

```
package javaapplication139;
import java.util.Scanner;
public class ECommerceSystem {

    public static void main(String[] args) {
        Scanner input = new Scanner (source: System.in);
        ElectronicProduct electronicproduct = new ElectronicProduct (productId:1, name: "smartphone", price: 599.9f, brand: "Samsung", warrantyPeriod: 1 );
        ClothingProduct clothingProduct = new ClothingProduct (productId:2, name: "T-shirt", price: 19.99f, size: "Medium", fabric: "Cotton");
        BookProduct bookProduct = new BookProduct (productId:3, name: "OOP", price: 39.99f, author: "O'Reilly", publisher: "X Publications");
        System.out.println(x: "welcome to the E-commerce System");
        System.out.println(x: "please enter your id");
        int customerId = input.nextInt();
        System.out.println(x: "please enter your name");
        String name = input.next();
        System.out.println(x: "please enter your address");
        String address = input.next();
        Customer customer = new Customer (customerId , name, address);
        System.out.println(x: "How many products do you want to order?");
        int nProducts = input.nextInt();
        Cart cart = new Cart (customerId, nProducts);
        for (int i = 0; i < nProducts; i++) {
            System.out.println("which product would you like to add? " + (i + 1) + ": 1. Electronic, 2. Clothing, 3. Book");
            int productType = input.nextInt();

            switch (productType) {
                case 1:
                    cart.addProduct (product: electronicproduct, index: i);
                    break;
                case 2:
                    cart.addProduct (product: clothingProduct, index: i);
                    break;
                case 3:
                    cart.addProduct (product: bookProduct, index: i);
                    break;
            }
        }
    }
}
```

```

2  package javaapplication139;
3
4  public class Product {
5      private int productId;
6      private String name;
7      private float price;
8
9      //constructor
10     public Product(int productId, String name, float price) {
11         this.productId = Math.abs(productId);
12         this.name = name;
13         this.price = Math.abs(price);
14     }
15
16     // Setters and getters
17     public int getProductId() {
18         return productId;
19     }
20
21     public void setProductId(int productId) {
22         this.productId = Math.abs(productId);
23     }
24
25     public String getName() {
26         return name;
27     }
28
29     public void setName(String name) {
30         this.name = name;
31     }
32
33     public float getPrice() {
34         return price;
35     }

```

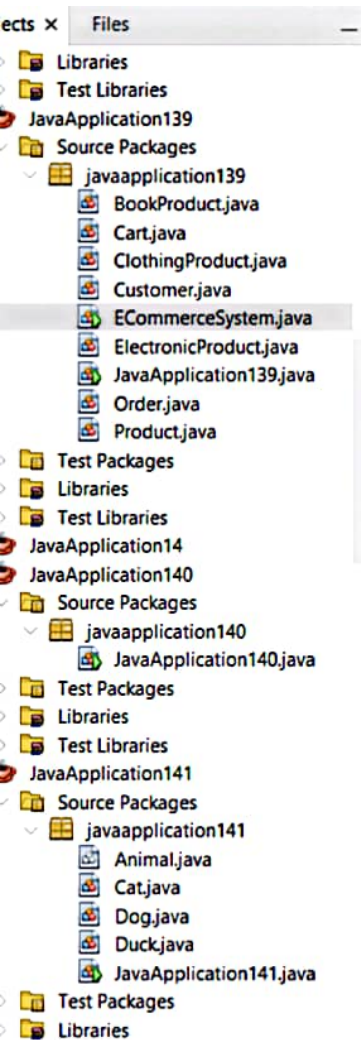
...ava ECommerceSystem.java X Product.java X ElectronicProduct.java X ClothingProduct.java X BookProduct.java X Customer.java X Cart.java X Order.java...

Source History

```

19 System.out.println(x: "How many products do you want to order?");
20 int nProducts = input.nextInt();
21 Cart cart = new Cart(customerId, nProducts);
22 for (int i = 0; i < nProducts; i++) {
23     System.out.println("which product would you like to add? " + (i + 1) + ": 1. Electronic, 2. Clothing, 3. Book");
24     int productType = input.nextInt();
25
26     switch (productType) {
27         case 1:
28             cart.addProduct(product: electronicproduct, index: i);
29             break;
30         case 2:
31             cart.addProduct(product: clothingProduct, index: i);
32             break;
33         case 3:
34             cart.addProduct(product: bookProduct, index: i);
35             break;
36         default:
37             System.out.println(x: "Invalid product type.");
38     }
39 }
40 System.out.println("your total is $ "+cart.calculatePrice());
41 System.out.println(x: "Do you want to place the order? 1- yes 2- No");
42 int orderchoice = input.nextInt();
43 if( orderchoice == 1){
44     float totalPrice = cart.calculatePrice();
45     Order order = new Order(customerId: customer.getCustomerId(), orderId: 1, products: cart.getProducts(), totalPrice);
46     order.printOrderInfo();
47 } else {
48     System.out.println(x: "Order placement cancelled.");
49 }
50
51 }
52 }

