

GEBZE TECHNICAL UNIVERSITY

COMPUTER ENGINEERING

CSE222-2021

HOMEWORK 06 REPORT

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1 INTRODUCTION

1.1 Problem Definition

Traders add, remove, and edit products on their shop. Each product has a unique ID, a hierarchical category, a name, a description, a price, and a discount amount.

- Traders see the list of orders from customers and can meet or cancel the orders.
- Customers can search and query the products by their names. The products that contain the search text in their name or description should be returned in the results.
- The search results are shown in decreasing order of the product name. Customers can sort the products in the search results by their prices, the percentage of the discount, or the name.
- The search results can be filtered by their category or the prices with respect to given upper or lower (or both) thresholds. The customer can filter the products not only in the lowest level category but also in any higher-level category.
- Customers can display all the products of a trader.

2.1 Problem Solution Approach

First of all i read commerce-sample file and i load it to arraylist and i sorted it according to trader name because i think if trader sorted we can easily trader product and it provides ease, and then i create ten customer then i saved it traders file with trader and customer together.

There is Check trader and check customer function when login to the system i check if trader or customer in trader file or not and continue according to the it.

When we add ,remove or edit product i read sorted file and i load it to the structure to control easily then i removed, added or edit the product then i sorted again according to trader then i save sorted file again and i did null the structure always.

Meet function -> i read orders from order file and i read products from sorted file then i check it the product in structure if has product i remove it from structure (product) and from structure (order) then i save it to the files and i did null structures.

Cancel function -> i only remove from orders file, late it is same with meet function.

we can add order to the given customer.

Search Product-> return arraylist product of given text has it in name or dscription.

I use my sorting function and i use comperator for it.

ArrayList -> i use every class almost. it is easy to use and fast.The reason for using the list(ArrayList) structure is that it is easy to add elements to it and to access elements with get method.

LinkedList -> i use Database Class for write traders to the file. And at traders class in checktraders function. This process saves a lot of time in the management of big data sources such as hardisk and memory.

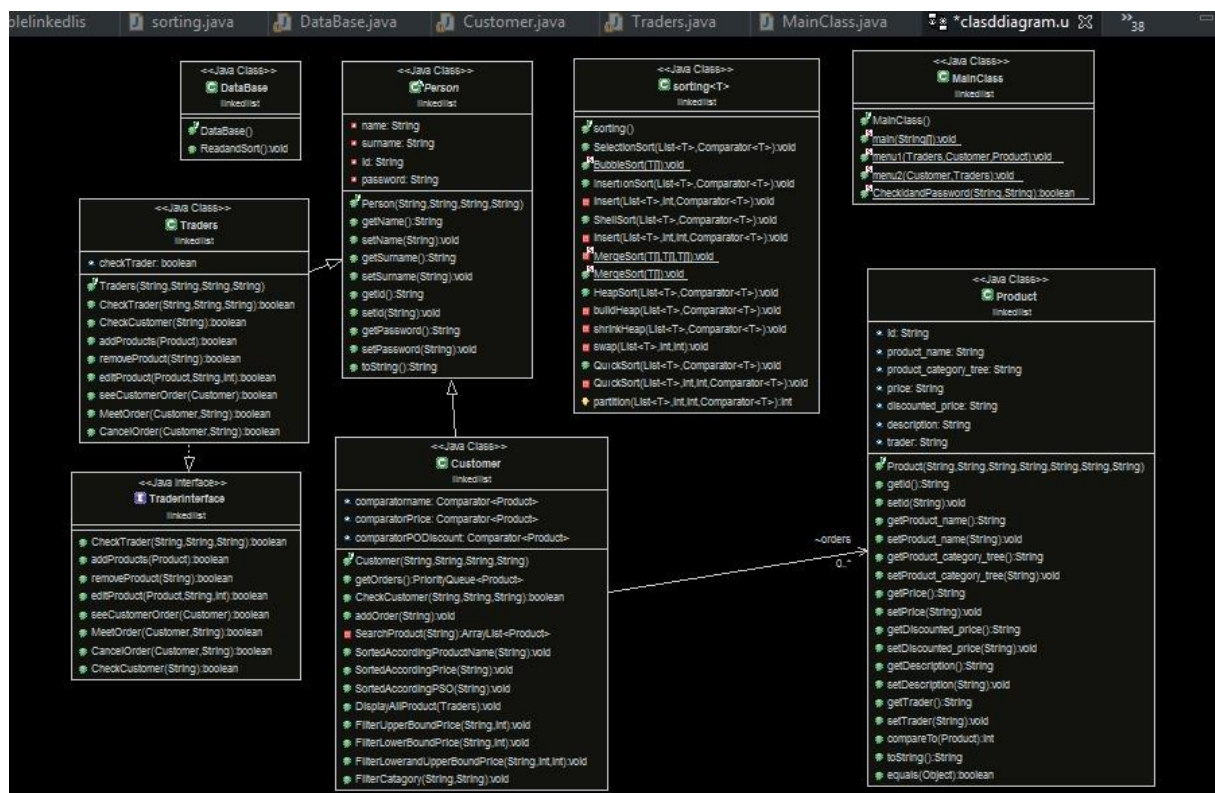
Queue (Priority Queue) -> at customer class in addorder function.The reason that i choose to use Priority queue is to sort ordered easily.

