GIT Department of Computer Engineering

CSE 222/505 – Spring 2021

Homework 6 Report

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1. Problem Solution Approach

- To begin with, I first solved the user part. Since all traders have name but customers don't I created an User interface and put "empty" for customers' name. I saw ne reason to register all traders at once that is available in the product file so if a trader registers with a name (for example: JJC), then the trader can add, edit or remove all products that contains "Trader: JJC".
- To pretend from searching all users, each time I register an user, I added their ID and password into a **hashtable**. So when I register a new user or login with an already exist user I only check if there is same ID and password in the **hashTable**. (key = ID, value = password, because passwords can be same for more than 1 user but ID's can not)
- After user part is done, I started to translating csv file into txt file. I used a delimiter to skip every ";" character. First scanner.next value is ID and second one is Product name and so on…
- **ArrayList :** I used ArrayList data structure while storing user commands, valid categories and categoryTree nodes. While showing the menu I used general User method and implemented it for both Customer and Trader. Since they don't have same commands and I need to acces their command, while showing them in the menu, in constant time.
- **LinkedList :** I created a Product class to store all information of a product and when Customer searches for a product, I stored them in LinkedList data structure because when I sort or filter them, I removed a lot of product from the list and I wanted to achieve this in constant time. (for example Merge sort works better with linkedlist)
- **Queue :** When a trader looks for orders, they search through orders by one by, so I thought reading orders from "orders.txt" file and storing them in queue is better because I polled and handled every order that is belongs to that trader in linear time(poll in constant but order number is n) until there is no order left to poll.
- **Tree :** It was so obvious where to use tree data structure, so I used it while I am storing categories. Since a category can split into more than 2 nodes I wrote my own tree data structure and stored nodes with ArrayList data structure to access them in constant time. Tree can return it's parent category or can find any category that belongs to that tree, etc.
- **Hash Table :** I used hashtable while I am storing User ID's. I wanted to do that because it requires 2 information(ID and password) and opening, reading and closing users.txt file takes much more time than just using containsKey method. But while registering I still wrote their information into the users.txt file.

2. Test Cases

1. Unsuccessful login
2. Registering the users (Invalid ID and password size)
3. Registering the users (Valid ID and password)
4. Successful login
5. Searching for "Shopmania Music Band A5" (size = 2)
6. Removing an item(contains "Shopmania Music Band A5"
7. Searching for "Shopmania Music Band A5" (size = 1)
8. Removing an item(last "Shopmania Music Band A5")
9. Searching for "Shopmania Music Band A5" (size = 0)
10. Adding an item(contains "Shopmania Music Band A5")
11. Searching for "Shopmania Music Band A5" (size = 1)
12. Editing the recently added item
13. Searching for "Shopmania Music Band A5" (size = 1)
14. Giving an order - Customer
15. Accepting the order - Trader
16. Getting all products of trader: "JJC"
17. Sorting products by their name
18. Sorting products by their price
19. Sorting products by their discount percentage
20. Filtering products with prices between 1100 - 1200
21. Getting all products of trader : Bosch
22. Category limits : Automotive -> Vehicle Horns
23. Menu screenshots

