        this.author= author;
    }
    public String getpublisher()
    {
        return publisher;
    }
    public void setpublisher(String publisher)
    {
        this.publisher= publisher;
    }

    public int getProductid() {
        return productid;
    }

    public void setProductid(int productid) {
        this.productid = productid;
    }

    public String getName() {
        return name;
    }

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

    public float getPrice() {
        return price;
    }
```

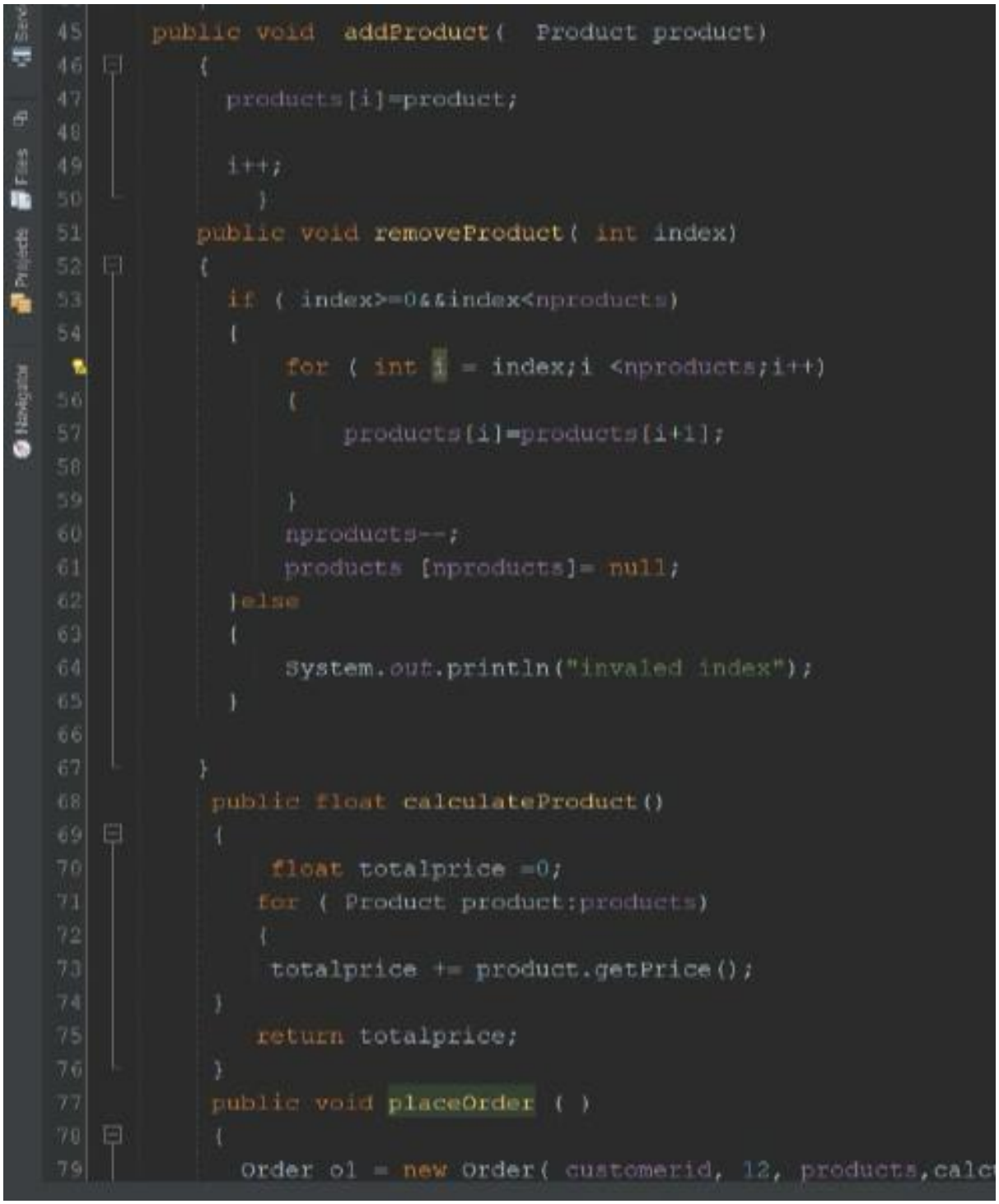
```
*/
public class customer {
    private  int customerid;
    private String name;
    private String address;

    public customer(int customerid, String name, String address)
    {
        this.customerid = customerid;
        this.name = name;
        this.address = address;
        if ( customerid<0)
        {
            Math.abs(customerid);
        }