The queue structure is preferred to show the first capability that entered first.

Tree (TreeSet) -> at trader class in cancelorder function. TreeSet takes $O(\log n)$ for search, insert and delete which is higher than HashSet. But TreeSet keeps sorted data. so i use treeset.

Hash Table (HashMap) -> at trader class in checkcustomer function. i use hashmap here because there is customer and trader i use "C" (for customer) and "T" (for trader) for key then i reach values using key it provide ease to reach customer and trader easily.

2.2 Class Diagram



3.1 Test Cases

Add Product : Last element is added and sorted then i write file again.

SSTEUY4DGTGAYBS;10AK Women's Floral Print Casual Shirt;["Clothing >> Women's Clothing >> Western Wear >> Shirts, Tops & Tunics >> Shirts >> 10AK Shirts >> 10AK Women's Floral Print Casual Shirt""];899;675;Key Features of 10AK Women's Floral Print Casual Shirt Fit: Regular Fabric: Poly Crepe Suitable For: Western Wear Sleeve: Sleeveless,Specifications of 10AK Women's Floral Print Casual Shirt General Details Pattern Floral Print Ideal For Women's Occasion Casual Shirt Details Sleeve Sleeveless Number of Contents in Sales Package Pack of 1 Brand Fit Regular Fabric Poly Crepe Fit Regular Additional Details Style Code PI7IVORYMULTI;10AK;
SSTEUY5SARGYFJS;10AK Women's Polka Print Casual Shirt;["Clothing >> Women's Clothing >> Western Wear >> Shirts, Tops & Tunics >> Shirts >> 10AK Shirts >> 10AK Women's Polka Print Casual Shirt""];799;599;Key Features of 10AK Women's Polka Print Casual Shirt Fit: Regular Fabric: Cotton Suitable For: Western Wear Sleeve: Full Sleeve,Specifications of 10AK Women's Polka Print Casual Shirt General Details Pattern Polka Print Occasion Casual Ideal For Women's Shirt Details Sleeve Full Sleeve Number of Contents in Sales Package Pack of 1 Brand Fit Regular Fabric Cotton Fit Regular Additional Details Style Code PI17TURQMULTI;10AK;
LGTEGZ5HBUJZXHGA;10AK Women's Plural Print Casual Shirt;["Clothing >> Women's Clothing >> Western Wear >> Shirts, Tops & Tunics >> Shirts >> 10AK Shirts >> 10AK Women's Plural Print Casual Shirt""];899;444;AAAAAAA;10AK;

Remove Product:According to the upper picture i remove first element that hasBS Id.

