

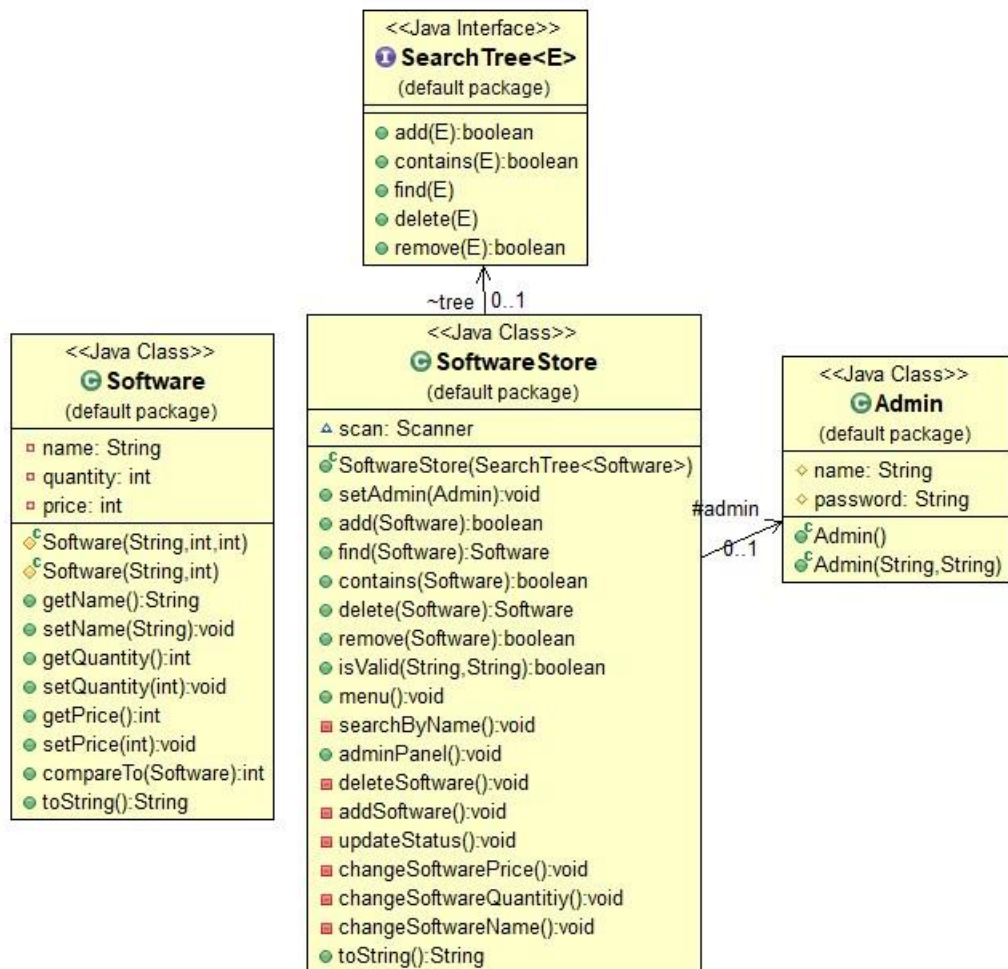
**GIT Department of Computer Engineering
CSE 222/505 - Spring 2020
Homework #7 Report**