3. Running Command and Results

```
************************************* Unsuccessful login *********************************************

ERROR! Login unsuccessful. Invalid ID or password.
ERROR! Login unsuccessful. Invalid ID or password.

************************************* Registering the users (Invalid ID and password size) *********************************************

ERROR! ID must be 8 digit. Your ID is 7 digit.
ERROR! Password must contain 6 character. Your password has 7

************************************* Registering the users (Valid ID and password) *********************************************

User: 12345678 is registered to the system.
User: 98765432 is registered to the system.

************************************* Successful login *********************************************

User: 12345678 successfully login to the system.
User: 98765432 successfully login to the system.

************************************* Searching for "Shopmania Music Band A5 (size = 2) *********************************************

ID: DIAEJ6Z8BEDTGGYY
Product Name: Shopmania Music Band A5 Notebook Spiral Bound
Product Category: Pens & Stationery >> Diaries & Notebooks >> Notebooks >> Designer >> Shopmania Designer >> Shopmania Music Band A5 Notebook Spiral Bound (M...
Price: 499
Discounted Price: 275
Description: Specifications of Shopmania Music Band A5 Notebook Spiral Bound (Multicolor) General Ruling Ruled Model id NB00664 Type Notebook GSM 75 Cover Type 300 GSM Hard Laminated Cover No. of Pages 160 Brand Nam
Trader: Shopmania

ID: DIAEJ6Z8KQFWDEGH
Product Name: Shopmania Music Band A5 Notebook Spiral Bound
Product Category: Pens & Stationery >> Diaries & Notebooks >> Notebooks >> Designer >> Shopmania Designer >> Shopmania Music Band A5 Notebook Spiral Bound (M...
Price: 499
Discounted Price: 275
Description: Specifications of Shopmania Music Band A5 Notebook Spiral Bound (Multicolor) General Ruling Ruled Model id NB00678 Type Notebook GSM 75 Cover Type 300 GSM Hard Laminated Cover No. of Pages 160 Brand Nam
Trader: Shopmania
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******************************************* Removing an item(contains "Shopmania Music Band A5") *******************************************

The item with the ID: DIAEJ6Z8KQFWDEGH removed from the product list.

******************************************* Searching for "Shopmania Music Band A5" (size = 1) *******************************************

ID: DIAEJ6Z8BEDTGGYY
Product Name: Shopmania Music Band A5 Notebook Spiral Bound
Product Category: Pens & Stationery >> Diaries & Notebooks >> Notebooks >> Designer >> Shopmania Designer >> Shopmania Music Band A5 Notebook Spiral
Price: 499
Discounted Price: 275
Description: Specifications of Shopmania Music Band A5 Notebook Spiral Bound (Multicolor) General Ruling Ruled Model id NB00664 Type Notebook GSM 75
Trader: Shopmania


******************************************* Removing an item(last "Shopmania Music Band A5") *******************************************

The item with the ID: DIAEJ6Z8BEDTGGYY removed from the product list.

******************************************* Searching for "Shopmania Music Band A5" (size = 0) *******************************************

No item found with name "Shopmania Music Band A5"

******************************************* Adding an item(contains "Shopmania Music Band A5") *******************************************

Item with ID: 1234ASDF1234QWER is added to the product list.

******************************************* Searching for "Shopmania Music Band A5" (size = 1) *******************************************

ID: 1234ASDF1234QWER
Product Name: Shopmania Music Band A5(new added)
Product Category: Pens & Stationery >> Diaries & Notebooks >> Notebooks >> Designer
Price: 999
Discounted Price: 799
Description: Specifications of Shopmania Music Band A5 Notebook Spiral Bound (Multicolor)
Trader: Shopmania
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******************************************** Editing the recently added item ********************************************

Product with ID: 1234ASDF1234QWER is edited.
The item with the ID: 1234ASDF1234QWER removed from the product list.
Item with ID: 1234ASDF1234QWER is added to the product list

*************************************** Searching for "Shopmania Music Band A5" (size = 1) ***************************************

ID: 1234ASDF1234QWER
Product Name: Shopmania Music Band A5(new added)
Product Category: Pens & Stationery >> Diaries & Notebooks >> Notebooks >> Designer
Price: 1099
Discounted Price: 599
Description: Specifications of Shopmania Music Band A5 Notebook Spiral Bound (Multicolor)
Trader: Shopmania


*********************************** Giving an order - Customer ***********************************

You ordered the product. ID: 1234ASDF1234QWER. (You can check current status of your product in "orders.txt" file)

*********************************** Accepting the order - Trader ***********************************

ERROR! There is no order with given product ID.

*********************************** Getting all products of trader: "JJC" ***********************************


*********************************** Sorting products by their name ***********************************

1) Product Name: JJC ET-83C  Lens Hood  | Price: 2540   | Discount Percentage: 0.0