```



```
...ava ECommerceSystem.java x Product.java x ElectronicProduct.java x ClothingProduct.java x BookProduct.java x Customer.java x Cart.java x Order.java..
Source History
6 private float price;
7
8 //constructor
9 public Product(int productId, String name, float price) {
10     this.productId = Math.abs(productId);
11     this.name = name;
12     this.price = Math.abs(price);
13 }
14
15 // Setters and getters
16 public int getProductId() {
17     return productId;
18 }
19
20 public void setProductId(int productId) {
21     this.productId = Math.abs(productId);
22 }
23
24 public String getName() {
25     return name;
26 }
27
28 public void setName(String name) {
29     this.name = name;
30 }
31
32 public float getPrice() {
33     return price;
34 }
35
36 public void setPrice(float price) {
37     this.price = Math.abs(price);
38 }
39 }
```



```

1
2 package javaapplication139;
3 public class ElectronicProduct extends Product {
4
5     private String brand;
6     private int warrantyPeriod;
7
8     public ElectronicProduct(int productId, String name, float price, String brand, int warrantyPeriod) {
9         super(productId, name, price);
10        this.brand = brand;
11        this.warrantyPeriod = Math.abs(warrantyPeriod);
12    }
13
14    // Setters and getters
15    public String getBrand() {
16        return brand;
17    }
18
19    public void setBrand(String brand) {
20        this.brand = brand;
21    }
22
23    public int getWarrantyPeriod() {
24        return warrantyPeriod;
25    }
26
27    public void setWarrantyPeriod(int warrantyPeriod) {
28        this.warrantyPeriod = Math.abs(warrantyPeriod);
29    }
30 }
31

```

```

2 package javaapplication139;
3 public class ClothingProduct extends Product {
4
5     private String size;
6     private String fabric;
7
8     public ClothingProduct(int productId, String name, float price, String size, String fabric) {
9         super(productId, name, price);
10        this.size = size;
11        this.fabric = fabric;
12    }
13
14    // Setters and getters
15    public String getSize() {
16        return size;
17    }
18
19    public void setSize(String size) {
20        this.size = size;
21    }
22
23    public String getFabric() {
24        return fabric;
25    }
26
27    public void setFabric(String fabric) {
28        this.fabric = fabric;
29    }
30
31 }
32

```

```

1
2 package javaapplication139;
3 public class BookProduct extends Product {
4     private String author;
5     private String publisher;
6
7     public BookProduct(int productId, String name, float price, String author, String publisher) {
8         super(productId, name, price);
9         this.author = author;
10        this.publisher = publisher;
11    }
12
13    // Setters and getters
14    public String getAuthor() {
15        return author;
16    }
17
18    public void setAuthor(String author) {
19        this.author = author;
20    }
21
22    public String getPublisher() {
23        return publisher;
24    }
25
26    public void setPublisher(String publisher) {
27        this.publisher = publisher;
28    }
29
30 }
31

```

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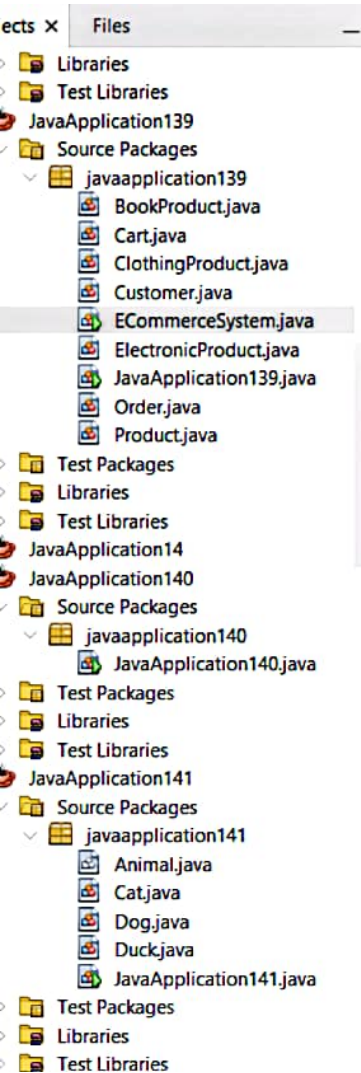
2 package javaapplication139;
3 public class Customer {
4     private int customerId;
5     private String name;
6     private String address;
7
8     public Customer(int customerId, String name, String address) {
9         this.customerId = customerId;
10        this.name = name;
11        this.address = address;
12    }
13
14    public int getCustomerId() {
15        return customerId;
16    }
17
18    public void setCustomerId(int customerId) {
19        this.customerId = customerId;
20    }
21
22    public String getName() {
23        return name;
24    }
25
26    public void setName(String name) {
27        this.name = name;
28    }
29
30    public String getAddress() {
31        return address;
32    }
33
34    public void setAddress(String address) {
35        this.address = address;

```


...ava ECommerceSystem.java x Product.java x ElectronicProduct.java x ClothingProduct.java x BookProduct.java x Customer.java x Cart.java x Order.java..

Source History

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



