

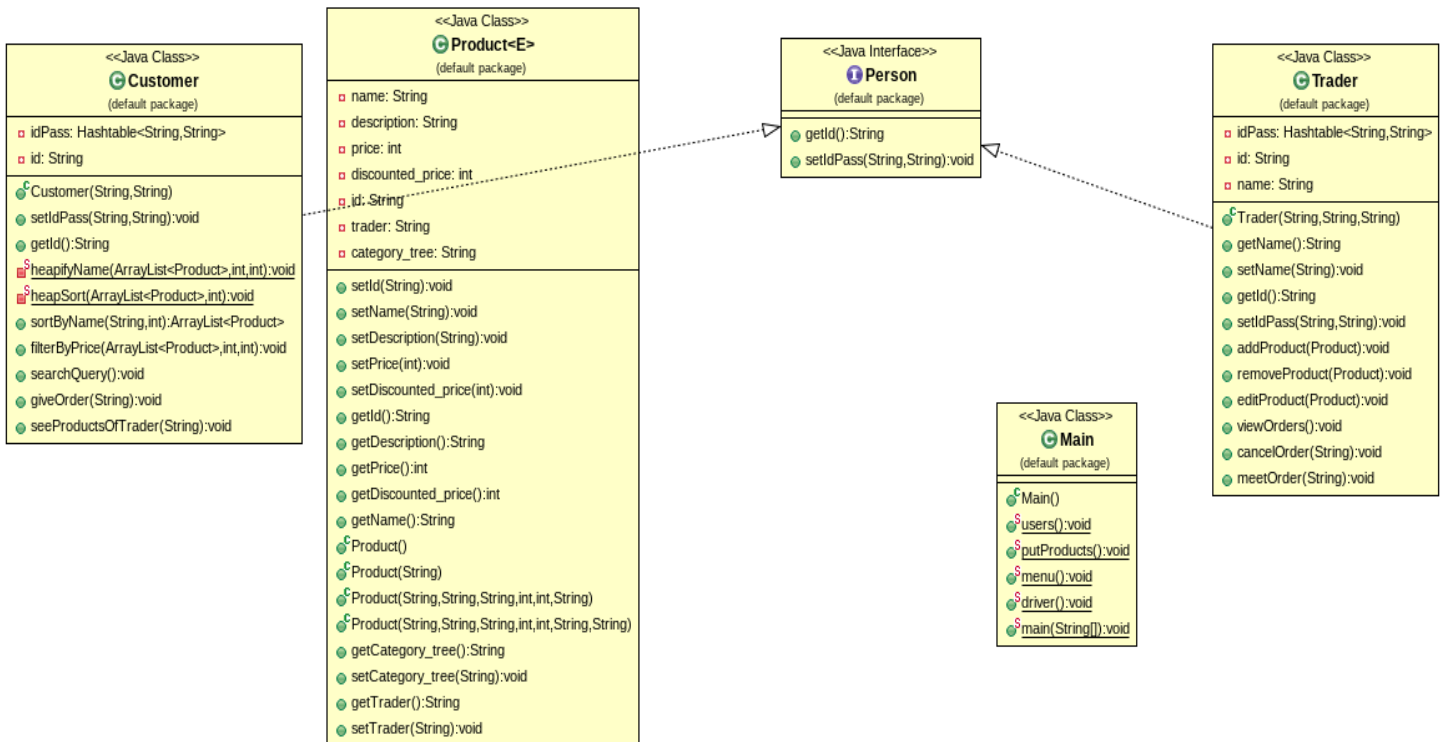
**GIT Department of Computer Engineering**  
**CSE 222/505 - Spring 2021**  
**Homework 6 Report**

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## **PROBLEM SOLUTIONS APPROACH**

Firstly I read users in users.txt , I created id and password of customers and traders. Then I read products into products.txt . I created Customer class which implements Person interface to keep information about customers and have their operations such as search,query, view products of a trader. I used 3 sorting algorithms in Customer's operations, these are Insertion Sort, Heap Sort and Bubble Sort. I used Bubble Sort while filtering by price because data was nearly sorted and I used Heap Sort while sorting by name because names were not nearly sorted and heap sort gives great results in such cases. I used Insertion Sort to sort trader's products according to names because just one trader's products are not very much and Insertion Sort has great complexity in such cases. I could just sort according to name and filter according to upper limit or lower limit or both. I have Product class to keep products' information and getter-setters, E extends Comparable in Product class. Customer and Trader classes implement Person interface. All functionalities of Trader is complete. Trader can add, remove, edit products and view, cancel, meet orders of trader's products. While dealing with products, I write/read file to avoid keeping products in memory. I run methods of Trader and Customer in driver method.