2) Product Name: JJC LH 60  Lens Hood   | Price: 999    | Discount Percentage: 46.946945
3) Product Name: JJC LH-06  Lens Hood   | Price: 1475   | Discount Percentage: 0.0
4) Product Name: JJC LH-108  Lens Hood  | Price: 1710   | Discount Percentage: 32.74854
5) Product Name: JJC LH-112  Lens Hood  | Price: 1275   | Discount Percentage: 3.9215689
6) Product Name: JJC LH-29  Lens Hood   | Price: 1100   | Discount Percentage: 9.181818
7) Product Name: JJC LH-32  Lens Hood   | Price: 775    | Discount Percentage: 22.709679
8) Product Name: JJC LH-37  Lens Hood   | Price: 1450   | Discount Percentage: 10.413794
9) Product Name: JJC LH-53  Lens Hood   | Price: 1825   | Discount Percentage: 10.027397
10) Product Name: JJC LH-54  Lens Hood  | Price: 1250   | Discount Percentage: 13.76
11) Product Name: JJC LH-57  Lens Hood  | Price: 1375   | Discount Percentage: 0.0
12) Product Name: JJC LH-60E  Lens Hood | Price: 1650   | Discount Percentage: 33.939396
13) Product Name: JJC LH-62  Lens Hood  | Price: 850    | Discount Percentage: 14.705883
14) Product Name: JJC LH-63  Lens Hood  | Price: 999    | Discount Percentage: 20.02002
15) Product Name: JJC LH-65II  Lens Hood   | Price: 1150   | Discount Percentage: 15.217391
16) Product Name: JJC LH-73  Lens Hood  | Price: 2400   | Discount Percentage: 25.041666
17) Product Name: JJC LH-73B  Lens Hood | Price: 725    | Discount Percentage: 27.586206
18) Product Name: JJC LH-73BII  Lens Hood   | Price: 1199   | Discount Percentage: 25.02085
19) Product Name: JJC LH-74  Lens Hood  | Price: 850    | Discount Percentage: 0.0
20) Product Name: JJC LH-78BII  Lens Hood   | Price: 800    | Discount Percentage: 11.25
21) Product Name: JJC LH-78E  Lens Hood | Price: 725    | Discount Percentage: 0.0
22) Product Name: JJC LH-83E  Lens Hood | Price: 1075   | Discount Percentage: 16.372093
23) Product Name: JJC LH-83F  Lens Hood | Price: 1100   | Discount Percentage: 0.0
24) Product Name: JJC LH-83II  Lens Hood   | Price: 1199   | Discount Percentage: 24.10342
25) Product Name: JJC LH-83II(W)  Lens Hood | Price: 1575   | Discount Percentage: 17.52381
26) Product Name: JJC LH-83J  Lens Hood | Price: 725    | Discount Percentage: 0.0
27) Product Name: JJC LH-86  Lens Hood  | Price: 2350   | Discount Percentage: 14.93617
28) Product Name: JJC LH-87  Lens Hood  | Price: 3425   | Discount Percentage: 18.277372
29) Product Name: JJC LH-87  Lens Hood  | Price: 3425   | Discount Percentage: 12.408759
30) Product Name: JJC LH-87(W)  Lens Hood   | Price: 4000   | Discount Percentage: 0.0
31) Product Name: JJC LH-88C  Lens Hood | Price: 2275   | Discount Percentage: 1.0989012
32) Product Name: JJC LH-CP17  Lens Hood   | Price: 2160   | Discount Percentage: 35.185184
33) Product Name: JJC LH-J40B  Lens Hood   | Price: 2250   | Discount Percentage: 0.0
34) Product Name: JJC LH-RBA  Lens Hood | Price: 1199   | Discount Percentage: 25.02085
35) Product Name: JJC LH-W65B  Lens Hood   | Price: 2425   | Discount Percentage: 1.6494846
36) Product Name: JJC LS - 52  Lens Hood   | Price: 875    | Discount Percentage: 14.285715
37) Product Name: JJC LS - 55  Lens Hood   | Price: 800    | Discount Percentage: 12.625


*********************************** Sorting products by their price ***********************************

1) Product Name: JJC LH-73B  Lens Hood  | Price: 725    | Discount Percentage: 27.586206
2) Product Name: JJC LH-78E  Lens Hood  | Price: 725    | Discount Percentage: 0.0
3) Product Name: JJC LH-83J  Lens Hood  | Price: 725    | Discount Percentage: 0.0
4) Product Name: JJC LH-32  Lens Hood   | Price: 775    | Discount Percentage: 22.709679
5) Product Name: JJC LH-78BII  Lens Hood    | Price: 800    | Discount Percentage: 11.25
6) Product Name: JJC LS - 55  Lens Hood | Price: 800    | Discount Percentage: 12.625
7) Product Name: JJC LH-62  Lens Hood   | Price: 850    | Discount Percentage: 14.705883
8) Product Name: JJC LH-74  Lens Hood   | Price: 850    | Discount Percentage: 0.0
9) Product Name: JJC LS - 52  Lens Hood | Price: 875    | Discount Percentage: 14.285715
10) Product Name: JJC LH 60  Lens Hood  | Price: 999    | Discount Percentage: 46.946945
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11) Product Name: JJC LH-63  Lens Hood    | Price: 999    | Discount Percentage: 20.02002
12) Product Name: JJC LH-83E  Lens Hood   | Price: 1075   | Discount Percentage: 16.372093
13) Product Name: JJC LH-29  Lens Hood    | Price: 1100   | Discount Percentage: 9.181818
14) Product Name: JJC LH-83F  Lens Hood   | Price: 1100   | Discount Percentage: 0.0
15) Product Name: JJC LH-65II  Lens Hood    | Price: 1150    | Discount Percentage: 15.217391
16) Product Name: JJC LH-73BII  Lens Hood   | Price: 1199   | Discount Percentage: 25.02085
17) Product Name: JJC LH-83II  Lens Hood    | Price: 1199    | Discount Percentage: 24.10342
18) Product Name: JJC LH-RBA  Lens Hood | Price: 1199   | Discount Percentage: 25.02085
19) Product Name: JJC LH-54  Lens Hood    | Price: 1250   | Discount Percentage: 13.76
20) Product Name: JJC LH-112  Lens Hood   | Price: 1275   | Discount Percentage: 3.9215689
21) Product Name: JJC LH-57  Lens Hood    | Price: 1375   | Discount Percentage: 0.0
22) Product Name: JJC LH-37  Lens Hood    | Price: 1450   | Discount Percentage: 10.413794
23) Product Name: JJC LH-06  Lens Hood    | Price: 1475   | Discount Percentage: 0.0