SHTEHU55ARGVFJS;10AK Women's Polka Print Casual Shirt;["Clothing >> Women's Clothing >> Western Wear >> Shirts, Tops & Tunics >> Shirts >> 10AK Shirts >> 10AK Women's Polka Print Casual Shirt"];799;599;Key Features of 10AK Women's Polka Print Casual Shirt Fit: Regular Fabric: Cotton Suitable For: Western Wear Sleeve: Full Sleeve,Specifications of 10AK Women's Polka Print Casual Shirt General Details Pattern Polka Print Occasion Casual Ideal For Women's Shirt Details Sleeve Full Sleeve Number of Contents in Sales Package Pack of 1 Brand Fit Regular Fabric Cotton Fit Regular Additional Details Style Code PI17TURQMLTI;10AK; LGTEGZ5HBUJZXHGA;10AK Women's Plural Print Casual Shirt;["Clothing >> Women's Clothing >> Western Wear >> Shirts, Tops & Tunics >> Shirts >> 10AK Shirts >> 10AK Women's Plural Print Casual Shirt"];899;444;AAAAAA;10AK;

Edit Product:I change last element catogory in the picture bound .

SHTEHU55ARGVFJ5;10AK Women's Polka Print Casual Shirt;["Clothing >> Women's Clothing >> Western Wear >> Shirts, Tops & Tunics >> Shirts >> 10AK Shirts >> 10AK Women's Polka Print Casual Shirt"];799;599;Key Features of 10AK Women's Polka Print Casual Shirt Fit: Regular Fabric: Cotton Suitable For: Western Wear Sleeve: Full Sleeve,Specifications of 10AK Women's Polka Print Casual Shirt General Details Pattern Polka Print Occasion Casual Ideal For Women's Shirt Details Sleeve Full Sleeve Number of Contents in Sales Package Pack of 1 Brand Fit Regular Fabric Cotton Fit Regular Additional Details Style Code PI17TURQMULTI;10AK; LGTEGZ5HBUJZXHGA;10AK Women's Plural Print Casual Shirt;BBBBBBB8;899;444;AAAAAAA;10AK;

See Order of customer:

Product	[id=CRTEA7HA7X3CW7YQ,	product_name=3a	AUTOCARE	Car	Mat	Maruti Swift Dzire,	product_category_tree=""	Automotive	>>	Accessories & Spare parts	>>	Car Interior & Exterior	>>	Car Inter
Product	[id=CRTEA7HAATHHKG6A,	product_name=3a	AUTOCARE	Car	Mat	Mahindra Scorpio,	product_category_tree=""	Automotive	>>	Accessories & Spare parts	>>	Car Interior & Exterior	>>	Car Inter
Product	[id=CRTEA7HAHSHGHCEN,	product_name=3a	AUTOCARE	Car	Mat	Hyundai Xcent,	product_category_tree=""	Automotive	>>	Accessories & Spare parts	>>	Car Interior & Exterior	>>	Car Interior
Product	[id=CRTEA7HASSJUVUUV,	product_name=3a	AUTOCARE	Car	Mat	Maruti Celerio,	product_category_tree=""	Automotive	>>	Accessories & Spare parts	>>	Car Interior & Exterior	>>	Car Interior
Product	[id=CRTEA7HAJDHXAG6,	product_name=3a	AUTOCARE	Car	Mat	Toyota Etios Liva,	product_category_tree=""	Automotive	>>	Accessories & Spare parts	>>	Car Interior & Exterior	>>	Car Inter
Product	[id=CRTEA7HAZZFHSXG,	product_name=3a	AUTOCARE	Car	Mat	Hyundai Grand i10,	product_category_tree=""	Automotive	>>	Accessories & Spare parts	>>	Car Interior & Exterior	>>	Car Inter

Meet Order :

