OOP PROJECT :

THE PRODUCT CLASS:

```
package ecommercesystem;
public class Product {
    protected int ProductID ;
    protected String Name;
    protected float Price;
    // The Id Setter Method Is Below
    public void SetProductID(int id){
        if(id>0){
        ProductID=id;}
        else if (id<0){
            ProductID=Math.abs(id);
        }
    }
    // The Id Getter Method Is Below
    public int GetProductID(){
        return ProductID;
    }
    //  The Name Setter Method Is Below
    public void SetName(String n){
        Name=n;
    }
    //  The Name Getter Method Is Below
    public String GetName(){
        return Name;
    }
    // The Price Setter Method Is Below
    public void SetPrice(float p){
        if(p>0){
        Price=p;}
        else if (p<0){
            Price=Math.abs(p);
        }
    }
    // The Price Getter Method Is Below
    public float GetPrice(){
        return Price;
    }
}
```

THE ELCTRONIC _PRODUCT CLASS :

```
package ecommercesystem;
public class ElectronicProduct extends Product {
    private String Brand;
    private int WarrantyPeriod ;
    //The Brand Setter Method Is Below
    public void SetBrand( String B){
        Brand = B;
    }
    // The Brand Getter Method Is Below
    public String GetBrand(){
        return Brand;
    }
    //  The WarrantyPeriod Setter Method Is Below
    public void SetWarrantyPeriod(int WP){
        if(WP>0){
            WarrantyPeriod=WP;
        }
        else if (WP<0){
            WarrantyPeriod=Math.abs(WP);
        }
    }
    // The WarrantyPeriod Getter Method Is Below
    public int GetWarrantyPeriod(){
        return WarrantyPeriod;
    }
}
```

THE CLOTHING-PRODUCT CLASS:

```
package ecommercesystem;
public class ClothingProduct extends Product{
    private String Size,Fabric ;
    // The Size Setter Method Is Below
    public void SetSize( String S){
        Size = S;
    }
    // The Size Getter Method Is Below
    public String GetSize(){
        return Size;
    }
    // The Fabric Setter Method Is Below
    public void SetFabric(String F){
        Fabric=F;
    }
    // The Fabric Getter Method Is Below
    public String GetFabric(){
        return Fabric ;
    }
}
```

THE BOOK-PRODUCT CLASS :

```
package ecommercesystem;
public class BookProduct extends Product{
    private String Author,Publisher;
    // The Author Setter Method Is Below
    public void SetAuthor(String A){
        Author = A;
    }
    // The Author Getter Method Is Below
    public String GetAuthor(){
        return Author;
    }
    // The Publisher Setter Method Is Below
    public void SetPublisher( String P){
        Publisher=P;
    }
    // The Publisher Getter Method Is Below
    public String GetPublisher(){
        return Publisher;
    }
}
```

THE CUSTOMER CLASS :

```
package ecommercesystem;
public class Customer {
    private int CustomerId;
    private String Name;
    private String Address;
    // The CustomerId Setter Method Is Below
    public void SetCustomerId(int ID){
        if(ID>0){
         CustomerId=ID;
        }
        else if (ID<0){
            CustomerId=Math.abs(ID);
        }
    }
    // The CustomerId Getter Method Is Below
    public int GetCustomerId(){
        return CustomerId;
    }
    // The Name Setter Method Is Below
    public void SetName( String n){
        Name = n ;
    }
    // The Name Getter Method Is Below
    public String GetName(){
        return Name;
    }
    // The Address Setter Method Is Below
    public void SetAddress( String Ad){
        Address= Ad;
    }
    // The Address Getter Method Is Below
    public String GetAddress(){
        return Address;
    }
}
```

THE CART CLASS :

```
package ecommercesystem;
public class Cart {
    private int CustomerId;
    private int nProducts;
    private Product[] products;
    // The CustomerId Setter Method Is Below
    public void SetCustomerId(int ID) {
        if (ID > 0) {
            CustomerId = ID;
        } else if (ID < 0) {
            CustomerId = Math.abs(ID);
        }
    }
    //  The CustomerId Getter Method Is Below
    public int GetCustomerId() {
        return CustomerId;
    }
    // The nProducts Setter Method Is Below
    public void SetnProducts(int n) {
        if (n > 0) {
            nProducts = n;
        } else if (n < 0) {
            nProducts = Math.abs(n);
        }
        products = new Product[nProducts];
    }
    // The nProducts Getter Method Is Below
    public int GetnProducts() {
        return nProducts;
    }
    // The AddProduct Method Is Below
    public void AddProduct(Product product) {
        for (int i = 0; i < nProducts; i++) {
            if (products[i] == null) {
                products[i] = product;
                break;
            }
        }
    }
    // The RemoveProduct Method Is Below
```

```
    public void RemoveProduct(Product product) {
        for (int i = 0; i < nProducts; i++) {
            if (products[i] == product) {
                products[i] = null;
            }

        }
    }
    // The [] products Getter Method Is Below
    public Product[] GetProducts() {
        return products;
    }
    //The CalculatePrice Method Is Below
    public float CalculatePrice() {
        float total = 0;
        for (int i = 0; i < nProducts; i++) {
            if (products[i] != null) {
                total = total + products[i].GetPrice();
            }
        }
        return total;
    }
    // The PlaceOrder Method Is Below
    public void PlaceOrder() {
         System.out.println("Your total is $" +
CalculatePrice() + ". Would you like to place the order?
1-yes 2-no");
    }
}
```

