

GIT Department of Computer Engineering

CSE 222/505 - Spring 2020

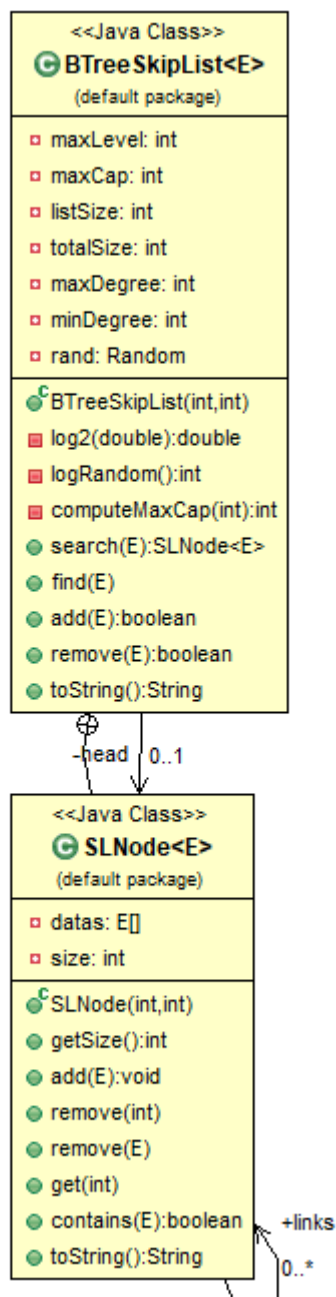
Homework 4 Report

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Q2:

Class Diagram:



Problem Solution Approach:

In my opinion the tricky part was finding a convenient way to split and merge arrays. After some thinking I realized that implementing a skiplist that its maxDegree is no greater than its minDegree multiplied by two. So in my implementation I did not allow to give a maxDegree less than minDegree multiplied by 2. And in the remove method I also added an ability which allows the node which its element removed and now less than minDegree can take its neighboring arrays elements in order to preserve its state and when its both neighbours are also at minDegree size it combines with either of them.

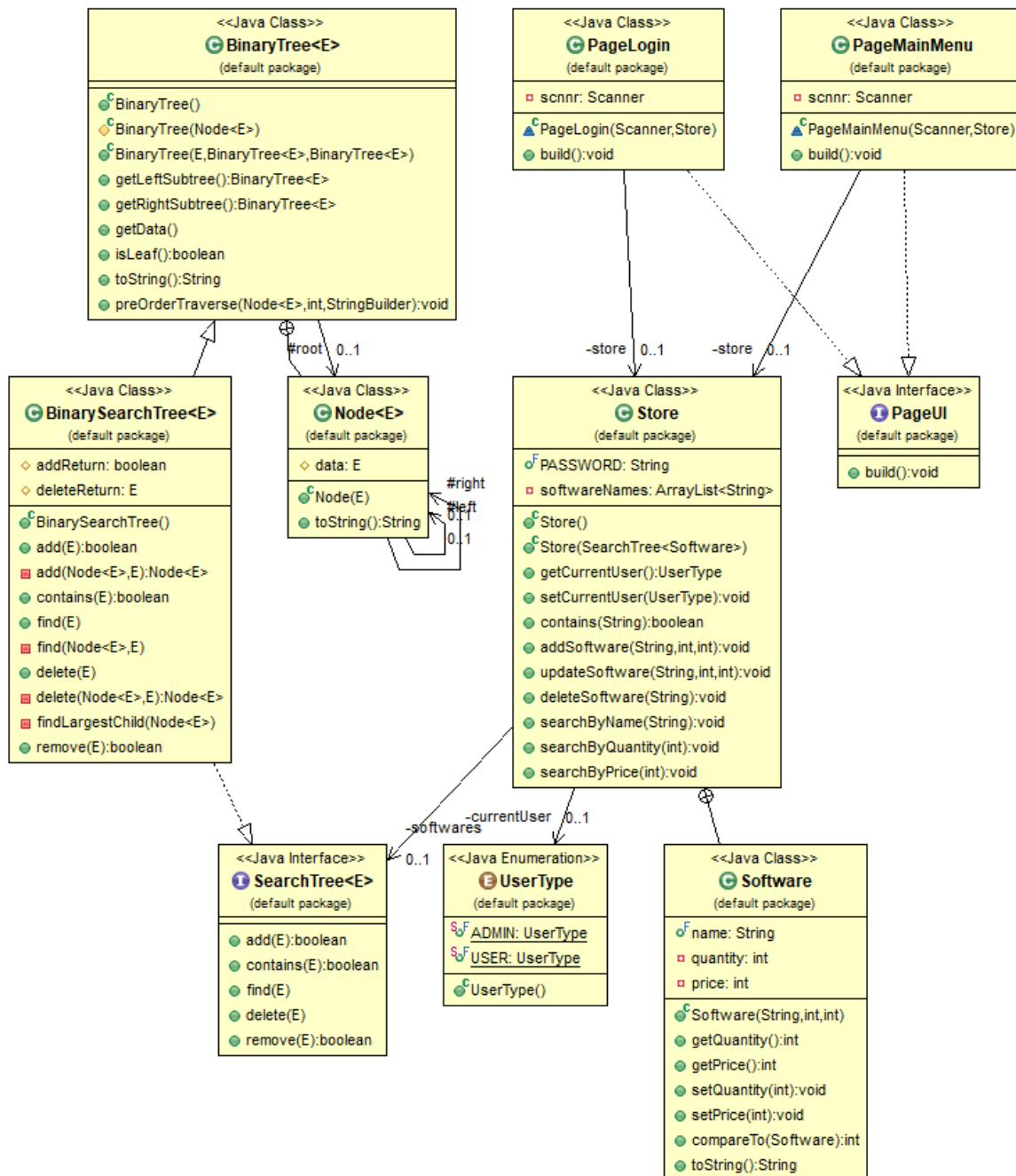
[illegible]