    }

    public int getCustomerid() {
        return customerid;
    }

    public void setCustomerid(int customerid) {
        this.customerid = customerid;
    }

    public String getName() {
        return name;
    }

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

    public String getAddress() {
```



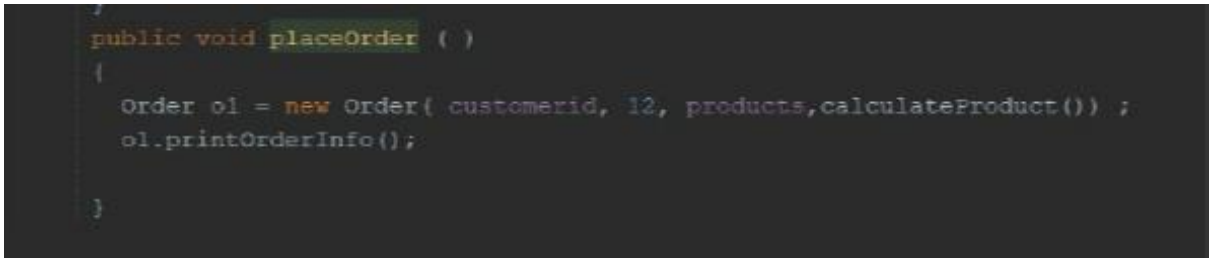
```
28
29      public int getCustomerid() {
30          return customerid;
31      }
32
33      public void setCustomerid(int customerid) {
34          this.customerid = customerid;
35      }
36
37      public String getName() {
38          return name;
39      }
40
41      public void setName(String name) {
42          this.name = name;
43      }
44
45      public String getAddress() {
46          return address;
47      }
48
49      public void setAddress(String address) {
50          this.address = address;
51      }
52
53
54  }
55
```



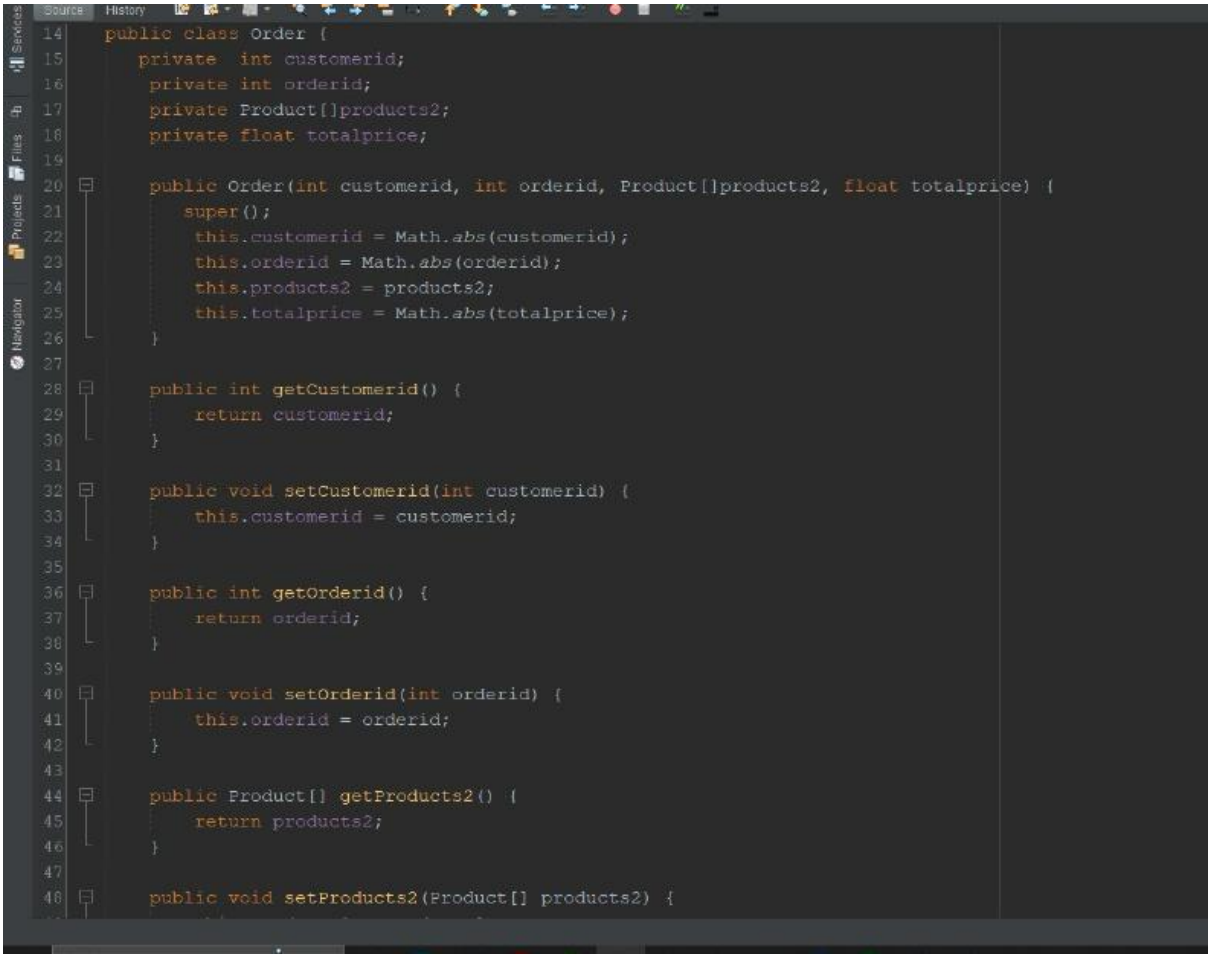
```
12  public class cart {
13      protected int customerid;
14      protected int nproducts;
