GTU Department of Computer Engineering
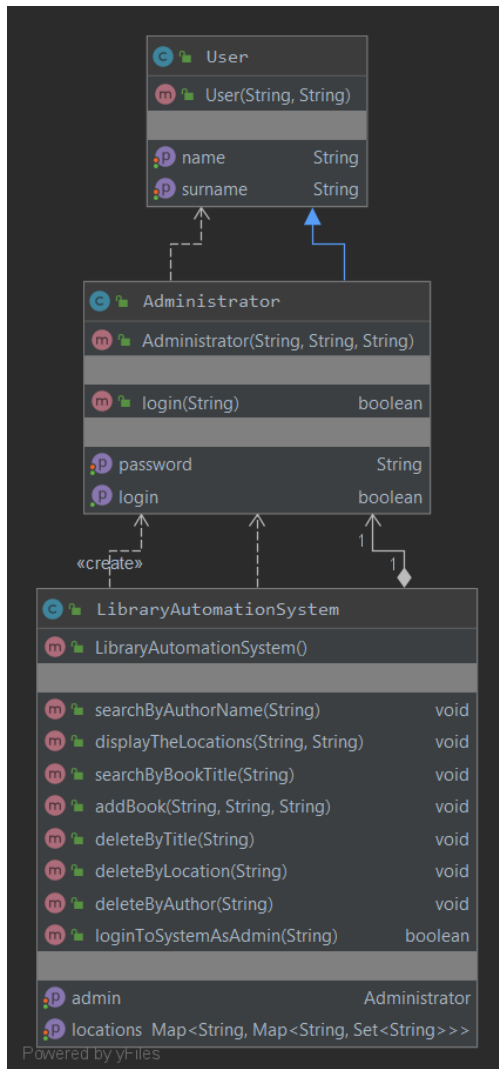
CSE 222/505 - Spring 2020

Homework 6-Q3

Report

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Class Diagram

Problem Solution Approach

We have used the nested map and set data structure to keep the data for book information. The structure of map and set is as described in homework. For the outermost map, the author name is used as a key, the value is another map whose keys are book names. In the inner map, the values are sets showing the location (or locations if there is more than one copy) of that book. Before the using the methods that can be update the data we have to call the log in method. There is a default admin in this system but it can be changed.

Test Cases

Test ID	Scenerio	Test Data	Expected Result	Actual Result	Pass /Fail
1	Log in to System by using the default password.	"171044066"	Log in success.	As Expected.	Pass
2	Add some book to system .(different authors, Different books, Different locations)	Author = "AAA" Title = "A_Book1" Location = "c0s0.1001" Author = "BBB" Title = "B_Book1" Location = "c1s1.1001" Author = "CCC" Title = "C_Book1" Location = "c2s2.1001" Author = "DDD" Title = "D_Book1" Location = "c3s3.1001"	All books are added.	As Expected.	Pass
3	Add some book to system. (same authors, Different books,	Author = "AAA" Title = "A_Book2" Location = "c0s0.2001"	All books are added.	As Expected.	Pass

		Different locations)	Author = "AAA" Title = "A_Book3" Location = "c0s0.3001" Author = "AAA" Title = "A_Book4" Location = "c0s0.4001" Author = "CCC" Title = "C_Book2" Location = "c2s2.2001" Author = "CCC" Title = "C_Book3" Location = "c2s2.3001"			
4	Add some book to system. (same author, Same books, Different location)	Author = "AAA" Title = "A_Book2" Location = "c0s0.2002" Author = "AAA" Title = "A_Book2" Location = "c0s0.2003" Author = "AAA" Title = "A_Book2" Location = "c0s0.2004" Author = "DDD" Title = "D_Book1" Location = "c3s3.1002" Author = "DDD" Title = "D_Book1" Location = "c3s3.1003"	All books are added.	As Expected.	Pass
5	Search by author name.	AuthorName = "AAA" AuthorName = "BBB" AuthorName = "CCC" AuthorName = "DDD" AuthorName = "EEE" EEE doesn't exist.	Book names is printed if it exists.	As Expected.	Pass
6	Display locations by using book name and author name.	AuthorName = "AAA" BookTitle = "A_Book2" AuthorName = "DDD" BookTitle = "D_Book1"	Locations are printed.	As Expected.	Pass

		AuthorName = "CCC" BookTitle = "C_Book1" AuthorName = "BBB" BookTitle = "B_Book1"			
7	Search by book title	BookTitle = "A_Book2" BookTitle = "D_Book1" BookTitle = "C_Book1" BookTitle = "B_Book1"	All information about these books are printed.	As Expected.	Pass
8	Display location Delete by location Display location	Location = "c0s0.2002" Location = "c0s0.2003" Location = "c0s0.2004"	First the book can be found but after delete it can not be found.	As Expected.	Pass
9	Search by title Delete by title Search by title	BookTitle = "D_Book1"	First the book can be found but after delete it can not be found.	As Expected.	Pass
10	Search by author Delete by author Search by author	Author = "AAA"	First the book can be found but after delete it can not be found.	As Expected.	Pass

Running command and results

login success

author "AAA" has this books :

A_Book4

A_Book3

A_Book2

A_Book1

author "BBB" has this books :

B_Book1

author "CCC" has this books :

C_Book1

C_Book2

C_Book3

author "DDD" has this books :

D_Book1

author "EEE" has this books :

locations of "A_Book2"

c0s0.2002

c0s0.2003

c0s0.2004

c0s0.2001

locations of "D_Book1"

c3s3.1003

c3s3.1002

c3s3.1001

locations of "C_Book1"

c2s2.1001

locations of "B_Book1"

c1s1.1001

Some information about "A_Book2"

Author Name : AAA

Book Title : A_Book2

location c0s0.2002

location c0s0.2003

location c0s0.2004

location c0s0.2001

Some information about "D_Book1"

Author Name : DDD

Book Title : D_Book1

location c3s3.1003

location c3s3.1002

location c3s3.1001

Some information about "C_Book1"

Author Name : CCC

Book Title : C_Book1

location c2s2.1001

Some information about "B_Book1"

Author Name : BBB

Book Title : B_Book1

location c1s1.1001

locations of "A_Book2" (before deletion)

c0s0.2002

c0s0.2003

c0s0.2004

c0s0.2001

locations of "A_Book2" (after deletion)

c0s0.2001

Some information about "D_Book1" (before deletion)

Author Name : DDD

Book Title : D_Book1

location c3s3.1003

location c3s3.1002

location c3s3.1001

Some information about "D_Book1" (after deletion)

author "AAA" has this books : (before deletion)

A_Book4

A_Book3

A_Book2

A_Book1

author "AAA" has this books : (after deletion)

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