24) Product Name: JJC LH-83II(W)  Lens Hood | Price: 1575   | Discount Percentage: 17.52381
25) Product Name: JJC LH-60E  Lens Hood   | Price: 1650   | Discount Percentage: 33.939396
26) Product Name: JJC LH-108  Lens Hood   | Price: 1710   | Discount Percentage: 32.74854
27) Product Name: JJC LH-53  Lens Hood    | Price: 1825   | Discount Percentage: 10.027397
28) Product Name: JJC LH-CP17  Lens Hood    | Price: 2160    | Discount Percentage: 35.185184
29) Product Name: JJC LH-J40B  Lens Hood    | Price: 2250    | Discount Percentage: 0.0
30) Product Name: JJC LH-88C  Lens Hood | Price: 2275   | Discount Percentage: 1.0989012
31) Product Name: JJC LH-86  Lens Hood    | Price: 2350   | Discount Percentage: 14.93617
32) Product Name: JJC LH-73  Lens Hood    | Price: 2400   | Discount Percentage: 25.041666
33) Product Name: JJC LH-W65B  Lens Hood    | Price: 2425    | Discount Percentage: 1.6494846
34) Product Name: JJC ET-83C  Lens Hood   | Price: 2540   | Discount Percentage: 0.0
35) Product Name: JJC LH-87  Lens Hood    | Price: 3425   | Discount Percentage: 18.277372
36) Product Name: JJC LH-87  Lens Hood    | Price: 3425   | Discount Percentage: 12.408759
37) Product Name: JJC LH-87(W)  Lens Hood   | Price: 4000   | Discount Percentage: 0.0


******************************** Sorting products by their discount percentage ********************************

1) Product Name: JJC LH-78E  Lens Hood    | Price: 725    | Discount Percentage: 0.0
2) Product Name: JJC LH-83J  Lens Hood    | Price: 725    | Discount Percentage: 0.0
3) Product Name: JJC LH-74  Lens Hood   | Price: 850    | Discount Percentage: 0.0
4) Product Name: JJC LH-83F  Lens Hood    | Price: 1100   | Discount Percentage: 0.0
5) Product Name: JJC LH-57  Lens Hood   | Price: 1375   | Discount Percentage: 0.0
6) Product Name: JJC LH-06  Lens Hood   | Price: 1475   | Discount Percentage: 0.0
7) Product Name: JJC LH-J40B  Lens Hood    | Price: 2250   | Discount Percentage: 0.0
8) Product Name: JJC ET-83C  Lens Hood    | Price: 2540   | Discount Percentage: 0.0
9) Product Name: JJC LH-87(W)  Lens Hood    | Price: 4000   | Discount Percentage: 0.0
10) Product Name: JJC LH-88C  Lens Hood | Price: 2275   | Discount Percentage: 1.0989012
11) Product Name: JJC LH-W65B  Lens Hood    | Price: 2425   | Discount Percentage: 1.6494846
12) Product Name: JJC LH-112  Lens Hood | Price: 1275   | Discount Percentage: 3.9215689
13) Product Name: JJC LH-29  Lens Hood    | Price: 1100   | Discount Percentage: 9.181818
14) Product Name: JJC LH-53  Lens Hood    | Price: 1825   | Discount Percentage: 10.027397
15) Product Name: JJC LH-37  Lens Hood    | Price: 1450   | Discount Percentage: 10.413794
16) Product Name: JJC LH-78BII  Lens Hood    | Price: 800    | Discount Percentage: 11.25
17) Product Name: JJC LH-87  Lens Hood    | Price: 3425   | Discount Percentage: 12.408759
18) Product Name: JJC LS - 55  Lens Hood    | Price: 800    | Discount Percentage: 12.625
19) Product Name: JJC LH-54  Lens Hood    | Price: 1250   | Discount Percentage: 13.76
20) Product Name: JJC LS - 52  Lens Hood    | Price: 875    | Discount Percentage: 14.285715
21) Product Name: JJC LH-62  Lens Hood    | Price: 850    | Discount Percentage: 14.705883
22) Product Name: JJC LH-86  Lens Hood    | Price: 2350   | Discount Percentage: 14.93617
23) Product Name: JJC LH-65II  Lens Hood    | Price: 1150    | Discount Percentage: 15.217391
24) Product Name: JJC LH-83E  Lens Hood | Price: 1075   | Discount Percentage: 16.372093
25) Product Name: JJC LH-83II(W)  Lens Hood | Price: 1575   | Discount Percentage: 17.52381
26) Product Name: JJC LH-87  Lens Hood    | Price: 3425   | Discount Percentage: 18.277372
27) Product Name: JJC LH-63  Lens Hood    | Price: 999    | Discount Percentage: 20.02002
28) Product Name: JJC LH-32  Lens Hood    | Price: 775    | Discount Percentage: 22.709679
29) Product Name: JJC LH-83II  Lens Hood    | Price: 1199    | Discount Percentage: 24.10342
30) Product Name: JJC LH-RBA  Lens Hood | Price: 1199   | Discount Percentage: 25.02085
31) Product Name: JJC LH-73BII  Lens Hood    | Price: 1199    | Discount Percentage: 25.02085
32) Product Name: JJC LH-73  Lens Hood    | Price: 2400   | Discount Percentage: 25.041666
33) Product Name: JJC LH-73B  Lens Hood | Price: 725    | Discount Percentage: 27.586206
34) Product Name: JJC LH-108  Lens Hood | Price: 1710   | Discount Percentage: 32.74854
35) Product Name: JJC LH-60E  Lens Hood | Price: 1650   | Discount Percentage: 33.939396
36) Product Name: JJC LH-CP17  Lens Hood    | Price: 2160   | Discount Percentage: 35.185184
37) Product Name: JJC LH 60  Lens Hood    | Price: 999    | Discount Percentage: 46.946945


******************************** Filtering products with prices between 1100 - 1200 ********************************

1) Product Name: JJC LH-83F  Lens Hood    | Price: 1100   | Discount Percentage: 0.0
2) Product Name: JJC LH-29  Lens Hood    | Price: 1100   | Discount Percentage: 9.181818
3) Product Name: JJC LH-65II  Lens Hood    | Price: 1150   | Discount Percentage: 15.217391
4) Product Name: JJC LH-83II  Lens Hood    | Price: 1199   | Discount Percentage: 24.10342
5) Product Name: JJC LH-RBA  Lens Hood | Price: 1199   | Discount Percentage: 25.02085
6) Product Name: JJC LH-73BII  Lens Hood    | Price: 1199    | Discount Percentage: 25.02085
```

