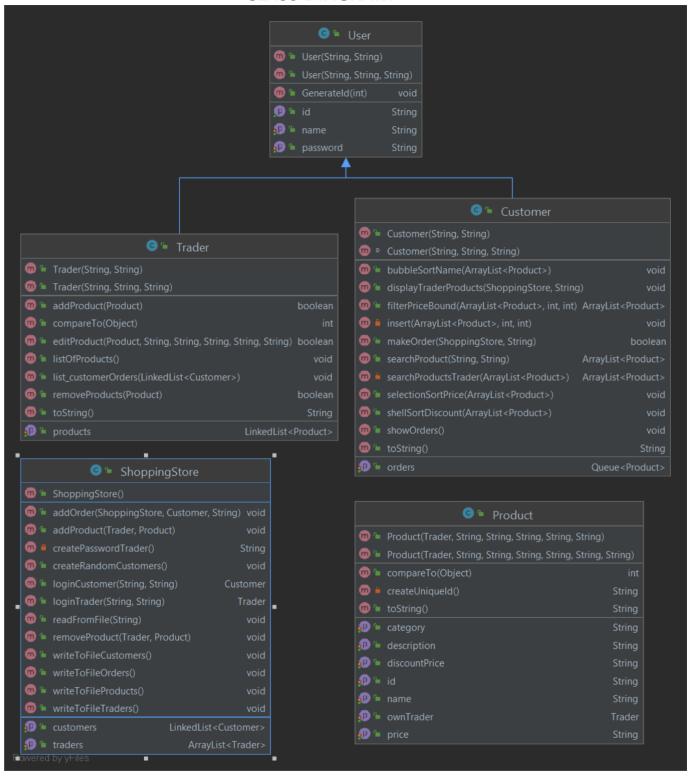
GIT Department of Computer Engineering CSE 222/505 - Spring 2021 Homework #6 Report

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PROBLEM SOLUTION APPROACH

We are asked to make an e-shopping application. There are traders and customers in this application and these users have the main features. I have created 4 classes for this application. User class is the abstarct class of these 2 classes, while the trader and customer class are for users. The shopping store class keeps the traders in the form of arraylists. The products of the trader are kept in the form of a linkedlist, while the orders of the customers are kept in the form of a queue. I created the customers manually randomly and also created the ids of the traders in this way. For Sort; I used bubble sort to sort names. I used selection sort to sort prices. I used shell sort to sort discount prices.

CLASS DIAGRAM



TEST CASES And Running Command Results

For Traders:

- 1) Create Trader
- 2) Login the System
- 3) Add Product
- 4) Remove Product
- 5) See list of Products
- 6) See the list of customer orders (Meet or Cancel)

For Customers:

Hash Map with Linked List chain;

- 1) Create Customer
- 2) Login to System
- 3) Search And Query Products
- 4) Display All Products Of Trader
- 5) Make Order
- 6) Show Orders
- 7) Sort Search Results By Name
- 8) Sort Results By Price
- 9) Sort Results By Percentage of The Discount
- 10) Upper And Lower Bound Sort(Price Category)