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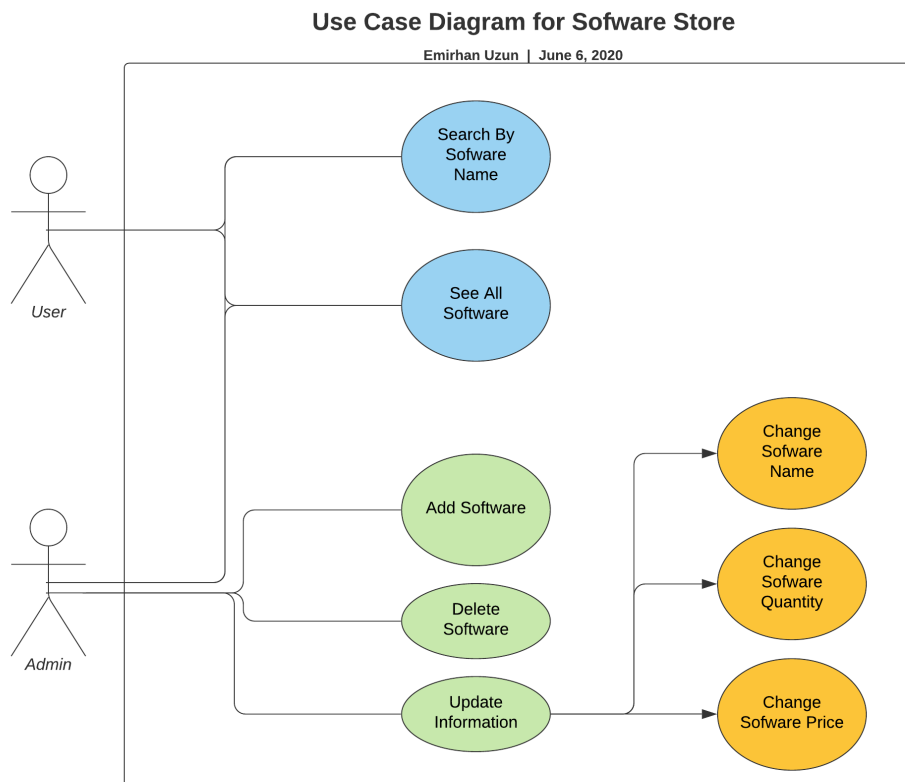
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HOMEWORK #7 QUESTION 4

1) Class Diagram



2) Use Case Diagram



3) Problem Solution Approach

Firstly, I created the search tree interface. After that, to keep the software information I created a software class. In this class, I have 3 field which are name, quantity and price.

To add, remove and update informations, I have an admin class.

My main class is the software store class. This class has a search tree field. This field is initialized in the constructor. It can be any data structure which implements the search tree class. For instance, I used binary search tree class for test.

In this store class, I implemented the search tree methods. But actually, this methods use the search tree field. I just edited the method.

Admin can change software product name, quantity and prices. The user just can see the all products and search the products.

When the program runs, the menu expects us. The first choice is search by author name. I take the input for author name and I search in search tree field. If the tree contains it, I print the product.

The second choice is admin panel. When the user choose that, he has to enter the admin system with name and password. If the informations are true, then he can add, delete book or update the informations which are change product name, change product quantity and prices. When I add product, first I check that the product exist in tree. If it exist I set the product quantity exist. If the product doesn't exist, then I add the product without extra operation. In delete book method, I search the product name first, then I take the quantity to decrease or delete products. If the quantity is less than current quantity, I remove the product.

The third choice is print all books. If user chooses it, I print the all product name, product quantity and prices.

4) Test Cases

Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Pass/Fail
T01	Admin Informations	1. Write the admin informations. 2. Create a admin object	- Admin object	Object should be created and informations must be initialized	As Expected	Pass
T02	Search by name method	1- Write the product name 2- Prints the books	-Tree	The product informations must be printed	As Expected	Pass
T03	Search by name method if the map is empty	1- Write the product name 2- Give an error	-Tree	The program must give an error message and turn back the menu	As Expected	Pass
T06	Search by quantity method	1- Write the title name 2- Give an error	-Tree	The program must show the informations	As Expected	Fail
T07	Admin Login Panel method	1. Write the login informations 2- Check and login or logout	- Admin object - Given inputs	If the informations right, then enter the panel, otherwise not	As Expected	Pass
T08	Add Product method	1- Write the product informations 2- Add book	-Tree -Book informations	Add book to the tree	As Expected	Pass
T09	Delete Product method	1-Write product and quantity	-Tree -Book informations	If this product exist, then remove it from tree or decrease quantity	As Expected	Pass
T10	Change Product Name	1-Write the book name	-Tree -Book Name	If this product name exist, then change the name of product	As Expected	Pass
T11	Change Product Quantity	1- Write the product name	-Tree -Product Name	If this product name exist in tree, change the quantity	As Expected	Pass
T12	Change Product Price	1- Write the product and price	-Tree -Book Informations	If the informations are exist,	As Expected	Pass

				then change the price of product		
T13	Print Books	1- Choose the print menu	-Tree -Book	Prints all product informations	As Expected	Pass

