Name:jodie abdelrahman kamel

Id:23010051

Department:Business Aanlytics

```java
/*
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 */
package ecommercesystem;
import java.util.Scanner;

/**
 *
 * @author PC
 */
public class EcommerceSystem {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        // TODO code application logic here
        Scanner cs = new Scanner(source:System.in);

        ElectronicProduct electronicProduct = new ElectronicProduct(brand: "Apple", warrantyPeriod: 1 , productId:1 , name: "smartphone" , (float)599.9);
        ClothingProduct clothingProduct = new ClothingProduct(size: "Small" , fabric:"Cotton" , productId:2 , name: "T-shirt" , (float)19.99 );
        BookProduct bookProduct = new BookProduct(author:"Jane Austin" , publisher:"Pearson" , productId:3 , name: "OOP" , (float)39.99);


        // Create customer
        System.out.print(s: "Enter customer ID: ");
        int customerId = cs.nextInt();
        System.out.print(s: "Enter your name: ");
        String customerName = cs.nextLine();
        cs.nextLine();
        System.out.print(s: "Enter your address: ");
        String customerAddress = cs.nextLine();
        Customer customer = new Customer(customerId, name: customerName, address:customerAddress);

        System.out.println(s: "How many products do you want to add to your cart? ");
        int itemsnum = cs.nextInt();
```

```java
        System.out.println(s: "How many products do you want to add to your cart? ");
        int itemsnum = cs.nextInt();
        Cart cart = new Cart(customerId , nProducts:itemsnum);

        for(int i = 0; i<itemsnum; i++){
            System.out.println(s: "Which product would you like to add \n 1- Smartphone 2- T-shirt 3- OOP ");
            int choice = cs.nextInt();
            switch(choice){
                case 1 :
                    cart.addProduct(product:electronicProduct);
                    break;
                case 2 :
                    cart.addProduct(product:clothingProduct);
                    break;
                case 3 :
                    cart.addProduct(product:bookProduct);
                    break;
                default :
                    System.out.println(s: "Invalid option");
            }
        }

        System.out.print("The total is $" + cart.calculatePrice() + " ");
        System.out.println(s: "Would you like to place the order? \n 1- Yes 2- No");
        int option = cs.nextInt();
        switch(option){
            case 1 :
                cart.placeOrder();
                System.out.println(s: "Order placed successfully");
                break;
            case 2 :
                System.out.println(s: "Thank you");
                break;
            default :
                System.out.println(s: "Invalid option");
        }
```

```java
package ecommercesystem;

/**
 *
 * @author PC
 */
public class Product {
    private int productId;
    private String name;
    private float price;

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

    public int getProductId(){
    return productId;
    }

    public String getName(){
    return name;
    }

    public float getPrice(){
    return price;
    }

    public int setProductId(int productId){
    this.productId = productId;
    if(productId <0){
    return Math.abs(s: productId);}
    else{
    return productId;
    }
    }
```

```java
    }

    public int getProductId(){
    return productId;
    }

    public String getName(){
    return name;
    }

    public float getPrice(){
    return price;
    }

    public int setProductId(int productId){
    this.productId = productId;
    if(productId <0){
    return Math.abs(s: productId);}
    else{
    return productId;
    }
    }

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

    public float setPrice(float price){
    this.price = price;
    if(price <0){
    return Math.abs(s: price);
    }else{
    return price;
    }
    }
}
```

ElectronicProduct.java

```java
/**
 *
 * @author PC
 */
public class ElectronicProduct extends Product {
    private String brand;
    private int warrantyPeriod;

    ElectronicProduct(String brand, int warrantyPeriod, int productId, String name, float price){
        super(productId, name, price);
        this.brand = brand;
        this.warrantyPeriod = warrantyPeriod;
    }

    public String getBrand(){
        return brand;
    }

    public int getWarrantyPeriod(){
        return warrantyPeriod;
    }

    public void setBrand(String brand){
        this.brand = brand;
    }

    public int setWarrantyPeriod(int warrantyPeriod){
        this.warrantyPeriod = warrantyPeriod;
        if(warrantyPeriod <0){
            return Math.abs(a: warrantyPeriod);}
        else{
            return warrantyPeriod;
        }
    }
}
```

