

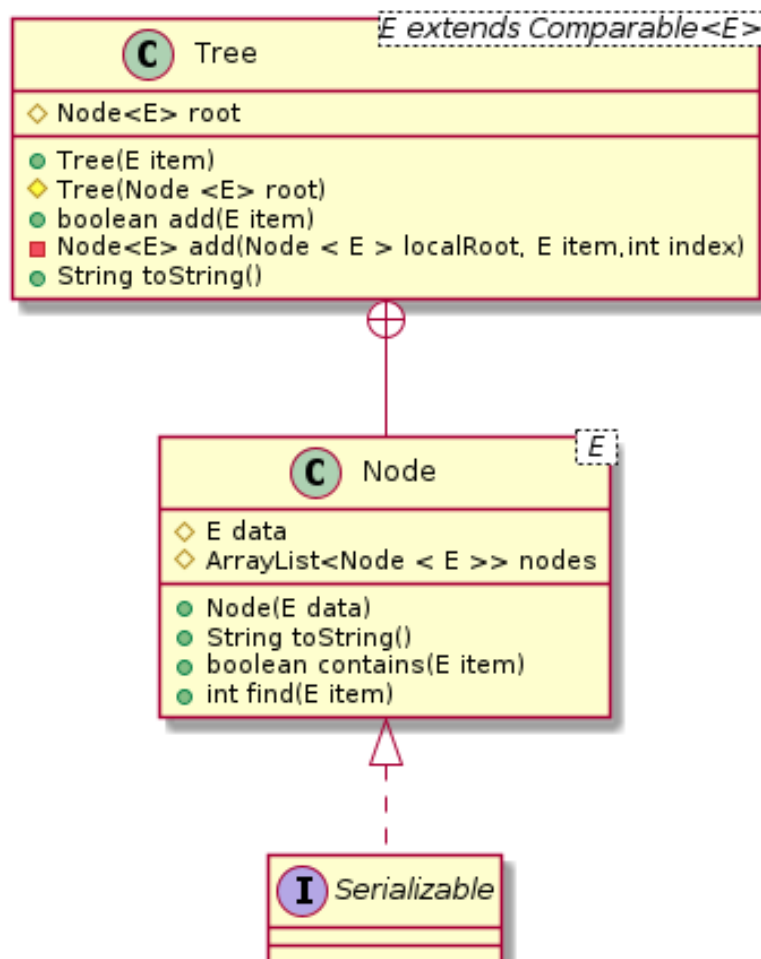
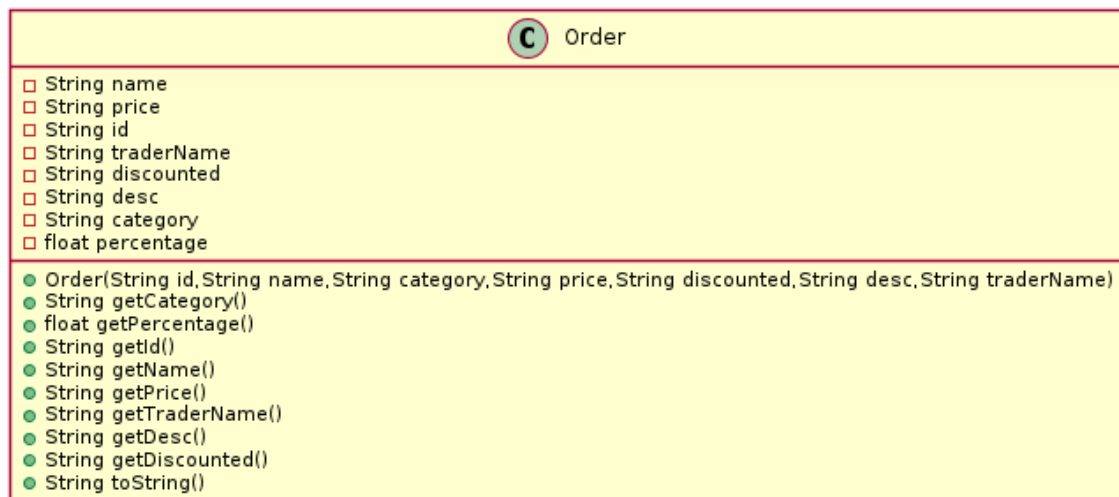
Gebze Technical University
Computer Engineering