ID: VHRE4TF7XUNZQGJD
Product Name: Bosch 49605 110 dB Vehicle Horn
Product Category: Automotive >> Accessories & Spare parts >> Spares & Performance Parts >> Car Spare Parts >> Vehicle Horns
Price: 665
Discounted Price: 550
Description: Buy Bosch 49605 110 dB Vehicle Horn for Rs.550 online. Bosch 49605 110 dB Vehicle Horn at best prices with FREE shipp
Trader: Bosch

ID: SBSDUTY72YMGHEY6
Product Name: Bosch 2 608 521 039 Screwdriver Bit Set
Product Category: Tools & Hardware >> Tools >> Tool Accessories >> Screwdriver Bit Sets
Price: 375
Discounted Price: 375
Description: Buy Bosch 2 608 521 039 Screwdriver Bit Set for Rs.375 online. Bosch 2 608 521 039 Screwdriver Bit Set at best prices
Trader: Bosch

ID: SBSDUTY7JJXG2ZNK
Product Name: Bosch 2 607 001 513 Extra Hard Screwdriver Bit Set
Product Category: Tools & Hardware >> Tools >> Tool Accessories >> Screwdriver Bit Sets
Price: 1038
Discounted Price: 1038
Description: Buy Bosch 2 607 001 513 Extra Hard Screwdriver Bit Set for Rs.1038 online. Bosch 2 607 001 513 Extra Hard Screwdriver
Trader: Bosch