Before meet order .

```
of 1 Brand Fit Regular Fabric Cotton Fit Regular Additional Details Style Code PI17TURQMULTI;10AK;
LGTEGZ5HBUIZXHGA;10AK Women's Plural Print Casual Shirt;BBBBBBBB;899;444;AAAAAAA;10AK;
CRTE8ZWHBQ736Q;3D Mat Floor Car Mat Toyota Innova;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car
Interior >> Car Mats"""];7250;6999;Buy 3D Mat Floor Car Mat Toyota Innova for Rs.6999 online. 3D Mat Floor Car Mat Toyota Innova at be
prices with FREE shipping & cash on delivery. Only Genuine Products. 30 Day Replacement Guarantee.;3D Mat;
CRTEA7HAJDHDXA9G;3a AUTOCARE Car Mat Toyota Etios Liva;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car
Interior >> Car Mats"""];2250;1490;Buy 3a AUTOCARE Car Mat Toyota Etios Liva for Rs.1490 online. 3a AUTOCARE Car Mat Toyota Etios Liva
best prices with FREE shipping & cash on delivery. Only Genuine Products. 30 Day Replacement Guarantee.;3a AUTOCARE;
CRTEA7HAZZEFHSGX;3a AUTOCARE Car Mat Hyundai Grand i10;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car
Interior >> Car Mats"""];2250;1490;Buy 3a AUTOCARE Car Mat Hyundai Grand i10 for Rs.1490 online. 3a AUTOCARE Car Mat Hyundai Grand i10
best prices with FREE shipping & cash on delivery. Only Genuine Products. 30 Day Replacement Guarantee.;3a AUTOCARE;
CRTEA7HA7X3CW7YQ;3a AUTOCARE Car Mat Maruti Swift Dzire;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car
Interior >> Car Mats"""];2250;1490;Buy 3a AUTOCARE Car Mat Maruti Swift Dzire for Rs.1490 online. 3a AUTOCARE Car Mat Maruti Swift Dzi
at best prices with FREE shipping & cash on delivery. Only Genuine Products. 30 Day Replacement Guarantee.;3a AUTOCARE;
CRTEA7HAQQCGTPFU;3a AUTOCARE Car Mat Hyundai Santro;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car
Interior >> Car Mats"""];2250;1490;Buy 3a AUTOCARE Car Mat Hyundai Santro for Rs.1490 online. 3a AUTOCARE Car Mat Hyundai Santro at be
prices with FREE shipping & cash on delivery. Only Genuine Products. 30 Day Replacement Guarantee.;3a AUTOCARE;
CRTEA7HAXMYFVGXX;3a AUTOCARE Car Mat Maruti Ciaz;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interio
>> Car Mats"""];2400;1890;Buy 3a AUTOCARE Car Mat Maruti Ciaz for Rs.1890 online. 3a AUTOCARE Car Mat Maruti Ciaz at best prices with
FREE shipping & cash on delivery. Only Genuine Products. 30 Day Replacement Guarantee.;3a AUTOCARE;
CRTEA7HAATHHK6EA;3a AUTOCARE Car Mat Mahindra Scorpio;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car
```