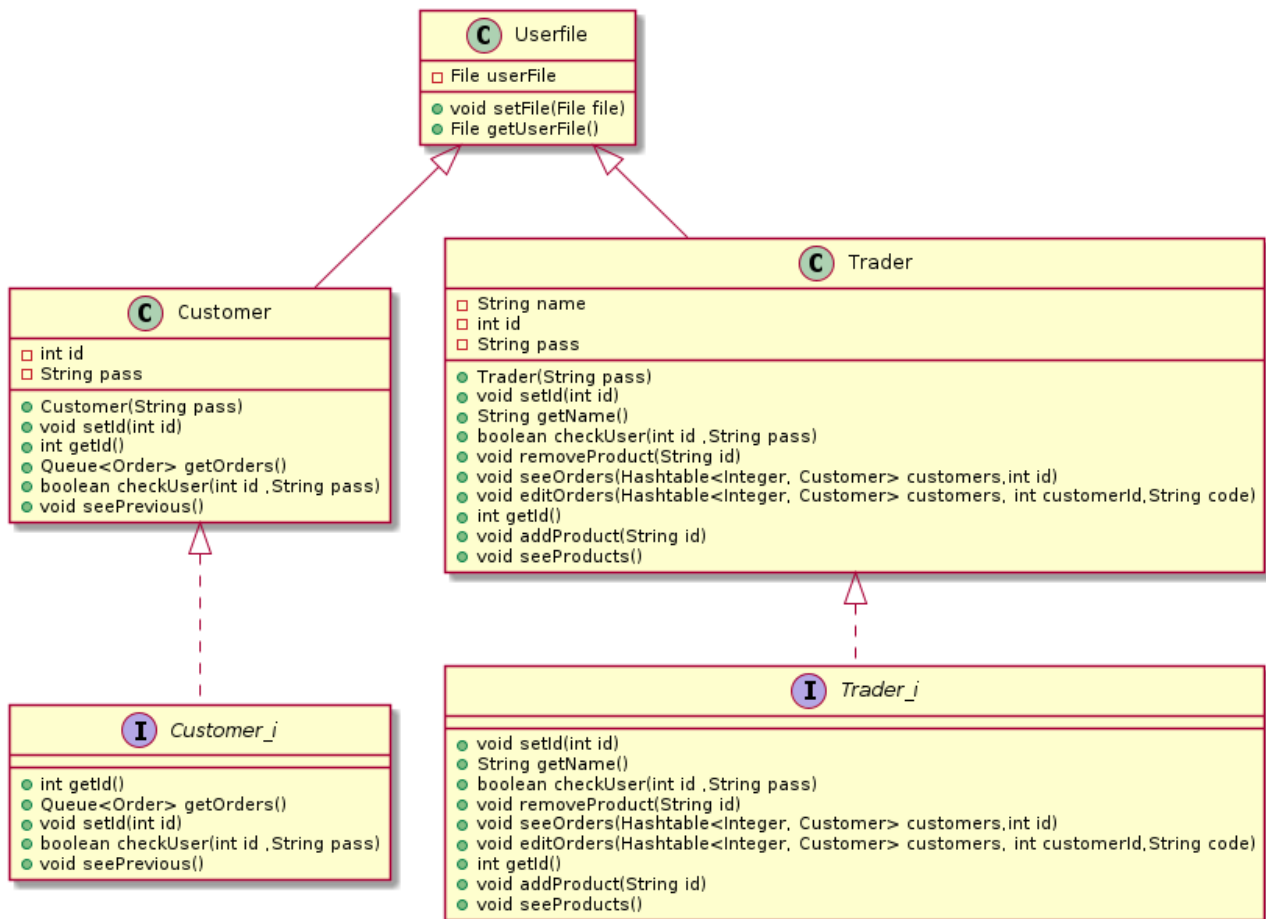
CSE 222/505 – Spring 2021

Homework 6 Report

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1. Class Diagrams





2. PROBLEM SOLUTION APPROACH

I used HashTable to keep customers to get customers with their id, Queue is used for to keep orders of customers when customer's orders needed , LinkedList is used for to keep traders, ArrayList is used when sorting needed.