ID: SBSDUTY7AZYZWSQS
Product Name: Bosch 2 607 001 531 Extra Hard Screwdriver Bit Set
Product Category: Tools & Hardware >> Tools >> Tool Accessories >> Screwdriver Bit Sets
Price: 277
Discounted Price: 277
Description: Buy Bosch 2 607 001 531 Extra Hard Screwdriver Bit Set for Rs.277 online. Bosch 2 607 001 531 Extra Hard Screwdriver
Trader: Bosch

ID: SBSDUTY7NCF8T8TP
Product Name: Bosch 2 608 521 041 Screwdriver Bit Set
Product Category: Tools & Hardware >> Tools >> Tool Accessories >> Screwdriver Bit Sets
Price: 374
Discounted Price: 374
Description: Buy Bosch 2 608 521 041 Screwdriver Bit Set for Rs.374 online. Bosch 2 608 521 041 Screwdriver Bit Set at best prices
Trader: Bosch

ID: SBSDUTY7VSABNSCK
Product Name: Bosch 2 607 001 528 Extra Hard Screwdriver Bit Set
Product Category: Tools & Hardware >> Tools >> Tool Accessories >> Screwdriver Bit Sets
Price: 368
Discounted Price: 368
Description: Buy Bosch 2 607 001 528 Extra Hard Screwdriver Bit Set for Rs.368 online. Bosch 2 607 001 528 E
Trader: Bosch

ID: SBSDUTY7HTCTHD5V
Product Name: Bosch 2 607 001 514 Extra Hard Screwdriver Bit Set
Product Category: Tools & Hardware >> Tools >> Tool Accessories >> Screwdriver Bit Sets
Price: 2736
Discounted Price: 2736
Description: Buy Bosch 2 607 001 514 Extra Hard Screwdriver Bit Set for Rs.2736 online. Bosch 2 607 001 514
Trader: Bosch

ID: SBSDUTY7VBTVKMFF
Product Name: Bosch 2 608 521 040 Screwdriver Bit Set
Product Category: Tools & Hardware >> Tools >> Tool Accessories >> Screwdriver Bit Sets
Price: 653
Discounted Price: 653
Description: Buy Bosch 2 608 521 040 Screwdriver Bit Set for Rs.653 online. Bosch 2 608 521 040 Screwdriver
Trader: Bosch

ID: SBSDUTY7XQRHXVRA
Product Name: Bosch 2 608 521 043 Screwdriver Bit Set
Product Category: Tools & Hardware >> Tools >> Tool Accessories >> Screwdriver Bit Sets
Price: 846
Discounted Price: 846
Description: Buy Bosch 2 608 521 043 Screwdriver Bit Set for Rs.846 online. Bosch 2 608 521 043 Screwdriver
Trader: Bosch