Running Command Results

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----- Test Driver ------
FabHomeDecor Trader Login The System For Test Some Operations...
 2.Product -> FabHomeDecor;SBEEH3QGYGHFUEXN;FabHomeDecor Fabric Double Sofa Bed;"[""Furniture >> Living Room Furniture >> Sofa Beds & Futons >> FabHomeDecor Fabric Double So
3. Product -> FabHomeDecor; SBEEH3QGAYAEPRCG; FabHomeDecor Fabric Double Sofa Bed; "[""Furniture >> Living Room Furniture >> Sofa Beds & Futons >> FabHomeDecor Fabric Double So
After Delete Product Operation Test..
List Of Product
2.Product -> FabHomeDecor;SBEEH3QGYGHFUEXN;FabHomeDecor Fabric Double Sofa Bed;"[""Furniture >> Living Room Furniture >> Sofa Beds & Futons >> FabHomeDecor Fabric Double So
After Add Product Operation Test ..
2.Product -> FabHomeDecor;SBEEH3QGYGHFUEXN;FabHomeDecor Fabric Double Sofa Bed;"[""Furniture >> Living Room Furniture >> Sofa Beds & Futons >> FabHomeDecor Fabric Double So 3.Product -> FabHomeDecor;SBEEH3QGWRGG3J6Q;FabHomeDecor Fabric Double Sofa Bed;"[""Furniture >> Living Room Furniture >> Sofa Beds & Futons >> FabHomeDecor Fabric Double So
5.Product -> FabHomeDecor:S66CRXOF6ARXD3FC:Test2:Test2:Test2:Test2:Test2
After Delete Product Operation Test...
List Of Product
 .Product -> FabHomeDecor;SBEEH3QGYGHFUEXN;FabHomeDecor Fabric Double Sofa Bed;"[""Furniture >> Living Room Furniture >> Sofa Beds & Futons >> FabHomeDecor Fabric Double
 .Product -> FabHomeDecor;SBEEH3QGWRGG3J6Q;FabHomeDecor Fabric Double Sofa Bed;"[""Furniture >> Living Room Furniture >> Sofa Beds & Futons >> FabHomeDecor Fabric Double
 .Product -> FabHomeDecor:1Y6MD0DX4UXP7067:Test:Test:Test:Test
 .Product -> FabHomeDecor;SBEEH3Q6WRG63J6Q;FabHomeDecor Fabric Double Sofa Bed;"[""Furniture >> Living Room Furniture >> Sofa Beds & Futons >> FabHomeDecor Fabric Double
 ee Customers Order...(It is now free.This will be retested after ordering
See list of product test ...
 Product -> FabHomeDecor;SBEEH3QGWRGG3J6Q;FabHomeDecor Fabric Double Sofa Bed;"[""Furniture >> Living Room Furniture >> Sofa Beds & Futons >> FabHomeDecor Fabric Double.
 ustomer Test
 ustomer Search Tests with some words...
 Product - > BigCompany; SHOE2ZNGYDECUGNG; Kielz Ladies Boots; "[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]"; 2499; 1249; Kielz Ladies Boots - Buy Kielz Ladies Boots - 660
 .Product - > BigCompany;SHOEF9G8EWYMM2AM;Kielz Ladies Boots;"[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]";2299;899;Kielz Ladies Boots - Buy Kielz Ladies Boots - 1807.
.Product - > BigCompany;SHOEF9G8X3SG6GHX;Kielz Ladies Boots;"[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]";1999;999;Kielz Ladies Boots - Buy Kielz Ladies Boots - 168-1
.Product - > BigCompany;SHOEF9G8ZHHCMHTW;Kielz Ladies Boots;"[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]";2799;1299;Kielz Ladies Boots - Buy Kielz Ladies Boots - 778-
 .Product - > BigCompany; SHOEFMRZQXHJREHH; Kielz Ladies Boots; "[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]"; 2299; 899; Kielz Ladies Boots - Buy Kielz Ladies Boots - 1807.
Product - > BigCompany; SHOEF9G8CVWHRH5M; Kielz Ladies Boots; "[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]"; 2499; 1149; Kielz Ladies Boots - Buy Kielz Ladies Boots - 1808.
Product - > BigCompany; SHOEFMRZZAXFQW4F; Kielz Ladies Boots; "[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]"; 2299; 899; Kielz Ladies Boots - Buy Kielz Ladies Boots - 1807-
                > BigCompany; SHDEFPSBWTWGAAFB; Kielz Ladies Boots;"[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]";2799;1299;Kielz Ladies Boots - Buy Kielz Ladies Boots - 778-
-> BigCompany;SHDEZZNGUCA4DHHP;Kielz Ladies Boots;"[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]";2499;1249;Kielz Ladies Boots - Buy Kielz Ladies Boots - 660
                 · > BigCompany;SHOEF9G8GXBDSEUG;Kielz Ladies Boots;"[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]";2799;1299;Kielz Ladies Boots - Buy Kielz Ladies Boots - 778
                 > BigCompany;SHOEF967ZES6C5HU;Kielz Ladies Boots;"[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]";2799;1299;Kielz Ladies Boots - Buy Kielz Ladies Boots - 778
>> BigCompany;SNDE2RXYKZZAMNGT;Kielz Ladies Women Wedges;"[""Footwear >> Women's Footwear >> Wedges""]";999;520;Flipkart.com: Buy Kielz Ladies Women Wedges only for Rs. 52
                 > BigCompany;SH0EBGDFN67TZGXF;Kielz Men-Black-Suede Leather Boots;"[""Footwear >> Men's Footwear >> Casual Shoes >> Kielz Casual Shoes""]";2799;1959;Kielz Men-Black-Suede