After Meet order i remove product from product file and order file.

```
CRTEA7HA7X3CW7YQ;3a AUTOCARE Car Mat Maruti Swift Dzire;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car
Interior >> Car Mats"""];2250;1490;Buy 3a AUTOCARE Car Mat Maruti Swift Dzire for Rs.1490 online. 3a AUTOCARE Car Mat Maruti Swift Dzire a
best prices with FREE shipping & cash on delivery. Only Genuine Products. 30 Day Replacement Guarantee.;3a AUTOCARE;Ahmet9;
CRTEA7HAATHHK6EA;3a AUTOCARE Car Mat Mahindra Scorpio;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car
Interior >> Car Mats"""];3500;2750;Buy 3a AUTOCARE Car Mat Mahindra Scorpio for Rs.2750 online. 3a AUTOCARE Car Mat Mahindra Scorpio at
best prices with FREE shipping & cash on delivery. Only Genuine Products. 30 Day Replacement Guarantee.;3a AUTOCARE;Ahmet9;
CRTEA7HAHHKCSHCEN;3a AUTOCARE Car Mat Hyundai Xcent;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior
>> Car Mats"""];2600;1790;Buy 3a AUTOCARE Car Mat Hyundai Xcent for Rs.1790 online. 3a AUTOCARE Car Mat Hyundai Xcent at best prices with
FREE shipping & cash on delivery. Only Genuine Products. 30 Day Replacement Guarantee.;3a AUTOCARE;Ahmet9;
CRTEA7HAJDHDXA9G;3a AUTOCARE Car Mat Toyota Etios Liva;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car
Interior >> Car Mats"""];2250;1490;Buy 3a AUTOCARE Car Mat Toyota Etios Liva for Rs.1490 online. 3a AUTOCARE Car Mat Toyota Etios Liva at
best prices with FREE shipping & cash on delivery. Only Genuine Products. 30 Day Replacement Guarantee.;3a AUTOCARE;Ahmet9;
CRTEA7HAZZEFHSGX;3a AUTOCARE Car Mat Hyundai Grand i10;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car
Interior >> Car Mats"""];2250;1490;Buy 3a AUTOCARE Car Mat Hyundai Grand i10 for Rs.1490 online. 3a AUTOCARE Car Mat Hyundai Grand i10 at
best prices with FREE shipping & cash on delivery. Only Genuine Products. 30 Day Replacement Guarantee.;3a AUTOCARE;Ahmet9;
```

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[Product [id=CRTEA7HA7X3CW7YQ, product_name=3a AUTOCARE Car Mat Maruti Swift Dzire, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car In
, Product [id=CRTEA7HAATHHK6EA, product_name=3a AUTOCARE Car Mat Mahindra Scorpio, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Int
, Product [id=CRTEA7HAHHKCSHCEN, product_name=3a AUTOCARE Car Mat Hyundai Xcent, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interi
, Product [id=CRTEA7HAZZEFHSGX, product_name=3a AUTOCARE Car Mat Hyundai Grand i10, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car In
, Product [id=CRTEA7HAJDHDXA9G, product_name=3a AUTOCARE Car Mat Toyota Etios Liva, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car In
]
```

Cancel Order:I remove product from order file.

```
[Product [id=CRTEA7HA7X3CW7YQ, product_name=3a AUTOCARE Car Mat Maruti Swift Dzire, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car In
, Product [id=CRTEA7HAATHHK6EA, product_name=3a AUTOCARE Car Mat Mahindra Scorpio, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Int
, Product [id=CRTEA7HAHHKCSHCEN, product_name=3a AUTOCARE Car Mat Hyundai Xcent, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interi
, Product [id=CRTEA7HASS3UUVU, product_name=3a AUTOCARE Car Mat Maruti Celerio, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Inter
, Product [id=CRTEA7HAZZEFHSGX, product_name=3a AUTOCARE Car Mat Hyundai Grand i10, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car In
]
```

```
CRTEA7HA7X3CW7YQ;3a AUTOCARE Car Mat Maruti Swift Dzire;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car
Interior >> Car Mats"""];2250;1490;Buy 3a AUTOCARE Car Mat Maruti Swift Dzire for Rs.1490 online. 3a AUTOCARE Car Mat Maruti Swift Dzire at
best prices with FREE shipping & cash on delivery. Only Genuine Products. 30 Day Replacement Guarantee.;3a AUTOCARE;Ahmet9;
CRTEA7HAATHHK6EA;3a AUTOCARE Car Mat Mahindra Scorpio;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car
Interior >> Car Mats"""];3500;2750;Buy 3a AUTOCARE Car Mat Mahindra Scorpio for Rs.2750 online. 3a AUTOCARE Car Mat Mahindra Scorpio at
best prices with FREE shipping & cash on delivery. Only Genuine Products. 30 Day Replacement Guarantee.;3a AUTOCARE;Ahmet9;
CRTEA7HAHHKCSHCEN;3a AUTOCARE Car Mat Hyundai Xcent;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior
>> Car Mats"""];2600;1790;Buy 3a AUTOCARE Car Mat Hyundai Xcent for Rs.1790 online. 3a AUTOCARE Car Mat Hyundai Xcent at best prices with
FREE shipping & cash on delivery. Only Genuine Products. 30 Day Replacement Guarantee.;3a AUTOCARE;Ahmet9;
CRTEA7HASS3UUVU;3a AUTOCARE Car Mat Maruti Celerio;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior
>> Car Mats"""];2250;1490;Buy 3a AUTOCARE Car Mat Maruti Celerio for Rs.1490 online. 3a AUTOCARE Car Mat Maruti Celerio at best prices with
FREE shipping & cash on delivery. Only Genuine Products. 30 Day Replacement Guarantee.;3a AUTOCARE;Ahmet9;
CRTEA7HAZZEFHSGX;3a AUTOCARE Car Mat Hyundai Grand i10;["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car
Interior >> Car Mats"""];2250;1490;Buy 3a AUTOCARE Car Mat Hyundai Grand i10 for Rs.1490 online. 3a AUTOCARE Car Mat Hyundai Grand i10 at
best prices with FREE shipping & cash on delivery. Only Genuine Products. 30 Day Replacement Guarantee.;3a AUTOCARE;Ahmet9;
```

Sort product according to the name: i write only id and name