ID: SBSDUTY7FUJGFGZZ
Product Name: Bosch 2 608 521 038 Screwdriver Bit Set
Product Category: Tools & Hardware >> Tools >> Tool Accessories >> Screwdriver Bit Sets
Price: 343
Discounted Price: 343
Description: Buy Bosch 2 608 521 038 Screwdriver Bit Set for Rs.343 online. Bosch 2 608 521 038 Screwdriver
Trader: Bosch

```
ID: SBSDUTY7DB4PDJJS
Product Name: Bosch 2 607 001 526 Extra Hard Screwdriver Bit Set
Product Category: Tools & Hardware >> Tools >> Tool Accessories >> Screwdriver Bit Sets
Price: 433
Discounted Price: 433
Description: Buy Bosch 2 607 001 526 Extra Hard Screwdriver Bit Set for Rs.433 online. Bosch 2 607 001 526 Extra Hard Screwdriver Bit Set at best
Trader: Bosch


**************************************** Category limits : Automotive -> Vehicle Horns ****************************************

Automotive >> Accessories & Spare parts >> Spares & Performance Parts >> Car Spare Parts >> Vehicle Horns
ID: VHRE4TF7XUNZQGJD
Product Name: Bosch 49605 110 dB Vehicle Horn
Product Category: Automotive >> Accessories & Spare parts >> Spares & Performance Parts >> Car Spare Parts >> Vehicle Horns
Price: 665
Discounted Price: 550
Description: Buy Bosch 49605 110 dB Vehicle Horn for Rs.550 online. Bosch 49605 110 dB Vehicle Horn at best prices with FREE shipping & cash on de
Trader: Bosch


**************************************** DRIVER CODE IS OVER & INTERACTIVE MENU STARTS ****************************************

*** MENU ***
1) Login
2) Register
3) Exit
Enter: 2
**********
1) Customer
2) Trader
Enter: 1
ID: 10000000
Password: asdfgh
User: 10000000 is registered to the system.
*** MENU ***
1) Login
2) Register
3) Exit
Enter: 2
**********
1) Customer
2) Trader
Enter: 2
ID: 10000001
Name: Bosch
Password: 123456
User: 10000001 is registered to the system.
*** MENU ***
1) Login
2) Register
3) Exit
Enter: 1
**********
1) Customer
2) Trader
Enter: 1
ID: 10000000
Password: asdfgh
User: 10000000 successfully login to the system.
```

```
Command List for the Customer
*****************************
1) Search products by using product name
2) Search products by using trader name
3) Exit
Enter: 1
Enter the product name:
Snug Hug 121 M
1) Product Name: Snug Hug 121 M Pet Bed | Price: 1999   | Discount Percentage: 0.0
*****************************
1) Give order
2) Sort searched products by their name
3) Sort searched products by their price
4) Sort searched products by their discount percentage
5) Category filter
6) Price filter
7) Exit
Enter: 1
Product index: 1
You ordered the product. ID: PEBEDUQ9ZAJBPTYU. (You can check current status of your product in "orders.txt" file)
*** MENU ***
1) Login
2) Register
3) Exit
Enter: 1
**********
1) Customer
2) Trader
Enter: 1
ID: 10000000
Password: asdfgh
User: 10000000 successfully login to the system.
Command List for the Customer
*****************************
1) Search products by using product name
2) Search products by using trader name
3) Exit
Enter: 1
```

```
Enter the product name:
Snug Hug
1) Product Name: Snug Hug Jute Chew Toy For Dog | Price: 499    | Discount Percentage: 0.0
2) Product Name: Snug Hug 121 M Pet Bed | Price: 1999   | Discount Percentage: 0.0
3) Product Name: Snug Hug 122 L Pet Bed | Price: 3999   | Discount Percentage: 0.0
*****************************
1) Give order
2) Sort searched products by their name
3) Sort searched products by their price
4) Sort searched products by their discount percentage
5) Category filter
6) Price filter
7) Exit
Enter: 2
1) Product Name: Snug Hug 121 M Pet Bed | Price: 1999   | Discount Percentage: 0.0
2) Product Name: Snug Hug 122 L Pet Bed | Price: 3999   | Discount Percentage: 0.0
3) Product Name: Snug Hug Jute Chew Toy For Dog | Price: 499    | Discount Percentage: 0.0
*****************************
1) Give order
2) Sort searched products by their name
3) Sort searched products by their price
4) Sort searched products by their discount percentage
5) Category filter
6) Price filter
7) Exit
Enter: 3
1) Product Name: Snug Hug Jute Chew Toy For Dog | Price: 499    | Discount Percentage: 0.0
2) Product Name: Snug Hug 121 M Pet Bed | Price: 1999   | Discount Percentage: 0.0
3) Product Name: Snug Hug 122 L Pet Bed | Price: 3999   | Discount Percentage: 0.0
*****************************
1) Give order
2) Sort searched products by their name
3) Sort searched products by their price
4) Sort searched products by their discount percentage
5) Category filter
6) Price filter
7) Exit
Enter: 4
1) Product Name: Snug Hug Jute Chew Toy For Dog | Price: 499    | Discount Percentage: 0.0