For Tree, I crate new Tree class that every node of Tree can point more than two nodes, I provided it by using ArrayList to hold nodes.

When sorting by name ,I used insertion sort; by price , I used selection sort; by discount percentage, I used bubble sort algorithm.

3. Test Cases

Customer:

```
//System.out.println("\nPrinting All Products");
//app.showProducts();//Too much product...
System.out.println("\nPrinting All Information Of One Product");
app.getProductInformation("PWTEB7H2E4KCYUE3");
//app.seeCategories(app.categories.root);//Interactive
System.out.println("\nPrinting 3175.Trader's Products");
app.showTraders("3175");
System.out.println("Ordering Product From Alisha");
app.orderProduct(customer,"SRTEH2FECMGNZJXJ");
System.out.println("Ordering Product From FabHomeDecor");
app.orderProduct(customer,"SBEEH3QGU7MFYJFY");
System.out.println("Ordering Product From Freelance");
app.orderProduct(customer,"B0TEGYTZ2T6WUJMM");
System.out.println("\nPrinting Previous Orders");
customer.seePrevious();
```

```
System.out.println("Searching Key -Liquid- Sorting By Decreasing Name");
search=app.searchKey("Liquid","1");
System.out.println("Searching Key -Liquid- Sorting By Increasing Name");
search=app.searchKey("Liquid","-1");
System.out.println("Searching Key -Liquid- Sorting By Decreasing Price");
search=app.searchKey("Liquid","2");
System.out.println("Searching Key -Liquid- Sorting By Increasing Price");
search=app.searchKey("Liquid","-2");
```

```
System.out.println("Searching Key -Liquid- Sorting By Decreasing Discount Percentage");
search=app.searchKey("Liquid","3");
System.out.println("Searching Key -Liquid- Sorting By Increasing Discount Percentage");
search=app.searchKey("Liquid","-3");
System.out.println("Filtering Previous Search Result (Min:300 --- Max: 1700 --- Category: Sweaters & Pullovers)");
app.filterSearch(search,"Sweaters & Pullovers",0,999999);
```

Trader:

```
System.out.println("Printing Traders Product");
trader.seeProducts();

System.out.println("Adding New Product");
app.addProduct(trader,"New Product","New >> New Product","100","99","Param Olsada Ben Alsam");

System.out.println(" Editing Product");
app.editProduct(trader,"SRTEH2FVUHA AVH9X","1","New Name");
app.editProduct(trader,"SRTEH2FVUHA AVH9X","2","999999999");
app.editProduct(trader,"SRTEH2FVUHA AVH9X","3","0");
app.editProduct(trader,"SRTEH2FVUHA AVH9X","4","New Description");

System.out.println("New Version Of Edited Product");
app.getProductInformation("SRTEH2FVUHA AVH9X");

System.out.println("Deleting Product");
app.removeProduct(trader,"SRTEH2FVUHA AVH9X");

System.out.println("Printing Products That Customer Ordered From Trader");
trader.seeOrders(app.customers,-1);

System.out.println("Canceling Product That Customer Ordered From Trader");
trader.editOrders(app.customers,-1,"SRTEH2FECMGNZJXJ");
```

4. Running Commands and Results

I did not put all results because there are too much product but you can see all products in driver code.

Welcome Customer!

Printing All Information Of One Product

Id: PWTEB7H2E4KCYUE3

Name: Eternal Gandhi Super Series Crystal Paper Weights with Silver Finish

Category: Eternal Gandhi Super Series Crystal Paper Weight...

Price: 430

Discounted: 430

Description: Key Features of Eternal Gandhi Super Series Crystal Paper Weights with Silver Finish Crystal paper weight Product Dimensions : 8cm x 8cm x 5cm A beautiful product Material: Crystal, Eternal Gandhi Super Series Crystal Paper Weights with Silver Finish (Set Of 1, Clear) Price: Rs. 430 Your office desk will sparkle and shine when you accent tables with this elegant crystal paper weight.

