

GIT Department of Computer Engineering
CSE 222/505 - Spring 2020
Homework 7 Question 4 Report

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1801042092

1. CLASS DIAGRAMS

Class diagram was too big so I added as addition inside that folder named 1801042092_Q4_Class_Diagram.png

2. PROBLEM SOLUTION APPROACH

In this question, we asked to implement a menu-driven program for managing a software store. The system has two types of users who are administrators who can update information and users who browse software. To update the information, administrators have to enter the system with a password (a single general password is sufficient). Software search is a public feature. The system maintains the information about each software which at least includes name (including version), quantity, and price. And our implementation should use a search tree interface. So, it should be possible to use any data structure implanting search tree interface in your implementation. There are several problems about this implementation. When this question given us, there were problems about this homework. One of them was in our software class that implement ourselves, it has multiple variable and it was impossible to order every variable that is defined inside software class which are name of software, version, quantity of software and price of software but we can't Access inside of SearchTree class so we can't change variables' values and there is only one compareTo method inside Software class so I was thinking that its impossible to compare all variables but after some day, I realize that there is a solution to that problem. We can't still reach inside SearchTree interface but we can set compareTo method inside Software class. I added a switch to change behaviour of compareTo method. Then I did the implementation with 3 tree that are ordered by name, by quantity and by price. There is one more problem that I encountered. Problem was when I implement data structure implanting SearchTree interface, because our SearchTree interface is not clonable, I couldn't clone it so when I add Software to a tree, that software added all trees at the same position so I was adding one softwares three times to tree's. I did some research and I found that there is method called reflection which access Class class and call newInstance method. That creates clone of that interface. I solve that solution in that way.

3. TEST CASES

Test Case Number	Test Case	Test Data	Expected Result	Result	Decission
Test1	Entering as User	melihcan	It has to enter	Menu	PASS

			menu for users		
Test2	Entering as not registered user name	Ahmet	It has to say that there is no user named Ahmet	No such person named Ahmet, Do you want to create new account with name Ahmet (Y/N) :	PASS
Test3	Create new user	Ahmet	After test2, if you say y or Y, it will ask do you want to exit from system. If you say n, it will ask do you want to log out. If you say it not his as well, program will enter as Ahmet user	Enter username : Ahmet No such person named Ahmet, Do you want to create new account with name Ahmet (Y/N) : y Do you want to exit from library system(Y/N) : n Do you want to log out?(Y/N) : n	PASS
Test4	Enter as admin	admin	Program will ask password	Enter password	PASS
Test5	Enter password	1234	Program will enter admin menü	Enter password : 1234 1-)Search By Software Name 2-)Search By Software Price	PASS

				3-)Search By Software Quantity 4-)Add Software 5-)Delete Software 6-)Update Software 7-)Print All Softwares	
Test6	Search by software name	Adobe photoshop 6.0	Program will print software named adobe photoshop 6.0	Name of Software : adobe photoshop Version of Software : 6.0 Software{name='adobe Photoshop', Version=6.0}, Quantity=568, Price=175.84}	PASS
Test7	Search by software name not found	Adobe photoshop 6.3	Program has to print there is no software named adobe photoshop 6.3	No Software Named adobe photoshop 6.3	PASS
Test8	Search by software price	65.4	Program has to print one software that's price 65.4	Software{name='norton', version=5.5}, quantity=235, price=65.4}	PASS

Test9	Search by software price not found	180.45	Program has to print there is no software price 180.45	There is no software with price 180.45	PASS
Test10	Search by software quantity	235	Program has to print one software that's quantity 235	Software{name='norton', version=5.5}, quantity=235, price=65.4}	PASS
Test11	Search by software quantity not found	180	Program has to print there is no software quantity 180	There is no software with quantity 180	PASS
Test12	Adding software that is not at tree	Adobe photoshop 6.8 178 365.45	Software has to add this software	Software{name='adobe photoshop', version=6.8}, quantity=178, price=365.45}	PASS
Test13	Adding software that is at tree	adobe photoshop 6.2 489 198.0	Software will no be added		PASS
Test14	Deleting software that is at tree	adobe photoshop 6.2	Software will be deleted		PASS

Test15	Deleting software that is not at tree	Adobe photoshop 6.9	There is no software deleted so nothing will be happen		PASS
Test16	Update software that is at tree	Adobe photoshop 6.2	If we want to change price or quantity of that software, we will say enter y to that choice	Software{name='adobe photoshop', version=6.2}, quantity=254, price=335.45} added to tree	PASS
Test17	Update software that is not at tree	Adobe photoshop 6.7	It has to say that no software	No software	PASS
Test18	Admin can print all Softwares	Press 7 at admin menü	Prints all softwares	Software{name='adobe photoshop', version=6.0}, quantity=568, price=175.84} Software{name='adobe flash', version=3.3}, quantity=635, price=45.0} null Software{name='adobe flash', version=4.0}, quantity=235, price=45.0} null	PASS

				null Software{name='adobe photoshop', version=6.2}, quantity=489, price=198.0} null Software{name='norton', version=4.5}, quantity=125, price=32.3} null Software{name='norton', version=5.5}, quantity=235, price=65.4} null null	
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4. RUNNING AND RESULTS

