```java
package e_commercesystem;
public class Product {

    private String name ;
    private int  product_id ;
    private float price ;

    public Product(String name, int product_id, float price) {
        this.name = name;
        this.product_id = product_id;
        this.price = price;
    }


    public int getProduct_id() {
        return product_id;
    }

    public void setProduct_id(int product_id) {

        this.product_id =  Math.abs(product_id);
    }

    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 = Math.abs(price);    }
```

Start Page × E_commerceSystem.java × Product.java × ElectronicProduct.java × ClothingProduct.java × BookProduct.java ×

Source History

```java
package e_commercesystem;
public class ElectronicProduct extends Product{

    private String brand ;
    private int warrantyPeriod ;

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

Start Page   ×   E_commerceSystem.java   ×   Product.java   ×   ElectronicProduct.java   ×   ClothingProduct.java   ×
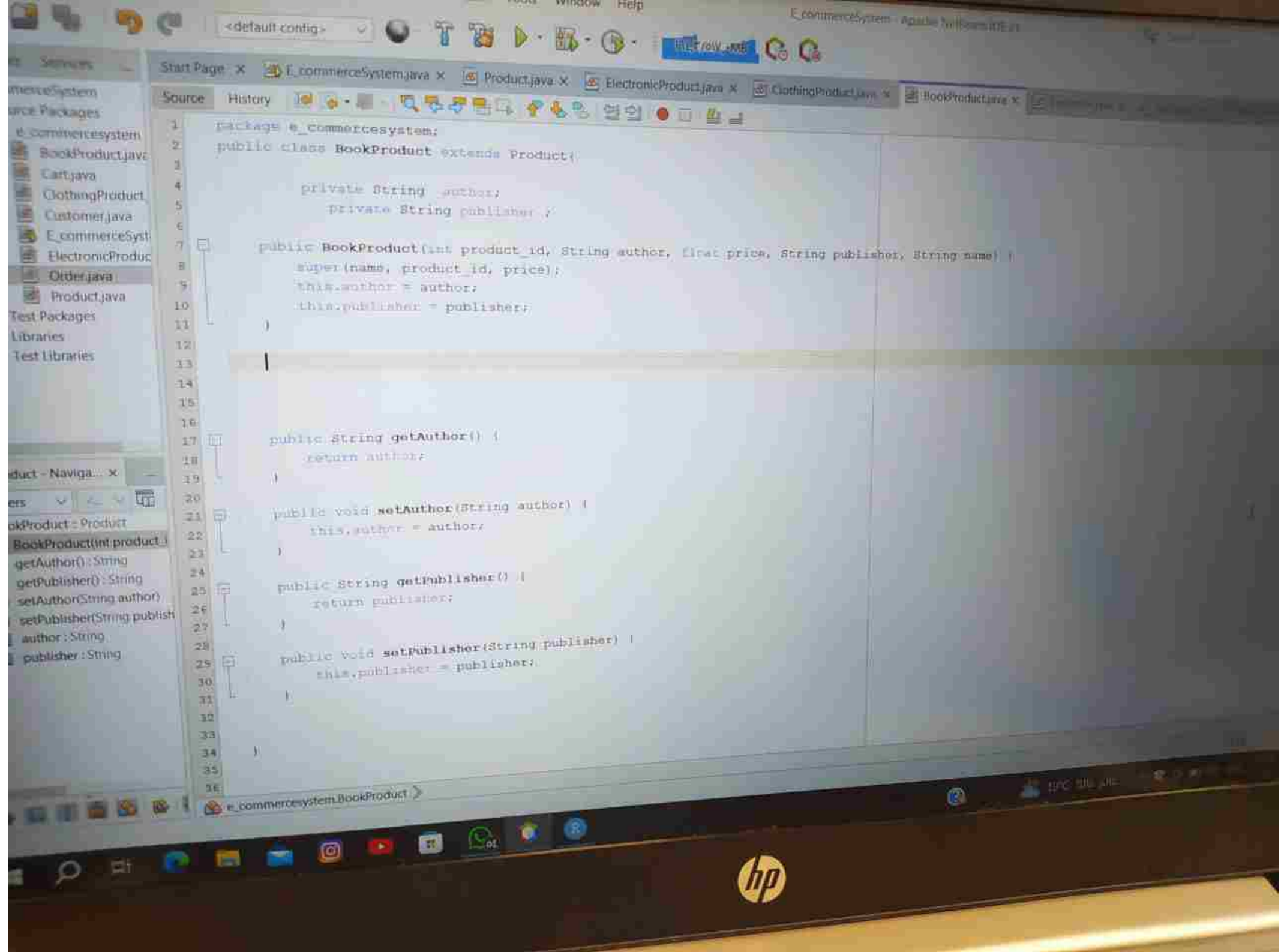
Source   History

```java
package e_commercesystem;
public class ClothingProduct extends Product{

        private String size ;
        private String fabric ;

    public ClothingProduct(int product_id, String size, float price, String fabric, String name) {
        super(name, product_id, 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;
    }


    }
```

e_commercesystem.ClothingProduct   >   ClothingProduct   >

```java
package e_commercesystem;
public class BookProduct extends Product{

    private String author;
      private String publisher ;


    public BookProduct(int product_id, String author, float price, String publisher, String name) {
        super(name, product_id, 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;
    }