The multifaceted crystal features Gandhiji's bust and his timeless message – "My life is my message – M.K. Gandhi". A beautiful product to gift to your near and dear ones in family and Business., Specifications of Eternal Gandhi Super Series Crystal Paper Weights with Silver Finish (Set Of 1, Clear) General Model Name Gandhi Paper Weight Mark V Dimensions Weight 323 g In the Box Paper Weight Paper Weight Features Paper Weight Material Crystal Paper Weight Finish Silver Finish

Trader: Eternal Gandhi

Printing 3175.Trader's Products

Id: FABEGGHDFMY8BZU

Name: Sinina Chanderi Embroidered Salwar Suit Dupatta Material

Category: Clothing >> Women's Clothing >> Ethnic Wear >> Fabric >> Dress Material >> Sinina Dress Material >> Sinina Chanderi Embroidered Salwar Suit Dupatta ...

Price: 2980

Discounted: 1490

Description: Key Features of Sinina Chanderi Embroidered Salwar Suit Dupatta Material Printed Embroidered Chanderi Material Easy Wash,Sinina Chanderi Embroidered Salwar Suit Dupatta Material (Un-stitched) Price: Rs. 1,490 Sinina Women's Chanderi Embroidered Straight Salwar Kameez Un Stitched Dress Material. Fabric details : Chanderi Top - 2.5m , Cotton bottom - 2.5m and Chiffon dupatta 2.25m Approx., Specifications of Sinina Chanderi Embroidered Salwar Suit Dupatta Material (Un-stitched) Fabric Details Fabric Chanderi Type Salwar Suit Dupatta Material Warranty 0 General Details Pattern Embroidered Ideal For Women's Color Pink Additional Details Style Code 112Tangy5003 In the Box Chanderi Cotton Top 1, Cotton Silk Bottom 1, Chiffon Dupatta 1

Trader: Sinina

Id: FABEGGHHGSVCHGFV

Name: Sinina Chanderi Embroidered Salwar Suit Dupatta Material

Category: Clothing >> Women's Clothing >> Ethnic Wear >> Fabric >> Dress Material >> Sinina Dress Material >> Sinina Chanderi Embroidered Salwar Suit Dupatta ...

Price: 2000

Discounted: 1000

Description: Key Features of Sinina Chanderi Embroidered Salwar Suit Dupatta Material Printed Embroidered Chanderi Material Easy Wash,Sinina Chanderi Embroidered Salwar Suit Dupatta Material (Un-stitched)

Ordering Product From Alisha

-Product Ordered-

Ordering Product From FabHomeDecor

-Product Ordered-

Ordering Product From Freelance

-Product Ordered-

Printing Previous Orders

SRTEH2FECMGNZJXJ

Alisha Solid Women's Cycling Shorts

Price: 999 Discounted: 379 Discount Percentage: %62.0

Alisha

SBEEH3QGU7MFYJFY

FabHomeDecor Fabric Double Sofa Bed

Price: 32157 Discounted: 22646 Discount Percentage: %29.0

FabHomeDecor

BOTEGYTZ2T6WUJMM

Freelance Vacuum Bottles 350 ml Bottle

Price: 699 Discounted: 699 Discount Percentage: %0.0

Freelance

Searching Key -Liquid- Sorting By Decreasing Name
Id: CWLEG69T7RRKTZNR
totalcare Expert METAL & GLASS SHINER Car Washer
Price: 288 Discounted: 288 Discount Percentage: %0.0
totalcare Expert

Id: AIREJFFHZYDGHBCJ
iwill Home Liquid Air Freshener
Price: 800 Discounted: 339 Discount Percentage: %57.0
iwill

Id: PS0EH3ZYDMSYARJ5
Sicons All Purpose Arnica Dog Shampoo
Price: 220 Discounted: 210 Discount Percentage: %4.0
Sicons

Id: FNDEF6A7FFFJWJWE
Revlon Liquid powder foundation Foundation
Price: 325 Discounted: 295 Discount Percentage: %9.0
Revlon

Id: AIRE9B8EKTNR8J4B
Pure Source Psi-As-Hanggnrlx Relaxing Liquid Air Freshener
Price: 1250 Discounted: 375 Discount Percentage: %70.0
Pure Source