 14.Product - > BigCompany;SNDEY6HQYPH8BYJ];Kielz Women Heels;"[""Footwear >> Women's Footwear >> Heels"]";1499;499;Flipkart.com: Buy Kielz Women Heels only for Rs. 499 from Flipkart
15.Product - > BigCompany;SNDEY6HQWYYMQUG;Kielz Women Heels;"[""Footwear >> Women's Footwear >> Heels""]";1499;499;Flipkart.com: Buy Kielz Women Heels only for Rs. 499 from Flipkart
16.Product - > BigCompany;SNDEY6HQXF68TNK7;Kielz Women Heels;"[""Footwear >> Women's Footwear >> Heels""]";1499;499;Flipkart.com: Buy Kielz Women Heels only for Rs. 499 from Flipkart
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Redwave:SSKEGDY6TVVGYPMO:Redwave 360 Degree Powered Rotation Bluetooth Selfie Stick:"[""Mobiles & Accessories >> Mobile Accessories >> Selfie Sticks >> Redwave St
5.Product
6.Product
                 LOTTIE LONDON; BAREGSGXZMYSFTYV; LOTTIE LONDON PERFECTLY PRECISE; "[""Beauty and Personal Care >> Beauty Accessories >> Makeup Accessories >> Brushes and Applicator
              > BigCompany; SHOEC9FZ3BAF7ASF; Belle Gambe Boots; "[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]"; 3999; 1695; Belle Gambe Boots - Buy Belle Gambe Boots
                  BiqCompany:SHOEC9FZGGD6GJRV:Belle Gambe Boots:"[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]":3499:1765:Belle Gambe Boots - Buy Belle Gambe Boots
                 Souminie;BRAEGP6SFGYKNNCD;Souminie by Belle Lingeries - Pure Cotton Non Stretchable Black Dailywear Mature Women's Full Coverage Bra;"[""Clothing >> Women's Cloth
Search Result Ordered By Name.
0.Product - > BigCompany;SHOEC9FZ3BAF7ASF;Belle Gambe Boots;"[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]";3999;1695;Belle Gambe Boots - Buy Belle Gambe Boots
                  BelleGirl;BXREFP5MUQBJU2DE;BelleGirl Floral Print Baby Girl's Boxer;"[""Clothing >> Kids' Clothing >> Boys Wear >> Innerwear & Sleepwear >> Boxers >> BelleGirl Box
6.Product
                  Oueen Steps:SHOEJXYUAD43GAS7:Oueen Steps Bellies:"[""Footwear >> Women's Footwear >> Ballerinas >> Oueen Steps Bellies""]":999:399:Kev Features of Oueen Steps Bel
10.Product - > Souminie;BRAEGP6SFGYKNNCD;Souminie by Belle Lingeries - Pure Cotton Non Stretchable Black Dailywear Mature Women's Full Coverage Bra;"[""Clothing >> Women's Clot
Search Result Ordered By Name.
0.Product - > BiaCompany; SHOEC9FZ3BAF7ASF; Belle Gambe Boots; "[""Footwear >> Women's Footwear >> Casual Shoes >> Boots ""]"; 3999; 1695; Belle Gambe Boots - Buy Belle Gambe Boo
                > Queen Steps; SHDEJXVUXWEQ2JSY; Queen Steps Bellies; "[""Footwear >> Women's Footwear >> Ballerinas >> Queen Steps Bellies""]"; 999; 399; Key Features of Queen Steps Pellies; "[""Footwear >> Women's Footwear >> Ballerinas >> Queen Steps Bellies""]"; 999; 399; Key Features of Queen Steps Bellies""]"; 999; 399; Key Features of Queen Steps Bellies"]"; 999; 399; Key Features of Queen Steps Bellies"]
10.Product - > Souminie:BRAEGP6SFGYKNNCD:Souminie by Belle Lingeries - Pure Cotton Non Stretchable Black Dailywear Mature Women's Full Coverage Bra:"[""Clothing >> Women's
                 > BigCompany;SHOEFZXRNYJKPPYG;Belle Gambe Winter Boots;"[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]";3499;1695;Belle Gambe Winter Boots - Buy B
0.Product - > Souminie;BRAEGP6SFGYKNNCD;Souminie by Belle Lingeries - Pure Cotton Non Stretchable Black Dailywear Mature Women's Full Coverage Bra;"[""Clothing >> Women's Clot
1.Product -
2.Product - > Queen Steps;SHDEJXVUAD43GAS7;Queen Steps Bellies;"[""Footwear >> Women's Footwear >> Ballerinas >> Queen Steps Bellies""]";999;399;Key Features of Queen Steps Be
                > BigCompany; SHOEFZXRNYJKPPYG; Belle Gambe Winter Boots; "[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]"; 3499; 1695; Belle Gambe Winter Boots - Buy Belle
               > BigCompany;SHOEC9FZZGGADEFJ;Belle Gambe Boots;"[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]";3999;1765;Belle Gambe Boots - Buy Belle Gambe Boots
9.Product
6.Product - > BigCompany;SHOEC9FZ7W9HTAQG;Belle Gambe Boots;"[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]";3499;1795;Belle Gambe Boots - Buy Belle Gambe Boots
Make Orders Test.
Show Customer Order
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Customer -> 00000000;Erdi;erdi123 Order-> FabHomeDecor;SBEEH3QGWRGG3J6Q;FabHomeDecor Fabric Double Sofa Bed;"[""Furniture >> Living Room Furniture >> Sofa Beds & Futons >> Fab

