CSE 222
Homework 6
Problem solution approach

In this homework we would implemet an e-shopping application. For genereal structure of the application I made Trader and Customer class that extends User class. I decided to put all required operations of these classes have some category. For example all operations about product are implemented in ProductService class. In this case the user, trader and customer classes not so complicated. They are easily understandable.

ProductService class contains operations for products like add,search, query, remove, edit, getAllProductsOfTrader, getProductById etc. I used one static object in this class and in this case we dont have to make new instances every time. I thought so much how I can holds all thousands of data efficiently. After some operations I decided to hold with serialization. Because it doesn't require any processing. Just fetches from hard drive and it to the ram. So I made a file for every products that named with id number. In this case I can access very quickly. I don't have to search for it by id. To generate unique id I use an method. SearchResults holds in a LinkedList because adding and removing used so much for filtering. For getAllProductsOfTrader method I used arrayList because removing is not used, just accessing(get) method is used for this data.

To fetch All products from csv file, i made a CsvReader class that reads line by line. I produce all traders in that file too. To process category string I made an method ind category class that holds categories with tree structure. It adds the new categories to the tree recursively.

UserService class contains operations like login, addUser, removeUser, getUserById. It holds an hashTable(hashmap) to hold users because with hashtable we can access the very very quickly by id. It also have save and load methods that to write to file and fetch from a file all users (traders and customers).

For orders I made an class that holds all information about orders like trader Id, Customer Id, order status(accepted, rejected…). And the orders of traders and customers are holds in a Queue structure to be in a queue.

I just used MergeSort, ShellSort and BubleSort for sorting searchResults by Price, by percentage of discount and by name. I used the algorithms we saw in class.

That's all I did for this homework. I may forget to tell about some parts. If so sorry for them. I tried to do best. I hope there are no any problem.

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