Searching Key -Liquid- Sorting By Increasing Name
Id: ACCEJMAZVTQYQMJJ
ATV Pouch for Acer Liquid Z330
Price: 549 Discounted: 399 Discount Percentage: %27.0
ATV

Id: AIREHRXSYBMXKB4X
Areon Luxurious Fragrance Long Lasting Car,Home, Office Spray 35 Ml Morning Dew Liquid Air Freshener
Price: 499 Discounted: 269 Discount Percentage: %46.0
Areon

Id: AIREGHYGSZKZYBBD
Asian Aura Electric Burner Rose, Vanilla Liquid Air Freshener
Price: 1399 Discounted: 575 Discount Percentage: %58.0
Asian Aura

Id: ELREG64UPRZ8GZBQ
Blue Heaven Eyeliner (Set of 3) 21 ml
Price: 150 Discounted: 145 Discount Percentage: %3.0
Blue Heaven

Id: MIXEFKYTMQFDECFC
Celebration Celeb 600 ArwaYellow 600 W Mixer Grinder
Price: 3095 Discounted: 1599 Discount Percentage: %48.0
Celebration

Searching Key -Liquid- Sorting By Decreasing Price

Id: MIXEFKYTMQFDECFC

Celebration Celeb 600 ArwaYellow 600 W Mixer Grinder

Price: 3095 Discounted: 1599 Discount Percentage: %48.0

Celebration

Id: ELREGGQ3MUDPCH4J

Menow Dynamic Liquid Eyeliner pencil Pack of 10 1 g

Price: 1800 Discounted: 1199 Discount Percentage: %33.0

Menow

Id: SWTEFRQ6QE8A4AEA

Monte Carlo Solid Round Neck Casual Women's Sweater

Price: 1680 Discounted: 1680 Discount Percentage: %0.0

Monte Carlo

Id: AIRED9YGJWG2GXUK

Myesquire Square Pot Aroma Electric Burner Lemongrass Liquid Air Freshener

Price: 1600 Discounted: 628 Discount Percentage: %60.0

Myesquire

Id: AIREGHYGSZKZYB

Asian Aura Electric Burner Rose, Vanilla Liquid Air Freshener

Price: 1399 Discounted: 575 Discount Percentage: %58.0

Asian Aura

Searching Key -Liquid- Sorting By Increasing Price

Id: ELREG64UPRZ8GZBQ

Blue Heaven Eyeliner (Set of 3) 21 ml

Price: 150 Discounted: 145 Discount Percentage: %3.0

Blue Heaven

Id: CAGECT64KH6CZVMR

Oros Mild Liquid Detergent with Conditioner Combo Set

Price: 200 Discounted: 185 Discount Percentage: %7.0

BigCompany

Id: PS0EH3ZYDMSYARJ5

Sicons All Purpose Arnica Dog Shampoo

Price: 220 Discounted: 210 Discount Percentage: %4.0

Sicons

Id: CWLEG69T7RRKTZNR

totalcare Expert METAL & GLASS SHINER Car Washer

Price: 288 Discounted: 288 Discount Percentage: %0.0

totalcare Expert

Id: FNDEF6A7FFFJWJWE

Revlon Liquid powder foundation Foundation

Price: 325 Discounted: 295 Discount Percentage: %9.0

Revlon

Searching Key -Liquid- Sorting By Decreasing Discount Percentage

Id: AIREHRXSYBMXKB4X

Areon Luxurious Fragrance Long Lasting Car,Home, Office Spray 35 ML Morning Dew Liquid Air Freshener