6.Product -> Alisha; SRTEH2FECMGNZJXJ; Alisha Solid Women's Cycling Shorts;"[""Clothing >> Women's Clothing >> Lingerie, Sleep & Swimwear >> Shorts >> Alisha Shorts >> Alisha Solid Wo

Display Trader Products Test..

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Trader Id:12259799 Trader Password:16b298
Customer Id:00000000 Customer Password:erdi123
Enter Id:
Enter Your Password: 168
Welcome Trader!
1 - Add A Product
3 - See The List Of Orders Customers
Enter Name: T
Enter Discounted Price: 2300
Enter Description: 7
Welcome Trader!
1 - Add A Product
2 - Remove A Product
3 - See The List Of Orders Customers
4 - See List Of products
Enter Your Choice:
4 - See List Of products
6.Product -> Alisha;SRTEH2FECMGNZJXJ;Alisha Solid Women's Cycling Shorts;"[""Clothing >> Women's Clothing >> Lingerie, Sleep & Swimwear >> Shorts >> Alisha Shorts >> Alisha 7.Product -> Alisha;SRTEH2FECMGNZJXJ;Alisha Solid Women's Cycling Shorts;"[""Clothing >> Women's Clothing >> Lingerie, Sleep & Swimwear >> Shorts >> Alisha Shorts >> Alisha 7.Product -> Alisha;JAV7BDOPIM1TNUZK;Test3;Test3;40000;2300;Test3
1 - Add A Product
List Of Product
1 - Add A Product
2 - Remove A Product
3 - See The List Of Orders Customers
4 - See List Of products
Enter Your Choice:
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Welcome Trader
1 - Add A Product
Enter Your Choice:
Enter Id:
Welcome Customer!
4 - Show Orders
nter Search Word:
Search Results Filter Menu!
  Sort Results By Name
  Sort Results By Price
  Upper And Lower Bound Sort(Price - Category)
nter Your Choice:
.Product - > LOTTIE LONDON;BAREGSGXZMYSFTYV;LOTTIE LONDON PERFECTLY PRECISE;"[""Beauty and Personal Care >> Beauty Accessories >> Makeup Accessories >> Brushes and Applicat
.Product - > Redwave;SSKEGDY6TVVGYPMQ;Redwave 360 Degree Powered Rotation Bluetooth Selfie Stick;"[""Mobiles & Accessories >> Mobile Accessories >> Selfie Sticks >> Redwave
.Product - > BigCompany;SHOE3TZMQHKWG7TT;Selfie Black Denim Boots;"[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]";1000;499;Selfie Black Denim Boots - Buy Self
Search Results Filter Menu!
Enter Your Choice:
6.Product - > BigCompany; SNDECJAMZFFBC2UG; Selfie Women Heels;"[""Footwear >> Women's Footwear >> Heels""]";1280;699;Flipkart.com: Buy Selfie Women Heels only for Rs.
Search Results Filter Menu!
1 - Sort Results By Name
   Sort Results By Price
   Upper And Lower Bound Sort(Price - Category)
```