2) Product Name: Snug Hug 121 M Pet Bed | Price: 1999   | Discount Percentage: 0.0
3) Product Name: Snug Hug 122 L Pet Bed | Price: 3999   | Discount Percentage: 0.0
```

```
******************************
1) Give order
2) Sort searched products by their name
3) Sort searched products by their price
4) Sort searched products by their discount percentage
5) Category filter
6) Price filter
7) Exit
Enter:
ERROR! Invalid input.
1) Product Name: Snug Hug Jute Chew Toy For Dog | Price: 499    | Discount Percentage: 0.0
2) Product Name: Snug Hug 121 M Pet Bed | Price: 1999   | Discount Percentage: 0.0
3) Product Name: Snug Hug 122 L Pet Bed | Price: 3999   | Discount Percentage: 0.0
******************************
1) Give order
2) Sort searched products by their name
3) Sort searched products by their price
4) Sort searched products by their discount percentage
5) Category filter
6) Price filter
7) Exit
Enter: 8
ERROR! Invalid input.
1) Product Name: Snug Hug Jute Chew Toy For Dog | Price: 499    | Discount Percentage: 0.0
2) Product Name: Snug Hug 121 M Pet Bed | Price: 1999   | Discount Percentage: 0.0
3) Product Name: Snug Hug 122 L Pet Bed | Price: 3999   | Discount Percentage: 0.0
******************************
1) Give order
2) Sort searched products by their name
3) Sort searched products by their price
4) Sort searched products by their discount percentage
5) Category filter
6) Price filter
7) Exit
Enter: 6
Base price: 1000
Top price: 2000
1) Product Name: Snug Hug 121 M Pet Bed | Price: 1999   | Discount Percentage: 0.0
******************************
```

```
******************************
1) Give order
2) Sort searched products by their name
3) Sort searched products by their price
4) Sort searched products by their discount percentage
5) Category filter
6) Price filter
7) Exit
Enter: 1
Product index: 1
You ordered the product. ID: PEBEDUQ9ZAJBPTYU. (You can check current status of your product in "orders.txt" file)
*** MENU ***
1) Login
2) Register
3) Exit
Enter: 1
**********
1) Customer
2) Trader
Enter: 2
ID: 10000001
Name: 123456
Password: a
ERROR! Login unsuccessful. Invalid ID or password.
*** MENU ***
1) Login
2) Register
3) Exit
Enter: 1
**********
1) Customer
2) Trader
Enter: 2
ID: 10000001
Name: Bosch
Password: 123456
User: 10000001 successfully login to the system.
Command List for the Trader
**********************
```

```
1) Add Product
2) Remove Product
3) Edit Product
4) Handle an order
Enter: 1
Product ID: ASDF1234ASDF1234
Product Name: merhaba
Product Category: aa >> bb >> cc
Product Description: deneme 123
Product Price: 1000
Product Discounted Price: 500
Item with ID: ASDF1234ASDF1234 is added to the product list
*** MENU ***
1) Login
2) Register
3) Exit
Enter: 1
***********
1) Customer
2) Trader
Enter: 2
ID: 10000001
Name: 123456
Password: f
ERROR! Login unsuccessful. Invalid ID or password.
*** MENU ***
1) Login
2) Register
3) Exit
Enter: 1
***********
1) Customer
2) Trader
Enter: 2
ID: 10000001
Name: Bosch
Password: 123456
User: 10000001 successfully login to the system.
Command List for the Trader
```

```
Command List for the Trader

**************************

1) Add Product

2) Remove Product

3) Edit Product

4) Handle an order

Enter: 3

ID of the product you want to edit: ASDF1234ASDF1234


Edit the product

****************

Product ID: ASDF4321ASDF4321

Product Name: Selam

Product Category: cc >> bb >> aa

Product Description: denem 321

Product Price: 500

Product Discounted Price: 200

Product with ID: ASDF4321ASDF4321 is edited.

The item with the ID: ASDF1234ASDF1234 removed from the product list.

Item with ID: ASDF4321ASDF4321 is added to the product list

*** MENU ***

1) Login

2) Register

3) Exit

Enter: 1

***********

1) Customer

2) Trader

Enter: 1
```

```
ID: 10000000
Password: asdfgh
User: 10000000 successfully login to the system.
Command List for the Customer
*****************************
1) Search products by using product name
2) Search products by using trader name
3) Exit
Enter: 1
Enter the product name:
Selam
1) Product Name: Selam  | Price: 500    | Discount Percentage: 60.000004
*****************************
1) Give order
2) Sort searched products by their name
3) Sort searched products by their price
4) Sort searched products by their discount percentage
5) Category filter
6) Price filter
7) Exit
Enter: 1
Product index: 1
You ordered the product. ID: ASDF4321ASDF4321. (You can check current status of your product in "orders.txt" file)
*** MENU ***
1) Login
2) Register
3) Exit
Enter: 3
Good Bye!

Process finished with exit code 0
```

- END -