5) Running Command And Results

```

Please enter a name for admin :
emirhan uzun
Plase enter a password for admin :
123456
The new admin profile was created!
Name : emirhan uzun
Password : 123456

```

This is the create admin. It comes out at program works.

```

-----LIBRARY AUTOMATION SYSTEM-----
1. Search Software by Name
2. Update (Admin Login)
3. Show all softwares
4. Exit
-----
Please enter choice :
2
Please enter your name :
emirhan uzun
Please enter the your password :
123456
1. Add Software
2. Delete Software
3. Update Information
4. Exit
-----

```

```

-----LIBRARY AUTOMATION SYSTEM-----
1. Search Software by Name
2. Update (Admin Login)
3. Show all softwares
4. Exit
-----
Please enter choice :
2
Please enter your name :
emirhanuzun
Please enter the your password :
1234567
The name or password are false !

```

This is the admin panel. If the informations are not true then goes to the panel, otherwise not

```

1. Add Software
2. Delete Software
3. Update Information
4. Exit
-----

Please select menu :
1
Please input the Software Name :
Nvidia
Please input Software Quantity :
47
Please input Software Price
99

```

The admin add software. Take the inputs and adds to tree.

```

1. Add Software
2. Delete Software
3. Update Information
4. Exit
-----

Please select menu :
2
Please input the Software Name :
Nvidiaaaa
Please input Software Quantity :
44
This software was not found !

```

If the software is not true, the program will give an error message and won't delete the product.

```

-----

Please select menu :
3
1. Change Software Name
2. Change Software Quantity
3. Change Software Price
4. Exit
Please select menu :
1
Please enter the input for old software nameNvidia
Please enter the input for new software nameIntel
This software name was changed !

```

The change the product name method.

```

1. Change Software Name
2. Change Software Quantity
3. Change Software Price
4. Exit
Please select menu :
2
Please enter the input for software nameNorton 4.5
Please enter the input for new software quantity33
This software quantity was changed !

```

The change quantity method.

```

1. Change Software Name
2. Change Software Quantity
3. Change Software Price
4. Exit
Please select menu :
3
Please enter the input for software nameIntel
Please enter the input for new software price324
This software price was changed !

```

The change price method.

```

-----LIBRARY AUTOMATION SYSTEM-----
1. Search Software by Name
2. Update (Admin Login)
3. Show all softwares
4. Exit
-----
Please enter choice :
3

Software [name=Adobe Photoshop 6.0, quantity=1, price=15]
Software [name=Adobe Flash 3.3, quantity=35, price=80]
Software [name=Adobe Flash 4.0., quantity=55, price=20]
Software [name=Adobe Photoshop 6.2, quantity=40, price=50]
Software [name=Norton 4.5, quantity=60, price=30]
Software [name=Intel, quantity=131, price=324]
Software [name=Norton 5.5, quantity=25, price=90]

```

Prints all products.


```

-----LIBRARY AUTOMATION SYSTEM-----
1. Search Software by Name
2. Update (Admin Login)
3. Show all softwares
4. Exit
-----
Please enter choice  :
1
Please enter product name:
Norton 5.5
Software [name=Norton 5.5, quantity=25, price=90]

```

The search method prints the product informations.

```

-----LIBRARY AUTOMATION SYSTEM-----
1. Search Software by Name
2. Update (Admin Login)
3. Show all softwares
4. Exit
-----
Please enter choice  :
1
Please enter product name:
Norton 7.7
This product Norton 7.7 was not found !
-----

```

If the product name doesn't exists, then give an error message.

Commands:

In this part, I learnt use the generic tree method with using search tree. When I writing this program, also I practiced the methods of tree like contains, add and remove etc.