```
...ava ECommerceSystem.java x Product.java x ElectronicProduct.java x ClothingProduct.java x BookProduct.java x Customer.java x Cart.java x Order.java..
Source History
2 package javaapplication139;
3 public class Cart {
4     private int customerId;
5     private int nProducts;
6     private Product[] products;
7
8     public Cart(int customerId, int nProducts) {
9         this.customerId = Math.abs(a: customerId);
10        this.nProducts = Math.abs(a: nProducts);
11        this.products = new Product[nProducts];
12    }
13    public int getCustomerId() {
14        return customerId;
15    }
16
17    public void setCustomerId(int customerId) {
18        this.customerId = Math.abs(a: customerId);
19    }
20
21    public int getnProducts() {
22        return nProducts;
23    }
24
25    public void setnProducts(int nProducts) {
26        this.nProducts = Math.abs(a: nProducts);
27    }
28
29    public Product[] getProducts() {
30        return products;
31    }
32
33    public void setProducts(Product[] products) {
34        this.products = products;
35    }
```

```

public void addProduct(Product product , int index){

    if (index >= 0 && index < nProducts) {
        products[index] = product;
    } else {
        System.out.println(x: "Invalid index.");
    }
}

public void removeProduct(int index){
    if (index >= 0 && index < nProducts) {
        products[index] = null;
    } else {
        System.out.println(x: "Invalid index.");
    }
}

/*for (Product product : products) {
    if (product != null) {
        totalPrice += product.getPrice();
    }
}*/

public float calculatePrice(){
    float totalprice = 0;
    for (int i = 0; i < nProducts; i++) {
        Product product = products[i];
        if (product != null)
            totalprice += product.getPrice();
    }
    return totalprice;
}

public Order placeOrder() {
    return new Order(customerId, orderId: nProducts, products, totalPrice: calculatePrice());
}

```

```

2  package javaapplication139;
3  public class Order {
4      private int customerId;
5      private int orderId;
6      private Product []products;
7      private float totalPrice;
8
9      public Order(int customerId, int orderId, Product[] products,float totalPrice ) {
10         this.customerId = Math.abs(a: customerId);
11         this.orderId = Math.abs(a: orderId);
12         this.products = products;
13         this.totalPrice=Math.abs(a: totalPrice);
14     }
15
16     public int getCustomerId() {
17         return customerId;
18     }
19
20     public void setCustomerId(int customerId) {
21         this.customerId = customerId;
22     }
23
24     public int getOrderId() {
25         return orderId;
26     }
27
28     public void setOrderId(int orderId) {
29         this.orderId = orderId;
30     }
31
32     public Product[] getProducts() {
33         return products;
34     }
35

```



```

29 |         this.orderId = orderId;
30 |     }
31 |
32 | [-] public Product[] getProducts() {
33 |     return products;
34 | }
35 |
36 | [-] public void setProducts(Product[] products) {
37 |     this.products = products;
38 | }
39 |
40 | [-] public float getTotalPrice() {
41 |     return totalPrice;
42 | }
43 |
44 | [-] public void setTotalPrice(float totalPrice) {
45 |     this.totalPrice = totalPrice;
46 | }
47 |
48 |
49 | [-] public void printOrderInfo() {
50 |     System.out.println("Order ID: " + orderId);
51 |     System.out.println("Customer ID: " + customerId);
52 |     System.out.println(x: "Products:");
53 |
54 |
55 | [-]     for (int i = 0; i < products.length ; i++) {
56 | [-]         if (products[i] != null) {
57 |             System.out.println( (i+1) + products[i].getName() + ": $" + products[i].getPrice());
58 |         }
59 |     }
60 |     System.out.println("Total Price: $" + totalPrice);
61 | }
62 |     }

```

Output - JavaApplication139 (run) x

```
run:
welcome to the E-commerce System
please enter your id
23012108
please enter your name
Maisan_Ahmed_Mohamed_Abd_el_Fattah
please enter your address
Alexandria
How many products do you want to order?
4
which product would you like to add? 1: 1. Electronic, 2. Clothing, 3. Book
3
which product would you like to add? 2: 1. Electronic, 2. Clothing, 3. Book
2
which product would you like to add? 3: 1. Electronic, 2. Clothing, 3. Book
1
which product would you like to add? 4: 1. Electronic, 2. Clothing, 3. Book
2
your total is $ 679.87
Do you want to place the order? 1- yes 2- No
1
Order ID: 1
Customer ID: 23012108
Products:
100P: $39.99
2T-shirt: $19.99
3smartphone: $599.9
4T-shirt: $19.99
Total Price: $679.87
BUILD SUCCESSFUL (total time: 54 seconds)
```