THE ORDER CLASS :

```
package ecommercesystem;
public class Order {
    private int CustomerId;
    private int OrderID;
    private float Total ;
    private String CustomerName;
    private Product[] products;
    public Order(String CustomerName, int CustomerId,int
OrderID,float Total,Product[] products){
        this.CustomerId=Math.abs(CustomerId);
        this.OrderID=Math.abs(OrderID);
        this.Total=Math.abs(Total);
        this.products=products;
        this.CustomerName=CustomerName;
    }
    // The PrintOrder Method Is Below
    float total=0;
    public void PrintOrder(){
            System.out.println("Here's Your Order's
summary:");
            System.out.println("Order ID:"+OrderID);
            System.out.println("Customer Namee: "+
CustomerName );
            System.out.println("Customer ID:"+
CustomerId);
            System.out.println("Products:");
            for(int i=0;i<products.length;i++){
                if(products[i]!=null){

System.out.println(products[i].GetName()+"-
$"+products[i].GetPrice());
                    total=total+products[i].GetPrice();
                }
            }
            System.out.println("total price: "+total);

    }
}
```

THE E-COMMERCE CLASS:

```
package ecommercesystem;
import java.util.Scanner;
public class EcommerceSystem {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        ElectronicProduct Ep = new ElectronicProduct();
        Ep.SetName("Smart Phone");
        Ep.SetProductID(1);
        Ep.SetPrice(599.99f);
        Ep.SetBrand("Samsung");
        Ep.SetWarrantyPeriod(1);
        ClothingProduct Cp = new ClothingProduct();
        Cp.SetName("T-shirt");
        Cp.SetProductID(2);
        Cp.SetPrice(19.99f);
        Cp.SetSize("Medium");
        Cp.SetFabric("Cotton");
        BookProduct Bp = new BookProduct();
        Bp.SetName("oop");
        Bp.SetProductID(3);
        Bp.SetPrice(39.99f);
        Bp.SetAuthor("O' Reilly");
        Bp.SetPublisher("X Publications");
        Customer c = new Customer();
        int MakeOtherOrder = 0;
        int OrderCount = 1;
        do {
            MakeOtherOrder = 0;
            System.out.println("Welcome to the E-Commerce
System!");
            System.out.println("Please enter your id ");
            int x = input.nextInt();
            input.nextLine();
            System.out.println("Please enter your name");
            String n = input.nextLine();
            System.out.println("Please enter your
address");
            String A = input.nextLine();
            c.SetCustomerId(x);
            c.SetName(n);
```

```
            c.SetAddress(A);
            System.out.println("How many products you
want to add to your cart ?");
            int y = input.nextInt();
            Cart c1 = new Cart();
            c1.SetnProducts(y);
            c1.SetCustomerId(x);
            input.nextLine();
     for (int i = 0; i < y; i++) {
    System.out.println("Which product would you like to
add? 1-SmartPhone 2- T-shirt  3- oop");
    int z = input.nextInt();
    switch (z) {
        case 1:
           c1.AddProduct(Ep);
           break;
        case 2:
            c1.AddProduct(Cp);
             break;
        case 3:
             c1.AddProduct(Bp);
             break;
            default:
               break;
        }
    }
    c1.PlaceOrder();
      int r = input.nextInt();
       if (r == 1) {
        Order O = new Order(c.GetName(),
c.GetCustomerId(), OrderCount, c1.CalculatePrice(),
c1.GetProducts());
            O.PrintOrder();
            }
       else if (r == 2) {
    System.out.println("Do you want to remove a products
from the cart or make another order ? 1- remove  2-make
another order");
         int choice = input.nextInt();
         switch (choice) {
        case 1:
```

```
            System.out.println("What product you want to
remove ? 1-SmartPhone 2- T-shirt  3- oop");
       int RemovedProduct = input.nextInt();
            switch (RemovedProduct) {
            case 1:
              c1.RemoveProduct(Ep);
          break;
            case 2:
         c1.RemoveProduct(Cp);
          break;
            case 3:
          c1.RemoveProduct(Bp);
                }
        Order O2 = new Order(c.GetName(),
c.GetCustomerId(), OrderCount, c1.CalculatePrice(),
c1.GetProducts());
        O2.PrintOrder();
        break ;
        case 2:
        MakeOtherOrder = 1;
        OrderCount = OrderCount + 1;
        break;
                }
            }
        } while (MakeOtherOrder == 1);
    }
}
```

THE OUTPUT:

```
run:
Welcome to the E-Commerce System!
Please enter your id
23010158
Please enter your name
sohier mohamed salah eldin
Please enter your address
alexandria
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 is $679.95996. Would you like to place the order? 1-yes 2-no
1
Here's Your Order's summary:
Order ID:1
Customer Namee: sohier mohamed salah eldin
Customer ID:23010158
Products:
T-shirt- $19.99
oop- $39.99
T-shirt- $19.99
Smart Phone- $599.99
total price: 679.95996
BUILD SUCCESSFUL (total time: 55 seconds)
```