```
CRTEA7HANRC9HYK3 3a AUTOCARE Car Mat Chevrolet Beat
CRTEA7HAPG9RZMQD 3a AUTOCARE Car Mat Honda City
CRTEA7HAHHRNYZEY 3a AUTOCARE Car Mat Honda Mobilio
CRTEA7HABGNSJ9FT 3a AUTOCARE Car Mat Hyundai Grand i10
CRTEA7HAZZEFHSGX 3a AUTOCARE Car Mat Hyundai Grand i10
CRTEA7HAQQCGTPFU 3a AUTOCARE Car Mat Hyundai Santro
CRTEA7HAQYWGJJQ3 3a AUTOCARE Car Mat Hyundai Verna
CRTEA7HAHHCSCHEM 3a AUTOCARE Car Mat Hyundai Xcent
CRTEA7HAEXGZ7HNU 3a AUTOCARE Car Mat Hyundai i20
CRTEA7HAATHHK6EA 3a AUTOCARE Car Mat Mahindra Scorpio
CRTEA7HAWF5SWAPR 3a AUTOCARE Car Mat Mahindra XUV 500
CRTEA7HABNRWRZSV 3a AUTOCARE Car Mat Maruti Alto K10
CRTEA7HAXMYFVGXX 3a AUTOCARE Car Mat Maruti Ciaz
CRTEA7HAC5HFBYGY 3a AUTOCARE Car Mat Maruti Ertiga
CRTEA7HAFUMPQNHJ 3a AUTOCARE Car Mat Maruti Swift
CRTEA7HA7X3CW7YQ 3a AUTOCARE Car Mat Maruti Swift Dzire
CRTEA7HAWQSZBKU3 3a AUTOCARE Car Mat Maruti Swift Dzire
CRTEA7HARUAWC7VG 3a AUTOCARE Car Mat Nissan Micra
CRTEA7HANEWK3TQ7 3a AUTOCARE Car Mat Nissan Terrano
CRTEA7HAJDHDXA9G 3a AUTOCARE Car Mat Toyota Etios Liva
CRTEA7HAUEF6RPUK 3a AUTOCARE Car Mat Toyota Innova
CRTEA7HAKMTQMHC 3a AUTOCARE Car Mat Volkswagen Polo
```

Sort product according to the price: i write only id and price

Sorted According to the Price !

