```
10  */
    public class Product {
12  protected int productId ;
13  protected String name ;
14  protected double price ;
15
16  public Product(){}
17
18  public Product(int productId, String name, double price){
19      if(productId >0)
20        this.productId = productId ;
21      else
22          this.productId = Math.abs(productId) ;
23      this.name = name ;
24      if(price >0)
25        this.price = price ;
26      else
27          this.price = Math.abs(price) ;}
28
29  public void setproductId(int id){
30   if(id >0)
31   productId = id ;
32   else
33   productId = Math.abs(id);}
34
35  public void setname(String n){
36      name = n ;}
37
38  public void setprice(double p){
39   if(p >0)
40     price = p ;
41   else
42       price = Math.abs(p);}
```

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```
public int getproductId(){
    return productId ;}

public String getname(){
        return name ;}
public double getprice(){
        return price ;}
```

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```
*/
public class ElectronicProduct extends Product {
    private String brand ;
    private int WarrantyPeriod ;

public ElectronicProduct(){}

public ElectronicProduct(int productId, String name, double price, String brand, int WarrantyPeriod){
super(productId, name, price) ;
this.brand = brand ;
this.WarrantyPeriod = WarrantyPeriod ; }

public void setbrand(String b){
    brand = b ;}

public void setWarrantyPeriod(int w){
        if(w >0)
            WarrantyPeriod = w ;
        else
            WarrantyPeriod = Math.abs(w);}

public String getbrand(){
    return brand ; }

public int getWarrantyPeriod(){
    return WarrantyPeriod;}

}
```

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```java
package e.commerce_system;

/**
 *
 * @author LOL
 */
public class ClothingProduct extends Product {
    private String size ;
    private String fabric ;

public ClothingProduct(){}

public ClothingProduct(int productId, String name, double price, String size, String fabric){
super(productId, name, price) ;
this.size = size ;
this.fabric = fabric ; }

public void setsize(String s){
    size = s ;}

public void setfabric(String f){
    fabric = f ; }

public String getfabric(){
    return fabric ; }

public String getsize(){
    return size ; }
```

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```java
public class BookProduct extends Product {
    private String author ;
    private String publisher ;

public BookProduct(){}

public BookProduct(int productId, String name, double price, String author, String publisher){
super(productId, name, price) ;
this.author = author ;
this.publisher = publisher ;  }

public void setauthor(String a){
    author = a ;}

public void setpublisher(String p){
    publisher = p ; }

public String getauthor(){
    return author ;}

public String getpublisher(){
        return publisher ;}
}
```

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```
10  */
11  public class Customer {
12      private int customerId ;
13      private String name ;
14      private String address ;
15
16  public Customer() {}
17
18  public Customer(int customerId, String name, String address){
19  this.customerId = Math.abs(customerId) ;
20  this.name = name ;
21  this.address = address ; }
22
23  public void setcustomerId(int id){
24      if(id >0)
25          customerId = id ;
26      else
27          customerId = Math.abs(id); }
28
29  public void setname(String n){
30          name = n ; }
31
32  public void setaddress(String a){
33          address = a ; }
34
35  public int getcustomerId(){
36          return customerId ; }
37
38  public String getname(){
39          return name ; }
40
41  public String getaddress(){
42          return address ;}
43
44
```

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```
 */
package e.commerce_system;

/**
 *
 * @author LOL
 */
public class Order {
    private int customerId ;
    private int orderId = 1 ;
    private Product products[] ;
    private double totalPrice ;

public Order(){
}

public Order(int customerId, double totalPrice, Product products[]){
    this.customerId = customerId ;
    this.totalPrice = totalPrice ;
    this.products = products ; }

public void printOrderInfo(){
    System.out.println("Here is your order`s summary:");
    System.out.println("Order ID: "+orderId);
    System.out.println("Customer ID: "+customerId);
    System.out.println("Products: ");
    for(int i=0;i<products.length;i++){
        System.out.println(products[i].name+" - "+products[i].price); }
    System.out.println("Total Price: $"+totalPrice); }


}
```

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```java
public class Cart {
    private int customerId  ;
    private int nProducts ;
    Product [] products ;

public Cart(){
}

public Cart(int customerId, int nProducts){
    this.customerId = Math.abs(customerId);
    this.nProducts =  Math.abs(nProducts) ;
    this.products = new Product[nProducts] ; }

public void setnProducts(int n){
    if(n >0)
        nProducts = n ;
    else
        nProducts = Math.abs(n); }

public int getnproducts(){
    return nProducts ; }

public double calculatePrice(){
    double totalPrice = 0 ;
    for(int i=0;i<products.length;i++){
        totalPrice += products[i].price ;  }
    return totalPrice ;}

public void addProduct(Product product){
  for(int i=0;i<products.length;i++){
      if(products[i]==null){
          products[i] = product ;
          break ;}}}
```

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```java
public void removeProdut(int index){
    products[index] = null ;   }

public void placeOrder(Order order, int n){
        if(n==1){
            order.printOrderInfo(); }
        else
            for(int i=0;i<products.length;i++){
                products[i] = null ;
            }
}
```

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```java
public class ECommerce_system {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        Scanner input = new Scanner (System.in);

        ElectronicProduct elc ;
        elc = new ElectronicProduct(1, "smartphone", 599.9, "Samsung", 1);
        ClothingProduct clo ;
        clo = new ClothingProduct(2, "T-shirt", 19.99, "Medium", "Cotton");
        BookProduct book ;
        book = new BookProduct(3, "OOP", 39.99, "O'Reilly", "X Publications") ;
        System.out.println("Welcome to the E-Commerce System!");

        Customer c = new Customer() ;
        System.out.println("Please enter your id");
        int id = input.nextInt();
        input.nextLine() ;
        c.setcustomerId(id);
        System.out.println("Please enter your name");
        String name = input.nextLine();
        c.setname(name);
        System.out.println("Enter your address");
        String address = input.nextLine() ;
        c.setaddress(address);
        System.out.println("How many products you want to add to your cart?");
        int n = input.nextInt() ;
        Cart cart = new Cart(id, n) ;
        for(int i =0;i<n;i++){
            System.out.print("Which product would you like to add?");
            System.out.print(" 1- smartphone 2- T-shirt 3- OOP");
            System.out.println();
            int choice = input.nextInt() ;
```

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```
int choice = input.nextInt() ;
switch(choice){
    case 1:
    cart.addProduct(elc);
    break;
    case 2 :
      cart.addProduct(clo);
      break;
    case 3 :
       cart.addProduct(book);
      break;   }}
System.out.println("Your total price is $"+cart.calculatePrice()+" would you like to place the order? 1- Yes 2- No");
int confirm_order = input.nextInt();
if(confirm_order==1){
     Order order = new Order(id, cart.calculatePrice(), cart.products);
       cart.placeOrder(order, confirm_order);
}
}
```

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```
run:
Welcome to the E-Commerce System!
Please enter your id
23011186
Please enter your name
youssef ehab ashour moustafa
Enter your address
21 street
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
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 price is $679.87 would you like to place the order? 1- Yes 2- No
1
Here is your order`s summary:
Order ID: 1
Customer ID: 23011186
Products:
T-shirt - 19.99
OOP - 39.99
T-shirt - 19.99
smartphone - 599.9
Total Price: $679.87
BUILD SUCCESSFUL (total time: 1 minute 34 seconds)
```

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