Test1:

```

Enter username : melihcan
1-)Search By Software Name
2-)Search By Software Price
3-)Search By Software Quantity
4-)Exit
|

```

Test2:

```

Enter username : Ahmet
No such person named Ahmet, Do you want to create new account with name Ahmet (Y/N) :
|

```

Test3

```
Enter username : Ahmet
No such person named Ahmet, Do you want to create new account with name Ahmet (Y/N) :
Y
Do you want to exit from library system(Y/N) : n
Do you want to log out?(Y/N) : n
1-)Search By Software Name
2-)Search By Software Price
3-)Search By Software Quantity
4-)Exit
```

Test4

```
Enter username : admin
Enter password : |
```

Test5

```
Enter username : admin
Enter password : 1234
1-)Search By Software Name
2-)Search By Software Price
3-)Search By Software Quantity
4-)Add Software
5-)Delete Software
6-)Update Software
7-)Print All Softwares
8-)Exit
|
```

Test6

```
Name of Software :
adobe photoshop
Version of Software :
6.0
Software{name='adobe Photoshop', Version=6.0}, Quantity=568, Price=175.84}
```


Test7

```
Name of Software :  
adobe photoshop  
Version of Software :  
6.3  
No Software Named adobe photoshop 6.3
```

Test8

```
Price of Software :  
65.4  
Software{name='norton', version=5.5}, quantity=235, price=65.4}
```

Test9

```
Price of Software :  
180.45  
There is no software with price 180.45
```

Test10

```
Quantity of Software :  
235  
Software{name='norton', version=5.5}, quantity=235, price=65.4}
```

Test11

```
Quantity of Software :  
180  
There is no software with quantity 180
```

Test12

```
Software{name='adobe photoshop', version=6.0}, quantity=568, price=175.84}
  Software{name='adobe flash', version=3.3}, quantity=635, price=45.0}
    null
    Software{name='adobe flash', version=4.0}, quantity=235, price=45.0}
      null
      null
Software{name='adobe photoshop', version=6.2}, quantity=489, price=198.0}
  null
  Software{name='norton', version=4.5}, quantity=125, price=32.3}
    Software{name='adobe photoshop', version=6.8}, quantity=178, price=198.0}
      null
      null
    Software{name='norton', version=5.5}, quantity=235, price=65.4}
      null
      null
```

Test13

```
Software{name='adobe photoshop', version=6.0}, quantity=568, price=175.84}
  Software{name='adobe flash', version=3.3}, quantity=635, price=45.0}
    null
    Software{name='adobe flash', version=4.0}, quantity=235, price=45.0}
      null
      null
Software{name='adobe photoshop', version=6.2}, quantity=489, price=198.0}
  null
  Software{name='norton', version=4.5}, quantity=125, price=32.3}
    Software{name='adobe photoshop', version=6.8}, quantity=178, price=198.0}
      null
      null
    Software{name='norton', version=5.5}, quantity=235, price=65.4}
      null
      null
```

Test14

```
Software{name='adobe photoshop', version=6.0}, quantity=568, price=175.84}
Software{name='adobe flash', version=3.3}, quantity=635, price=45.0}
null
Software{name='adobe flash', version=4.0}, quantity=235, price=45.0}
null
null
Software{name='norton', version=4.5}, quantity=125, price=32.3}
null
Software{name='norton', version=5.5}, quantity=235, price=65.4}
null
null
```

Test15

```
Name of Software :
adobe photoshop
Version of Software :
6.9
```

Test16

```
Name of Software :
adobe photoshop
Version of Software :
6.2
Software{name='adobe photoshop', version=6.2}, quantity=489, price=198.0}
Do you want to enter new price to change it? : y
New price of software :
335.45
Do you want to enter new quantity to change it? : y
New quantity of software :
254
Software{name='adobe photoshop', version=6.2}, quantity=254, price=335.45} added to tree
```

Test17

```
Name of Software :
adobe photoshop
Version of Software :
6.7
No Software
```

Test18

```
Software{name='adobe photoshop', version=6.0}, quantity=568, price=175.84}
  Software{name='adobe flash', version=3.3}, quantity=635, price=45.0}
    null
    Software{name='adobe flash', version=4.0}, quantity=235, price=45.0}
      null
      null
Software{name='adobe photoshop', version=6.2}, quantity=489, price=198.0}
  null
  Software{name='norton', version=4.5}, quantity=125, price=32.3}
    null
    Software{name='norton', version=5.5}, quantity=235, price=65.4}
      null
      null
```