```
CRTEA7HABNRWRZSV 2250
CRTEA7HAFUMPQNHJ 2250
CRTEA7HAWQSZBKU3 2250
CRTEA7HAQQCGTPFU 2250
CRTEA7HA7X3CW7YQ 2250
CRTEA7HANRC9HYK3 2250
CRTEA7HAJDHDXA9G 2250
CRTEA7HABGNSJ9FT 2250
CRTEA7HAZZEFHSGX 2250
CRTEA7HARUAWC7VG 2250
CRTEA7HAEXGZ7HNU 2300
CRTEA7HAXMYFVGXX 2400
CRTEA7HAC5HFBYGY 2500
CRTEA7HAKMTQMHC 2500
CRTEA7HAHHCSCHEM 2600
CRTEA7HAQYWGJJQ3 2800
CRTEA7HAPG9RZMQD 2800
CRTEA7HAHHRNYZEY 3000
CRTEA7HANEWK3TQ7 3200
CRTEA7HAUEF6RPUK 3500
CRTEA7HAWF5SWAPR 3500
CRTEA7HAATHHK6EA 3500
```


Sort product according to the percentage of discount:

I write only id , price ,discounted price , and percentage of discount.

```
Sorted According to the Percentage of discounted price!
CRTEA7HAQYWGJJQ3 2800 -> 1790 -> 36.07143
CRTEA7HAEXGZ7HNU 2300 -> 1490 -> 35.217392
CRTEA7HAJDHDXA9G 2250 -> 1490 -> 33.77778
CRTEA7HAZZEFHSGX 2250 -> 1490 -> 33.77778
CRTEA7HA7X3CW7YQ 2250 -> 1490 -> 33.77778
CRTEA7HAQQCGTPFU 2250 -> 1490 -> 33.77778
CRTEA7HAPG9RZMQD 2800 -> 1850 -> 33.928574
CRTEA7HAWQSZBKU3 2250 -> 1490 -> 33.77778
CRTEA7HABNRWRZSV 2250 -> 1490 -> 33.77778
CRTEA7HAFUMPQNHJ 2250 -> 1490 -> 33.77778
CRTEA7HANRC9HYK3 2250 -> 1490 -> 33.77778
CRTEA7HABGNSJ9FT 2250 -> 1490 -> 33.77778
CRTEA7HARUAWC7VG 2250 -> 1490 -> 33.77778
CRTEA7HAHHCSCHEM 2600 -> 1790 -> 31.153847
CRTEA7HANEWK3TQ7 3200 -> 2260 -> 29.375
CRTEA7HAKMTQMHNC 2500 -> 1890 -> 24.400002
CRTEA7HAXMYFVGXX 2400 -> 1890 -> 21.25
CRTEA7HAATHHK6EA 3500 -> 2750 -> 21.428574
CRTEA7HAUEF6RPUK 3500 -> 2750 -> 21.428574
CRTEA7HAWF5SWAPR 3500 -> 2750 -> 21.428574
CRTEA7HAHHRNYZEY 3000 -> 2350 -> 21.666664
CRTEA7HAC5HFBYGY 2500 -> 2090 -> 16.400002
```

Display All product of customer:

```
Display all product of traders !
Product [id=SHEHJY5SARGYFJS, product_name=10AK Women's Polka Print Casual Shirt, product_category_tree=["Clothing >> Women's Clothing >> Western Wear >> Shirts, Tops & Tunics >> Shirts
Product [id=LTEGZ5HBUIJZXHGA, product_name=10AK Women's Plural Print Casual Shirt, product_category_tree=BBBBBBBB, price=899, discounted_price=444, description=AAAAAA, trader=10AK]
```

Filter product with upper price :

```
FilterUpperBoundPrice of text
Product [id=CRTEA7HABNRWRZSV, product_name=3a AUTOCARE Car Mat Maruti Alto K10, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior >
Product [id=CRTEA7HAFUMPQNHJ, product_name=3a AUTOCARE Car Mat Maruti Swift, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior > C
Product [id=CRTEA7HAWQSZBKU3, product_name=3a AUTOCARE Car Mat Maruti Swift Dzire, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior
Product [id=CRTEA7HAQQCGTPFU, product_name=3a AUTOCARE Car Mat Hyundai Santro, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior >>
Product [id=CRTEA7HA7X3CW7YQ, product_name=3a AUTOCARE Car Mat Maruti Swift Dzire, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior
Product [id=CRTEA7HANRC9HYK3, product_name=3a AUTOCARE Car Mat Chevrolet Beat, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior >>
Product [id=CRTEA7HAJDHDXA9G, product_name=3a AUTOCARE Car Mat Toyota Etios Liva, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior
Product [id=CRTEA7HABGNSJ9FT, product_name=3a AUTOCARE Car Mat Hyundai Grand i10, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior
Product [id=CRTEA7HAZZEFHSGX, product_name=3a AUTOCARE Car Mat Hyundai Grand i10, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior
Product [id=CRTEA7HARUAWC7VG, product_name=3a AUTOCARE Car Mat Nissan Micra, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior >> C
```

Filter product with lower price :