# CLASS DIAGRAMS



## TEST CASES

Test Case #	Test Case Description
1	View orders

```
Trader t = new Trader( id: "T9999999", password: "999999", name: "Alisha");

System.out.println("\nView orders:");
t.viewOrders();
```

```
View orders:
Product Id: SRTEH2FF9KEDEF6F
Customer Id: 999999
Trader: Alisha
Statement: Not met
```

Test Case #	Test Case Description
2	Cancel order

```
System.out.println("\nCancel order:");
t.cancelOrder( id: "SRTEH2FF9KEDEF6F");
```

```
Cancel order:
Below order is cancelled

Product Id: SRTEH2FF9KEDEF6F
Customer Id: 999999
Trader: Alisha
```

Test Case #	Test Case Description
3	Meet nonexistent order

```
System.out.println("\nMeet nonexistent order:");
t.meetOrder( id: "SRTEH2FF9KEDEF6F");
```

```
Meet nonexistent order:
Order couldn't find and met.
```

Test Case #	Test Case Description
4	Add product

```
System.out.println("\nAdd product:");  
t.addProduct(new Product('id: "1afafqw123", name: "Masa", description: "Mavi masa", price: 100, discounted_price: 50, trader: "Alisha"));
```

Product is added

Product Id: 1afafqw123

Product Name: Masa

Price: 100

Discounted Price: 50

Description: Mavi masa

Test Case #	Test Case Description
5	Remove product

```
System.out.println("\nRemove product:");
t.removeProduct(new Product( id: "1afafqw123", name: "Masa", description: "Mavi masa", price: 100, discounted_price: 50, trader: "Alisha"));
```

```
Remove product:
Below product is removed

Product Id: 1afafqw123
Product Name: Masa
Price: 100
Discounted Price: 50
Description: Mavi masa
```

Test Case #	Test Case Description
6	Edit product

```
System.out.println("\nEdit product:");
t.editProduct(new Product( id: "1afafqw123", name: "Masa", description: "Mavi masa", price: 100, discounted_price: 50, trader: "Alisha"));
```

```
Edit product:
Product edited.
```

```
/// Edited /// Edited /// 5 /// 1 /// Edited /// Alisha
$$$
```

Test Case #	Test Case Description
7	Sort products that contains given text in their name or description(Didn't fit screen)

```
System.out.println("Sort products that contains given text in their name or description\n");
ca.sortByName( productName: "Alisha");
```

Sort products that contains given text in their name or description

Product Id: SRTEH2F6HUZMQ6SJ

Product Name: Alisha Solid Women's Cycling Shorts

Product Price: 699

Discounted Price: 267

Description: Key Features of Alisha Solid Women's Cycling Shorts Cotton Lycra Black, Red, Specifications of Alisha Solid Women's Cycling Shorts Shorts Detail

Product Id: SRTEH2FVVKRBAXHB

Product Name: Alisha Solid Women's Cycling Shorts

Product Price: 1199

Discounted Price: 479

Description: Key Features of Alisha Solid Women's Cycling Shorts Cotton Lycra Navy, Red, White, Red, Specifications of Alisha Solid Women's Cycling Shorts Sh

Product Id: SRTEH2FVUHAAPH9X

Product Name: Alisha Solid Women's Cycling Shorts

Product Price: 1199

Discounted Price: 479

Description: Key Features of Alisha Solid Women's Cycling Shorts Cotton Lycra White, Black, Red, Black, Specifications of Alisha Solid Women's Cycling Shorts

Product Id: SRTEH2F6BDJ6X8FW

Product Name: Alisha Solid Women's Cycling Shorts

Product Price: 999

Discounted Price: 379



Test Case #	Test Case Description
8	Filter sorted products that contains given text in their name or description by price

```
System.out.println("Filter sorted products that contains given text in their name or description by price\n");
ca.filterByPrice(ca.sortByName( productName: "Alisha", val: 0), lowerLimit: 10, upperLimit: 1000);
```

Filter sorted products that contains given text in their name or description by price

Product Id: SRTEH2FGBDJ6X8FW

Product Name: Alisha Solid Women's Cycling Shorts

Product Price: 999

Discounted Price: 379

Description: Key Features of Alisha Solid Women's Cycling Shorts Cotton Lycra Black, White, Black,Specifications of Alisha Solid Women's Cycling Shorts Short

Product Id: SRTEH2FECM6NZJXJ

Product Name: Alisha Solid Women's Cycling Shorts

Product Price: 999

Discounted Price: 379

Description: Key Features of Alisha Solid Women's Cycling Shorts Cotton Lycra Black, White, White,Specifications of Alisha Solid Women's Cycling Shorts Short

Product Id: SRTEH2FF9KEDEF6F

Product Name: Alisha Solid Women's Cycling Shorts

Product Price: 999

Discounted Price: 379

Description: Key Features of Alisha Solid Women's Cycling Shorts Cotton Lycra Navy, Red, Navy,Specifications of Alisha Solid Women's Cycling Shorts Shorts D

Product Id: SRTEH2F6HUZMQ6SJ

Product Name: Alisha Solid Women's Cycling Shorts

Test Case #	Test Case Description
9	Give order

```
System.out.println("Give order");
ca.giveOrder( productName: "AW Bellies");
```

```
Give order
Below order is given:
Product Id: SH0EH4GRSUBJGZXE
Trader: BigCompany
```