```
Enter Your Choice:
2.Product - > BigCompany;SHOE3TZMQHKWG7TT;Selfie Black Denim Boots;"[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]";1000;499;Selfie Black Denim
7.Product - > Redwave; SSKEGDY6TVVGYPMQ; Redwave 360 Degree Powered Rotation Bluetooth Selfie Stick; "[""Mobiles & Accessories >> Mobile Accessories >> Selfie S
Search Results Filter Menu!
1 - Sort Results By Name
2 - Sort Results By Price
Enter Your Choice:
Bound Filter Menu!
Enter Your Choice:
Enter Your Choice:
Enter lowerBound:
0.Product - > BigCompany; SHOE3TZMQHKWG7TT; Selfie Black Denim Boots; "[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]"; 1000; 499; Selfie Black Denim Boots 1.Product - > BigCompany; SHOECSWQCEZRR82X; Selfie Boots; "[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]"; 1200; 599; Selfie Boots
2.Product - > BigCompany; SHOECV4SKFKBN8QQ; Selfie Boots;"[""Footwean >> Women's Footwean >> Casual Shoes >> Boots""]";1200;579; Selfie Boots - Buy Selfie Boots - Self
3.Product - > BigCompany; SHOECSWQHDGU3DUC; Selfie Boots;"[""Footwear >> Women's Footwear >> Casual Shoes >> Boots""]";1200;599; Selfie Boots
Bound Filter Menu!
Enter Your Choice:
Search Results Filter Menu!
4 - Upper And Lower Bound Sort(Price - Category)
Enter Your Choice:
  - Display All Products Of Trader
 - Make Order
 - Show Orders
Enter Search Word:
6.Product - > GOGLE SOURCING;SSKEJ5UHZAZVTC6H;GOGLE SOURCING GS005 Selfie Stick;"[""Mobiles & Accessories >> Mobile Accessories >> Selfie Sticks >> GOGLE SOURCING Selfie Stick
7.Product - > LOTTIE LONDON;BAREGSGXZMYSFTYV;LOTTIE LONDON PERFECTLY PRECISE;"[""Beauty and Personal Care >> Beauty Accessories >> Makeup Accessories >> Brushes and Applicator
Enter Product Id for make an order
Welcome Customer!
 - Display All Products Of Trader
  - Make Order
```

Enter Your Choice: 0.Order ->FabrinmeDecor;SBEEH3Q6WR663J6Q;FabHomeDecor Fabric Double Sofa Bed;"[""Furniture >> Living Room Furniture >> Sofa Beds & Futons >> FabHomeDecor Fabric Double Sofa Bed 1.Order ->BigCompany;SNDECJAMZFFBC2UG;Selfie Women Heels;"[""Footwear >> Women's Footwear >> Heels""]";1200;699;Flipkart.com: Buy Selfie Women Heels only for Rs. 699 from Flip
Welcome Customer! 1 - Search and Query Products 2 - Display All Products Of Trader 3 - Make Order 4 - Show Orders 9 - Exit
Enter Your Choice: 0
Welcome to E-Shopping Application! 1 - Login To System 0 - Exit
Enter Your Choice: 1 Enter Id: 88327518 Enter Your Password: 87816e
Welcome Trader! 1 - Add A Product 2 - Remove A Product 3 - See The List Of Orders Customers 4 - See List Of products 6 - Exit
Enter Your Choice: Customer -> 00000000;Erdi;erdi123 Order-> FabHomeDecor;SBEEH3QGWRGG3J6Q;FabHomeDecor Fabric Double Sofa Bed;"[""Furniture >> Living Room Furniture >> Sofa Beds & Futons >> Fab
Welcome Trader! 1 - Add A Product 2 - Remove A Product 3 - See The List Of Orders Customers 4 - See List Of products 8 - Exit
Enter Your Choice: 0
Welcome to E-Shopping Application! 1 - Login To System 8 - Exit
Enter Your Choice: 0
Process finished with exit code 0