15      protected Product[]products ;
16      protected  int i =0;
17      public cart(int customerid, int nproducts) {
18          this.customerid=Math.abs(customerid);
19          this.nproducts=Math.abs(nproducts);
20         this.products= new Product[nproducts];
21      }
22  public int getCustomerid() {
23          return customerid;
24      }
25
26      public void setCustomerid(int customerid) {
27          this.customerid = customerid;
28      }
29
30      public int getNproducts() {
31          return nproducts;
32      }
33
34      public void setNproducts(int nproducts) {
35          this.nproducts = nproducts;
36      }
37
38      public Product[] getProducts() {
39          return products;
40      }
41
42      public void setProducts(Product[] products) {
43          this.products = products;
44      }
45    public void  addProduct(  Product product)
46      {
```



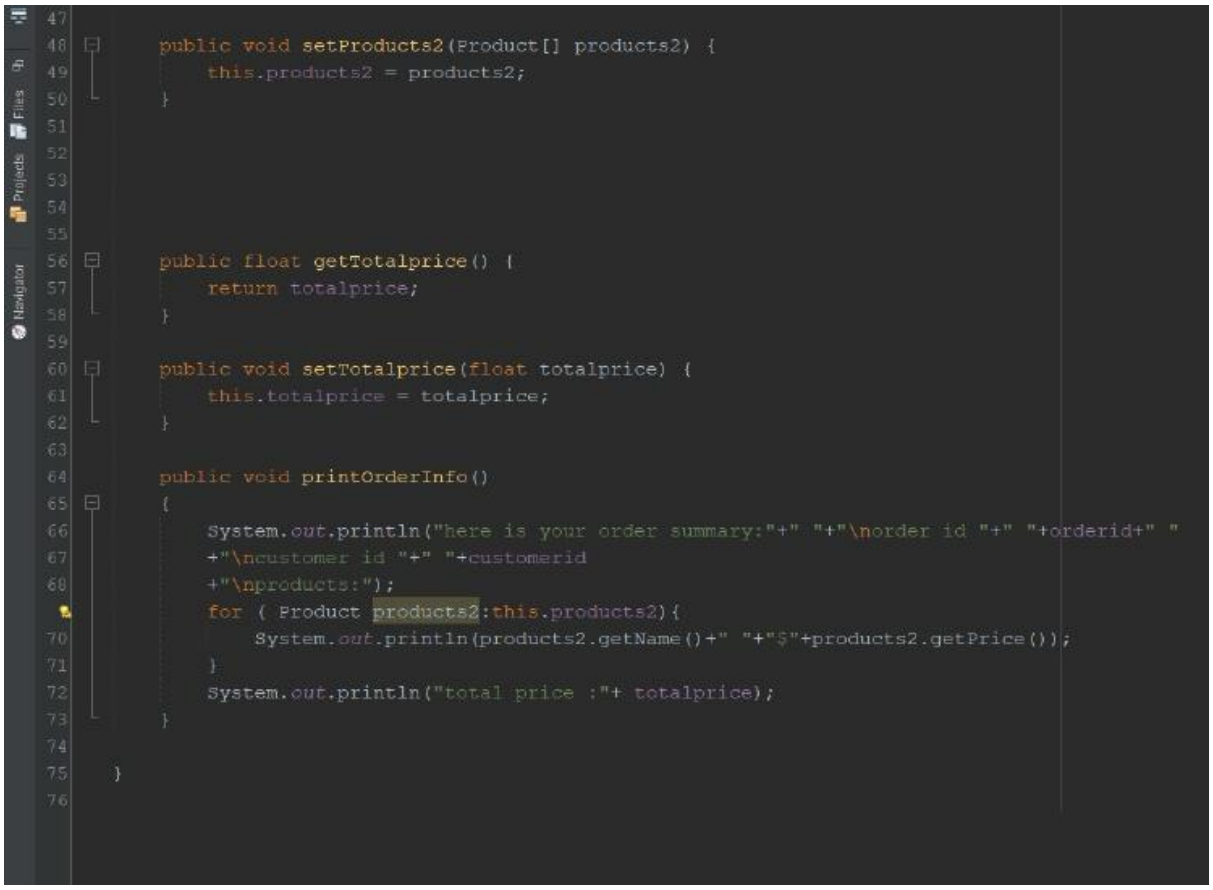
```
    public void  addProduct(  Product product)
    {
      products[i]=product;