CLR: 35: Empty
CLR: 36: Empty
CLR: 37: Empty
CLR: 38: Empty
CLR: 39: Empty
CLR: 40: Empty
CLR: 41: Empty
CLR: 42: Empty
CLR: 43: Empty
CLR: 44: Empty
CLR: 45: Empty
CLR: 46: Empty
CLR: 47: Empty
CLR: 48: Empty
CLR: 49: Empty

Test Cases:

Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Pass/Fail
T01	Check admin login with invalid password	1.Open program 2.Choose admin 3.Enter password 4.press enter	username=admin password=admin	User shouldn't access any account	Pass
T02	Try to reach a page which user is not authorized to	1.Enter the program as default user 2.Try to find the page to add software	No data	User should not be able to see the pages which he/she is not authorized to reach	Fail
T04	Check Software adding with admin	1.Login with an admin account 2.Navigate to add software 3.Try to create a software named "Discord"	softwareName = "Discord"	Application should create a software with given name	Pass
T05	Check updating a software	1. Login with an admin account 2.Navigate to update software 3.try to change the price of Adobe Photoshop 6.0	price = 50	The price should be updated	Pass

Class Diagram:



Problem Solution:

It was easy actually since we made a very similar program so soon. So I tried to use the codes I've written before as much as possible in order to prevent writing the same code over and over again. I checked especially the quantity and if given parameter is already in the store in order to prevent errors.

Test Cases:

Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Pass/Fail
T01	Check admin login with invalid password	1.Open program 2.Choose admin 3.Enter password 4.press enter	username=admin password=admin	User shouldn't access any account	Pass
T02	Try to reach a page which user is not authorized to	1.Enter the program as default user 2.Try to find the page to add software	No data	User should not be able to see the pages which he/she is not authorized to reach	Fail
T04	Check Software adding with admin	1.Login with an admin account 2.Navigate to add software 3.Try to create a software named "Discord"	softwareName = "Discord"	Application should create a software with given name	Pass
T05	Check updating a software	1. Login with an admin account 2.Navigate to update software 3.try to change the price of Adobe Photoshop 6.0	price = 50	The price should be updated	Pass

Running Results:

Login Menu
Admin Login: a
User Login: u
Exit: e
a

Please enter the password: 4321

Login Menu
Admin Login: a
User Login: u
Exit: e
a

Please enter the password: 1234

n: Search by name
q: Search by quantity
p: Search by price
a: Add software
d: Delete software
u: Update software
b: back
n

Software name: Adobe Photoshop 6.0
Name: Adobe Photoshop 6.0
Price: \$40
Quantity: 1

n: Search by name
q: Search by quantity
p: Search by price
a: Add software
d: Delete software
u: Update software
b: back
u

Software name: Adobe Photoshop 6.0
Software quantity: 5
Software price: 41

n: Search by name
q: Search by quantity
p: Search by price
a: Add software
d: Delete software
u: Update software
b: back

n: Search by name
q: Search by quantity
p: Search by price

a: Add software
d: Delete software
u: Update software
b: back

q

Software quantity: 41

n: Search by name
q: Search by quantity
p: Search by price
a: Add software
d: Delete software
u: Update software
b: back

n: Search by name
q: Search by quantity
p: Search by price
a: Add software
d: Delete software
u: Update software
b: back

p

Software price: 41
Name: Adobe Photoshop 6.0
Price: \$41
Quantity: 5

n: Search by name
q: Search by quantity
p: Search by price
a: Add software
d: Delete software
u: Update software
b: back

n: Search by name
q: Search by quantity
p: Search by price
a: Add software
d: Delete software
u: Update software
b: back

a

Software name: Spotify
Software quantity: 2
Software price: 20

n: Search by name
q: Search by quantity
p: Search by price
a: Add software

d: Delete software
u: Update software
b: back

n: Search by name
q: Search by quantity
p: Search by price
a: Add software
d: Delete software
u: Update software
b: back

q

Software quantity: 2
Name: Spotify
Price: \$20
Quantity: 2

n: Search by name
q: Search by quantity
p: Search by price
a: Add software
d: Delete software
u: Update software
b: back

n: Search by name
q: Search by quantity
p: Search by price
a: Add software
d: Delete software
u: Update software
b: back

u

Software name: Spotify
Software quantity: 0
Software price: 20

n: Search by name
q: Search by quantity
p: Search by price
a: Add software
d: Delete software
u: Update software
b: back

n: Search by name
q: Search by quantity
p: Search by price
a: Add software
d: Delete software
u: Update software
b: back

n

Software name: Spotify
null

n: Search by name
q: Search by quantity
p: Search by price
a: Add software
d: Delete software
u: Update software
b: back
d

Software name: Adobe Photoshop 6.0

n: Search by name
q: Search by quantity
p: Search by price
a: Add software
d: Delete software
u: Update software
b: back
n

Software name: Adobe Photoshop 6.0
null

n: Search by name
q: Search by quantity
p: Search by price
a: Add software
d: Delete software
u: Update software
b: back
b

Login Menu
Admin Login: a
User Login: u
Exit: e
u

n: Search by name
q: Search by quantity
p: Search by price
b: back
b

Login Menu
Admin Login: a
User Login: u
Exit: e
e