```
FilterLowerBoundPrice of text
Product [id=CRTEA7HAHHCSCHEM, product_name=3a AUTOCARE Car Mat Hyundai Xcent, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior >>
Product [id=CRTEA7HAWF5SWAPR, product_name=3a AUTOCARE Car Mat Hyundai Verna, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior >>
Product [id=CRTEA7HAPG9RZMQD, product_name=3a AUTOCARE Car Mat Honda City, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior >> Ca
Product [id=CRTEA7HAHHRNYZEY, product_name=3a AUTOCARE Car Mat Honda Mobilio, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior >>
Product [id=CRTEA7HANEWK3TQ7, product_name=3a AUTOCARE Car Mat Nissan Terrano, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior >>
Product [id=CRTEA7HAWF5SWAPR, product_name=3a AUTOCARE Car Mat Mahindra XUV 500, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior
Product [id=CRTEA7HAUEF6RPUK, product_name=3a AUTOCARE Car Mat Toyota Innova, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior >>
Product [id=CRTEA7HAATHHK6EA, product_name=3a AUTOCARE Car Mat Mahindra Scorpio, product_category_tree=["Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior >>
```


Filter product with upper and lower price :

```
FilterLowerandUpperBoundPrice of text
Product [id=CRTEA7HAJDHDXAG, product_name=3a AUTOCARE Car Mat Hyundai Xcent, product_category_tree=""Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior >>
Product [id=CRTEA7HAQYMGJQ3, product_name=3a AUTOCARE Car Mat Hyundai Verna, product_category_tree=""Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior >>
Product [id=CRTEA7HAPG9RZMQD, product_name=3a AUTOCARE Car Mat Honda City, product_category_tree=""Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior >> Ca
Product [id=CRTEA7HAHHRNYZEY, product_name=3a AUTOCARE Car Mat Honda Mobilio, product_category_tree=""Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior >>
Product [id=CRTEA7HANENK3QT7, product_name=3a AUTOCARE Car Mat Nissan Terrano, product_category_tree=""Automotive >> Accessories & Spare parts >> Car Interior & Exterior >> Car Interior >
```

Filter product with catogory :

```
FilterCategory of text
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Successfull Login :

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Enter User Id and Password for Traders
Please Enter a Id for Trader: 50000000
Your Id 50000000
Please Enter a Password for Trader: abcdef
Your Password: abcdef
You succesfully login to the system !
Menu for Traders
(1)-> Add Products
(2)-> Remove Products
(3)-> Edit Products
(4)-> See List of Orders
(5)-> Meet Orders
(6)-> Cancel Orders
(7)-> Customer Login
Please Choose one of them :
```

Unseccessfull login : There is no id such 49999999 like this it begins from 50000000 .

```
Enter User Id and Password for Traders
Please Enter a Id for Trader: 49999999
Your Id 49999999
Please Enter a Password for Trader: abcdef
Your Password: abcdef
Id or Password is not applicable. Try Again!
Please Enter a Id for Trader:
```

Unseccessfull login : ID has to be 8 digit number. Password is working too it has to be 6 character.

```
Enter User Id and Password for Traders
Please Enter a Id for Trader: 500000
Your Id 500000
Please Enter a Password for Trader: abcdef
Your Password: abcdef
Id or Password is not applicable. Try Again!
Please Enter a Id for Trader:
```