      i++;
        }
      public void removeProduct( int index)
      {
        if ( index>=0&&index<nproducts)
        {
            for ( int i = index;i <nproducts;i++)
            {
                products[i]=products[i+1];

            }
            nproducts--;
            products [nproducts]= null;
        }else
        {
            System.out.println("invaled index");
        }

      }
       public float calculateProduct()
       {
           float totalprice =0;
          for ( Product product:products)
          {
           totalprice += product.getPrice();
       }
          return totalprice;
       }
       public void placeOrder ( )
       {
         Order o1 = new Order( customerid, 12, products,calc
```



```
public void placeOrder ( )
{
  Order o1 = new Order( customerid, 12, products,calculateProduct()) ;
  o1.printOrderInfo();

}
```



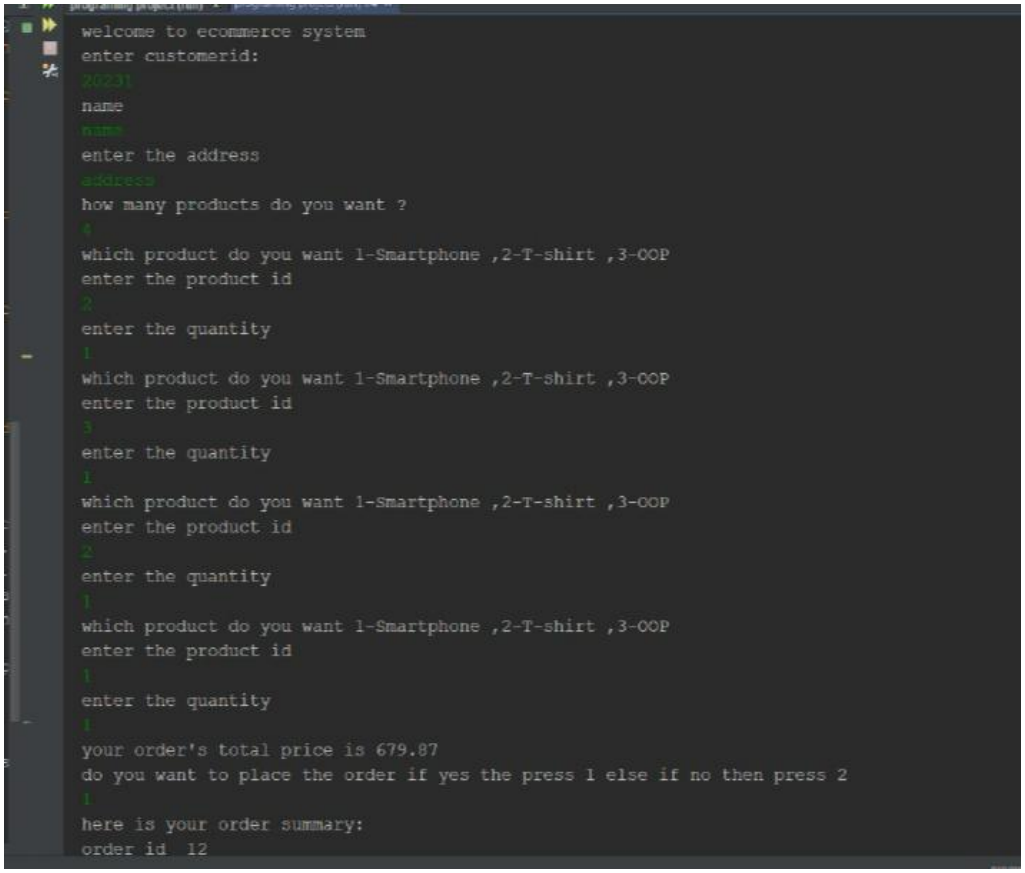
```
14  public class Order {
15      private  int customerid;