Price: 499 Discounted: 269 Discount Percentage: %46.0

Areon

Id: FNDEF6A7FFFJWJWE

Revlon Liquid powder foundation Foundation

Price: 325 Discounted: 295 Discount Percentage: %9.0

Revlon

Id: PS0EH3ZYDMSYARJ5

Sicons All Purpose Arnica Dog Shampoo

Price: 220 Discounted: 210 Discount Percentage: %4.0

Sicons

Id: PS0EH3ZYDMSYARJ5

Sicons All Purpose Arnica Dog Shampoo

Price: 220 Discounted: 210 Discount Percentage: %4.0

Sicons

Id: PS0EH3ZYDMSYARJ5

Sicons All Purpose Arnica Dog Shampoo

Price: 220 Discounted: 210 Discount Percentage: %4.0

Sicons

Searching Key -Liquid- Sorting By Increasing Discount Percentage

Id: CWLEG69T7RRKTZNR

totalcare Expert METAL & GLASS SHINER Car Washer

Price: 288 Discounted: 288 Discount Percentage: %0.0

totalcare Expert

Id: CWLEG69T7RRKTZNR

totalcare Expert METAL & GLASS SHINER Car Washer

Price: 288 Discounted: 288 Discount Percentage: %0.0

totalcare Expert

Id: SWTEFRQ6QE8A4AEA

Monte Carlo Solid Round Neck Casual Women's Sweater

Price: 1680 Discounted: 1680 Discount Percentage: %0.0

Monte Carlo

Id: CWLEG69T7RRKTZNR

totalcare Expert METAL & GLASS SHINER Car Washer

Price: 288 Discounted: 288 Discount Percentage: %0.0

totalcare Expert

Id: CWLEG69T7RRKTZNR

totalcare Expert METAL & GLASS SHINER Car Washer

Price: 288 Discounted: 288 Discount Percentage: %0.0

totalcare Expert

Filtering Previous Search Result (Min:300 --- Max: 1700 --- Category: Sweaters & Pullovers
Id: SWTEFRQ6QE8A4AEA
Monte Carlo Solid Round Neck Casual Women's Sweater
Price: 1680 Discounted: 1680 Discount Percentage: %0.0
Monte Carlo
Id: SWTEFRQ6QE8A4AEA
Monte Carlo Solid Round Neck Casual Women's Sweater
Price: 1680 Discounted: 1680 Discount Percentage: %0.0
Monte Carlo
Id: SWTEFRQ6QE8A4AEA
Monte Carlo Solid Round Neck Casual Women's Sweater
Price: 1680 Discounted: 1680 Discount Percentage: %0.0
Monte Carlo

Printing Traders Product

Id: SRTEH2FF9KEDEFGF
Name: Alisha Solid Women's Cycling Shorts
Category: Clothing >> Women's Clothing >> Lingerie, Sleep & Swimwear >> Shorts >> Alisha Shorts >> Alisha Solid Women's Cycling Shorts
Price: 999
Discounted: 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 Details Number of Contents in Sales Package Pack of 3 Fabric Cotton Lycra Type Cycling Shorts General Details Pattern Solid Ideal For Women's Fabric Care Gentle Machine Wash in Lukewarm Water, Do Not Bleach Additional Details Style Code ALTHT_3P_21 In the Box 3 shorts
Trader: Alisha

Id: SRTEH2F6HUZMQ6SJ
Name: Alisha Solid Women's Cycling Shorts
Category: Clothing >> Women's Clothing >> Lingerie, Sleep & Swimwear >> Shorts >> Alisha Shorts >> Alisha Solid Women's Cycling Shorts
Price: 699
Discounted: 267
Description: Key Features of Alisha Solid Women's Cycling Shorts Cotton Lycra Black, Red, Specifications of Alisha Solid Women's Cycling Shorts Shorts Details Number of Contents in Sales Package Pack of 2 Fabric Cotton Lycra Type Cycling Shorts General Details Pattern Solid Ideal For Women's Fabric Care Gentle Machine Wash in Lukewarm Water, Do Not Bleach Additional Details Style Code ALTGHT_11 In the Box 2 shorts
Trader: Alisha

Adding New Product Product Added

Editing Product

-Product Edited-

-Product Edited-

-Product Edited-

-Product Edited-

New Version Of Edited Product

Id: SRTEH2FVUHAAPH9X

Name: New Name

Category: Clothing >> Women's Clothing >> Lingerie, Sleep & Swimwear >> Shorts >> Alisha Shorts >> Alisha Solid Women's Cycling Shorts

Price: 999999999

Discounted: 0

Description: New Description

Trader: Alisha

Deleting Product
Product Deleted

Printing Products That Customer Ordered From Trader
SRTEH2FECMGNZJXJ
Alisha Solid Women's Cycling Shorts
Price: 999 Discounted: 379 Discount Percentage: %62.0
Alisha

Canceling Product That Customer Ordered From Trader
Order Canceled