ClothingProduct.java

```java
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 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
 */
package ecommercesystem;

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

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

    public String getSize(){
        return size;
    }

    public String getFabric(){
        return fabric;
    }

    public void setSize(String size){
        this.size = size;
    }

    public void setFabric(String fabric){
        this.fabric = fabric;
    }
}
```

```java
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 */
package ecommercesystem;

/**
 *
 * @author PC
 */
public class BookProduct extends Product{
    private String author;
    private String publisher;

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

    public String getAuthor(){
        return author;
    }

    public String getPublisher(){
        return publisher;
    }

    public void setAuthor(String author){
        this.author = author;
    }

    public void setPublisher(String publisher){
        this.publisher = publisher;
    }

}
```

```java
public class Customer {
    private int customerId;
    private String name;
    private String address;

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

    public int getCustomerId(){
        return customerId;
    }

    public String getName(){
        return name;
    }

    public String getAddress(){
        return address;
    }

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

    public int setCustomerId(int customerId){
        this.customerId = customerId;
        if(customerId <0){
            return Math.abs(s: customerId);
        }else{
            return customerId;
        }
    }

    public void setAddress(String address){
```

```java
        this.customerId = customerId;
        this.name = name;
        this.address = address;
    }

    public int getCustomerId(){
    return customerId;
    }

    public String getName(){
    return name;
    }

    public String getAddress(){
    return address;
    }

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

    public int setCustomerId(int customerId){
        this.customerId = customerId;
    if(customerId <0){
    return Math.abs(a: customerId);
    }else{
    return customerId;
        }
    }

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

}
```

```java
        }
    }

    public int setnProducts(int nProducts){
        this.nProducts = nProducts;
    if(nProducts < 0){
    return Math.abs(a: nProducts);}
    else{
    return nProducts;
        }
    }

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

    public void addProduct(Product product){
    products[this.element] = product;
        this.element++;

    }

    public void removeProduct(int index){
    if (index >= 0 && index < nProducts){
     // Shift elements to remove the product at index
    for (int i = index; i < nProducts - 1; i++) {
    products[i] = products[i + 1];
    }
    nProducts--;
    products[nProducts] = null; // Set the last element to null for clarity
    }else{
    System.out.println(x: "Invalid product index!");
        }
    }

    public float calculatePrice(){
        float totalPrice = 0;
```

```java
public void addProduct(Product product){
    products[this.element] = product;
    this.element++;

}

public void removeProduct(int index){
    if (index >= 0 && index < nProducts){
    // Shift elements to remove the product at index
    for (int i = index; i < nProducts - 1; i++) {
    products[i] = products[i + 1];
    }
    nProducts--;
    products[nProducts] = null; // Set the last element to null for clarity
    }else{
    System.out.println(x: "Invalid product index!");
     }
    }

public float calculatePrice(){
    float totalPrice = 0;
    for(int i = 0; i < nProducts; i++){
    totalPrice += products[i].getPrice();
    }
    return totalPrice;
    }

public void placeOrder(){
    Order order = new Order(customerId , orderId: 1 , products , (float)calculatePrice());
    order.printOrderInfo();
    }
}
```

```java
public class Order {

    private int customerId;
    private int orderId;
    private Product[]products;
    private float totalPrice;

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

    public int getCustomerId(){
    return customerId;
    }

    public int getOrderId(){
    return orderId;
    }

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

    public double getTotalPrice(){
    return totalPrice;
    }

    public int setCustomerId(int customerId){
    this.customerId = customerId;
    if(customerId <0){
    return Math.abs(a: customerId);}
    else{
    return customerId;
    }
```

```
run:
Enter customer ID: 1
Enter your name: jodie
Enter your address: egypt
How many products do you want to add to your cart?
5
Which product would you like to add
 1- Smartphone 2- T-shirt 3- OOP
1
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
1
Which product would you like to add
 1- Smartphone 2- T-shirt 3- OOP
2
The total is $1279.77 Would you like to place the order?
 1- Yes 2- No
1
Here is your order's summary:
Order ID: 1
Customer ID: 1
Products:
smartphone : 599.9 $
T-shirt : 19.99 $
OOP : 39.99 $
smartphone : 599.9 $
T-shirt : 19.99 $
Total price: $1279.77
Order placed successfully
BUILD SUCCESSFUL (total time: 26 seconds)
```