Test Case #	Test Case Description
10	View products of a trader

```
System.out.println("View products of a trader");
ca.seeProductsOfTrader( traderName: "Ladela");
System.out.println("\n");
```

```
View products of a trader
Product Id: SH0EH4KM2W3Z6EH5
Product Name: Ladela Bellies
Product Price: 1724
Discounted Price: 950
Description: Key Features of Ladela Bellies Brand: LADELA Color : Black,Ladela Bellies Price: Rs. 950 Experience the best bellies from the house of Ladela.
```

## RUNNING COMMAND AND RESULTS

### 1) Add product

```
Please enter your choice:
1
Please enter product informations respectively
Product Id:
21412KLKL1
Product Name:
Sandalye
Product Category Tree:
Mobilya>>Sandalye
Price:
100
Discounted Price:
55
Description:
Sari
Product is added

Product Id: 21412KLKL1
Product Name: Sandalye
Price: 100
Discounted Price: 55
Description: Sari
```

### 2) Remove product

```
Please enter your choice:
2
Please enter product id
Product Id:
21412KLKL1
Below product is removed

Product Id: 21412KLKL1
Product Name: Sandalye
Price: 100
Discounted Price: 55
Description: Sari
```

### 3) Edit product

```
Please enter your choice:
3
Please enter product id
Product Id:
SH0EH4GRSUBJGZXE
Please enter new information of product respectively
Product Name:
Edited
Product Category Tree:
a>>b>>c
Price:
1234
Discounted Price:
1
Description:
Edited
```

```
SH0EH4GRSUBJGZXE /// Edited /// a>>b>>c /// 1234 /// 1 /// Edited /// BigCompany
```

### 4) View orders

```
Please enter your choice:
4
Product Id: SH0EH4GRSUBJGZXE
Customer Id: a
Trader: BigCompany
State: Not met
```

## 5) Meet orders

```
Please enter your choice:  
5  
Please enter id of product to meet order:  
SH0EH4GRSUBJGZXE  
Below order is met  
  
Product Id: SH0EH4GRSUBJGZXE  
Customer Id: a  
Trader: BigCompany
```

## 6) Cancel orders

```
Please enter your choice:  
6  
Please enter id of product to cancel order:  
SH0EH4GRSUBJGZXE  
Below order is cancelled  
  
Product Id: SH0EH4GRSUBJGZXE  
Customer Id: a  
Trader: BigCompany
```

## 7) View A Trader's Products

```
WELCOME

1-View A Trader's Products

2-Search & Query

0-Exit

Please enter your choice:
1
Please enter trader name to view trader's products:
Ladela
Product Id: SH0EH4KM2W3Z6EH5
Product Name: Ladela Bellies
Product Price: 1724
Discounted Price: 950
Description: Key Features of Ladela Bellies Brand: LADELA Color : Black,Ladela Bellies Price: Rs. 950 Experience the best bellies from the house of Ladela.
```

## 8) Search & Query

```
WELCOME

1-View A Trader's Products

2-Search & Query

0-Exit

Please enter your choice:
2
Please enter product name:
Alisha
How do you want to filter search results?

1-By name
Please enter your choice:
1
Product Id: SRTEH2F6HUZMQ6SJ
Product Name: Alisha Solid Women's Cycling Shorts
Product Price: 699
Discounted Price: 267
Description: Key Features of Alisha Solid Women's Cycling Shorts Cotton Lycra Black, Red,Specifications of Alisha Solid Women's Cycling Shorts Shorts Detail.
```

Do you want to filter search results? Please write yes or no

yes

Please make choice

1-Filter by price

1

Please make choice

1-Filter with upper limit and lower limit

2-Filter with upper limit

3-Filter with lower limit

1

Please enter upper limit:

1000

Please enter lower limit:

10

Product Id: SRTEH2F6BDJ6X8FW

Product Name: Alisha Solid Women's Cycling Shorts

Product Price: 999

Discounted Price: 379

Description: Key Features of Alisha Solid Women's Cycling Shorts Cotton Lycra Black, White, Black,Specifications of Alisha Solid Women's Cycling Shorts Short

Product Id: SRTEH2FECM6NZJXJ

Product Name: Alisha Solid Women's Cycling Shorts

Product Price: 999

Product Price: 999

Discounted Price: 379

Description: Key Features of Alisha Solid Women's Cycling Shorts Cotton Lycra Black, White, White,Specifications of Alisha Solid Women's Cycling Shorts Short

Product Id: SRTEH2FF9KEDEF6F

Product Name: Alisha Solid Women's Cycling Shorts

Product Price: 999

Discounted Price: 379

Description: Key Features of Alisha Solid Women's Cycling Shorts Cotton Lycra Navy, Red, Navy,Specifications of Alisha Solid Women's Cycling Shorts Shorts D

Product Id: SRTEH2F6HUZMQ6SJ

Product Name: Alisha Solid Women's Cycling Shorts

Product Price: 699

Discounted Price: 267

Description: Key Features of Alisha Solid Women's Cycling Shorts Cotton Lycra Black, Red,Specifications of Alisha Solid Women's Cycling Shorts Shorts Detail

Do you want to give order? Please write yes or no

yes

Please enter product name:

Alisha Solid Women's Cycling Shorts

Below order is given:

Product Id: SRTEH2F6HUZMQ6SJ

Trader: Alisha