16      private int orderid;
17      private Product[]products2;
18      private float totalprice;
19
20      public Order(int customerid, int orderid, Product[]products2, float totalprice) {
21          super();
22          this.customerid = Math.abs(customerid);
23          this.orderid = Math.abs(orderid);
24          this.products2 = products2;
25          this.totalprice = Math.abs(totalprice);
26      }
27
28      public int getCustomerid() {
29          return customerid;
30      }
31
32      public void setCustomerid(int customerid) {
33          this.customerid = customerid;
34      }
35
36      public int getOrderid() {
37          return orderid;
38      }
39
40      public void setOrderid(int orderid) {
41          this.orderid = orderid;
42      }
43
44      public Product[] getProducts2() {
45          return products2;
46      }
47
48      public void setProducts2(Product[] products2) {
```

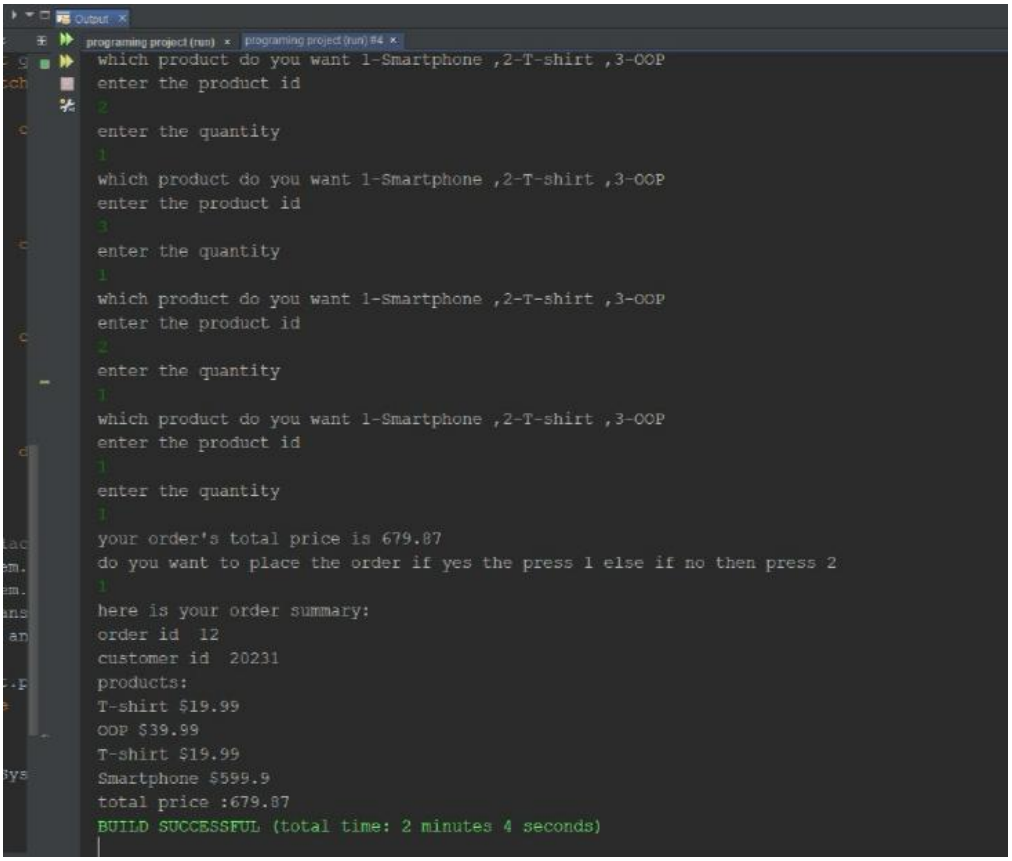