    }
```

```java
package e_commercesystem;
public class Customer {

    private String  name;
    private String address;
    private int customerId ;

    public Customer(int customerId, String name, String address) {
        this.name = name;
        this.address = address;
        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 int getCustomerId() {
        return customerId;
    }

    public void setCustomerId(int customerId) {
        this.customerId = customerId;
    }

```

```java
package e_commercesystem;
public class Cart {
    private int customer_id ;
    private int nProduct ;
    private Product[] products ;
    public Cart(int customerId, int maxSize) {
        this.customer_id = Math.abs(customerId);
        this.nProduct = 0;
        this.products = new Product[maxSize];}
    public int getCustomer_id() {
        return customer_id; }
    public void setCustomer_id(int customer_id) {
        this.customer_id = Math.abs(customer_id);}
    public int getnProduct() {
        return nProduct;      }
    public void setnProduct(int nProduct) {
        this.nProduct = Math.abs(nProduct);     }
    public Product[] getProducts() {
        return products; }
    public void setProducts(Product[] products) {
        this.products = products; }
    public void addProduct(Product product) {
    if (nProduct < products.length) {
        products[nProduct] = product;
        nProduct++;
    } else {
        System.out.println("Cart is full. Cannot add more products.");}}
    public void removeProduct(Product product) {
        for (int i = 0; i < nProduct; i++) {
            if (products[i].equals(product)) {
                for (int j = i; j < nProduct - 1; j++) {
                    products[j] = products[j + 1]; }
                products[nProduct - 1] = null;
                nProduct--;
                return; }      }
        System.out.println("Product not found in cart."); }
    public double calculatePrice(){
    double total = 0;
        for(int i =0; i<getnProduct(); i++){
            total+= products[i].getPrice();
} return total;  }
        public Order placeOrder() {
        Order order = new Order(customer_id, products, nProduct, calculatePrice());
        return order;
    }
}
```

```java
package e_commercesystem;

public class Order {

    private int customer_id ;
    private int orderId;
    private Product [] products ;
    private double  totalPrice ;
    public Order(int customerId, Product[] products, int nProducts, double totalPrice) {
    this.customer_id = Math.abs(customerId);
    this.orderId = (int) (Math.random() * 1000); // Generate a random order ID
    this.products = new Product[nProducts];
    System.arraycopy(products, 0, this.products, 0, nProducts);
    this.totalPrice = totalPrice;
    }

    public void printOrderInfo() {
    System.out.println("Order id: " + orderId);
    System.out.println("Customer id: " + customer_id);
    System.out.println("Products:");
    for (Product product : products) {
        System.out.println(product.getName() + " - $" + product.getPrice());
    }
    System.out.println("Total price: $" + totalPrice);
    }

}
```

```java
import java.util.Scanner;

public class E_commerceSystem {

    public static void main(String[] args) {

        Scanner read = new Scanner(System.in);
        System.out.println("Welcome to the e-commerce system");
        System.out.println("Please enter your ID: ");
        int customerId = Math.abs(read.nextInt());
        System.out.println("Please enter your name: ");
        String name = read.next();
        System.out.println("Please enter your address: ");
        String address = read.next();
        Customer cust = new Customer(customerId, name, address);
        System.out.println("How many products would you like to add to your cart?");
        int numProducts = read.nextInt();
        Cart cart = new Cart(customerId, numProducts);
        for (int i = 0; i < numProducts; i++) {
            System.out.println("Which product would you like to add? 1- smartphone 2- T-shirt 3- OOP");
            int choice = read.nextInt();
            Product product;
            switch (choice) {
                case 1:
                    product = new ElectronicProduct(1, "smartphone", 599.9f, "Samsung", 1);
                    break;
                case 2:
                    product = new ClothingProduct(2, "T-shirt", 19.99f, "Medium", "Cotton");
                    break;
                case 3:
                    product = new BookProduct(3, "OOP", 39.99f, "O'Reilly", "X Publications");
                    break;
                default:
                    System.out.println("Invalid choice. Defaulting to smartphone.");
                    product = new ElectronicProduct(1, "smartphone", 599.9f, "Samsung", 1);
                    break; }
            cart.addProduct(product);     }
        System.out.println("Your total is $" + cart.calculatePrice());
        System.out.println("Would you like to place the order? 1-yes 2-no");
        int placeOrderChoice = read.nextInt();
        if (placeOrderChoice == 1) {
            Order order = cart.placeOrder();
            System.out.println("Here's your order summary:");
            order.printOrderInfo();
        } else {
            System.out.println("Order not placed.");}
        read.close(); }}
```

Output - E_commerceSystem (run) ×

```
run:
Welcome to the e-commerce system
Please enter your ID:
23012038
Please enter your name:
samas
Please enter your address:
Alexandria
How many products would you like 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 $679.8700256347656
Would you like to place the order? 1-yes 2-no
1
Here's your order summary:
Order id: 709
Customer id: 23012038
Products:
Cotton - $19.99
X Publications - $39.59
Cotton - $19.99
Samsung - $599.9
Total price: $679.8700256347656
BUILD SUCCESSFUL (total time: 77 seconds)
```

Order
- Order(int customerId, P
- printOrderInfo()
- customer_id : int
- orderId : int
- products : Product[]
- totalPrice : double