```
47
48      public void setProducts2(Product[] products2) {
49          this.products2 = products2;
50      }
51
52
53
54
55
56      public float getTotalprice() {
57          return totalprice;
58      }
59
60      public void setTotalprice(float totalprice) {
61          this.totalprice = totalprice;
62      }
63
64      public void printOrderInfo()
65      {
66          System.out.println("here is your order summary:"+ "+"\norder id "+" "+orderid+" "
67          +"\ncustomer id "+" "+customerid
68          +"\nproducts:");
69          for ( Product products2:this.products2){
70              System.out.println(products2.getName()+" "+"$"+products2.getPrice());
71          }
72          System.out.println("total price :"+ totalprice);
73      }
74
75  }
76
```

```
17      public static void main(String[] args) {
18      Scanner s= new Scanner(System.in);
19      //products
20      Electronic_product p1= new Electronic_product("Smartphone",1,(float)599.9 ,"sumsung",1 );
21      clothing_brands p2 = new clothing_brands("T-shirt",2,(float)19.99,"meduim","cotton");
22      Book_product p3 = new Book_product( "OOP",3,(float)39.99,"O'Reilly","XPublications");
23
24      //customer
25          System.out.println("welcome to ecommerce system ");
26          System.out.println("enter customerid:");
27          int id = s.nextInt();
28          System.out.println("name");
29          s.nextLine();
30          String name = s.nextLine();
31          System.out.println("enter the address ");
32          String  address = s.nextLine();
33          customer c1 = new customer(id,name,address);
34
35      //shopping cart
36      System.out.println("how many products do you want ?");
37          int productsN= s.nextInt();
38
39        cart cart= new cart ( c1.getCustomerid(),productsN);
40
41        for ( int i =0; i< productsN ; i++)
42        {System.out.println("which product do you want 1-Smartphone ,2-T-shirt ,3-OOP");
43            System.out.println("enter the product id ");
44
45            int productID= s.nextInt();
46            System.out.println("enter the quantity");
47            int q = s.nextInt();
48           switch (productID)
49            {
50                case 1:
51                    cart.addProduct(p1);
```

```
47            int q = s.nextInt();
48           switch (productID)
49            {
50                case 1:
51                    cart.addProduct(p1);
52
53
54                   break;
55                case 2 :
56                    cart.addProduct(p2);
57
58                   break;
59                case 3 :
60                    cart.addProduct(p3);
61
62                 break;
63
64                default :
65                    System.out.println("inavlid id ");
66                  }
67            }
68            //placing the order
69          System.out.println("your order's total price is "+cart.calculateProduct());
70          System.out.println("do you want to place the order if yes the press 1 else if no then press 2");
71          int answer =s.nextInt();
72          if ( answer==1)
73          {
74           cart.placeOrder();
75          }else
76          {
77
78              System.out.println("the order is not placed");
79
80          }
81      }
```


welcome to ecommerce system
enter customerid:
20231
name
name
enter the address
address
how many products do you want ?
4
which product do you want 1-Smartphone ,2-T-shirt ,3-OOP
enter the product id
2
enter the quantity
1
which product do you want 1-Smartphone ,2-T-shirt ,3-OOP
enter the product id
3
enter the quantity
1
which product do you want 1-Smartphone ,2-T-shirt ,3-OOP
enter the product id
2
enter the quantity
1
which product do you want 1-Smartphone ,2-T-shirt ,3-OOP
enter the product id
1
enter the quantity
1
your order's total price is 679.87
do you want to place the order if yes the press 1 else if no then press 2
1
here is your order summary:
order id 12


Output
programing project (run)
programing project (run) #4
which product do you want 1-Smartphone ,2-T-shirt ,3-OOP
enter the product id
2
enter the quantity
1
which product do you want 1-Smartphone ,2-T-shirt ,3-OOP
enter the product id
3
enter the quantity
1
which product do you want 1-Smartphone ,2-T-shirt ,3-OOP
enter the product id
2
enter the quantity
1
which product do you want 1-Smartphone ,2-T-shirt ,3-OOP
enter the product id
1
enter the quantity
1
your order's total price is 679.87
do you want to place the order if yes the press 1 else if no then press 2
1
here is your order summary:
order id 12
customer id 20231
products:
T-shirt $19.99
OOP $39.99
T-shirt $19.99
Smartphone $599.9
total price :679.87
BUILD SUCCESSFUL (total time: 2 minutes 4 seconds)