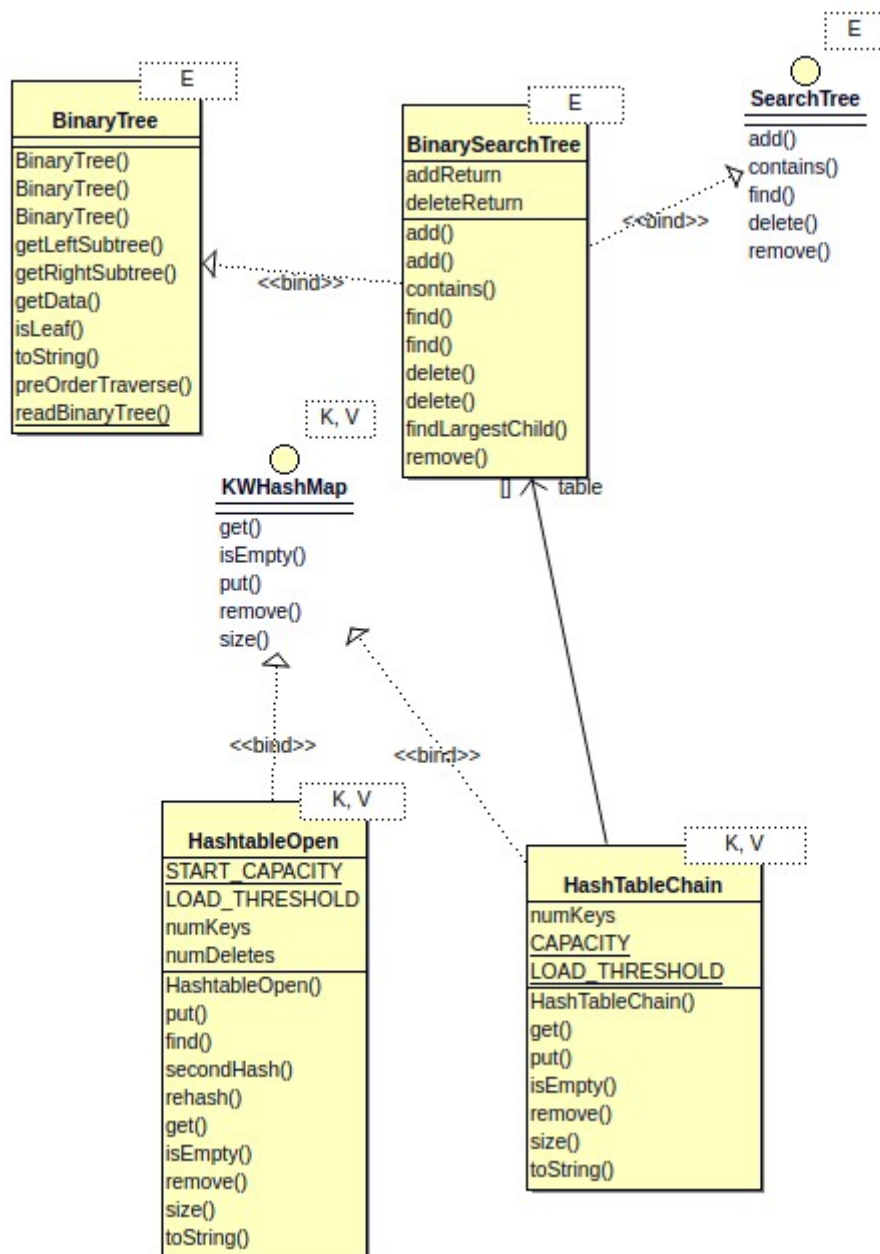
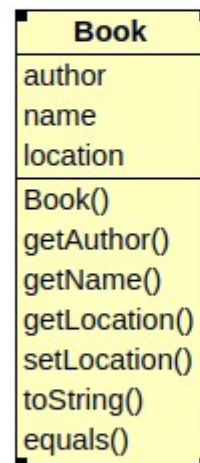
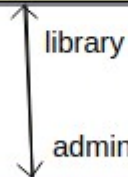
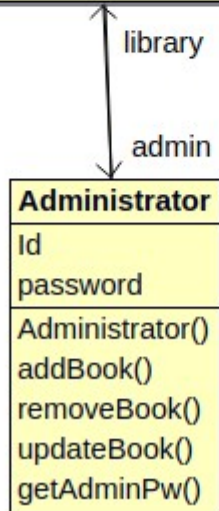
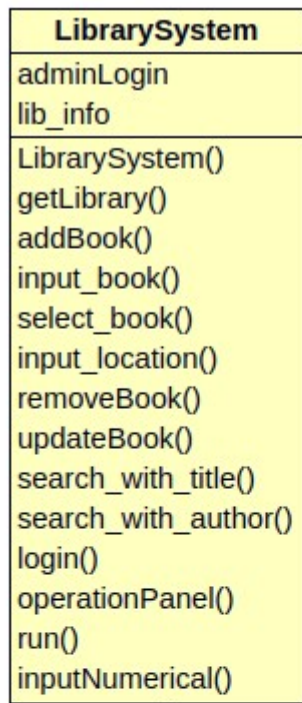


CSE222 Homework 6 Report

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1) Class Diagrams





2) Problem Solution Approach

Part1.

In the first part, we explained how the algorithms requested from us work through the arrays that were asked step by step and how they worked, and compared the yields of these algorithms.

Part2.

In this section, we extracted the times of the arrays of the desired size and compared these data on a graph in Excel.

Part3.

In this section, we were asked to do a library automation. This automation system has 2 types of processing capability. Operations to be performed by an administrator and operations to be performed by the user. I designed the administrator class for this. This class can add and remove books to the system and update books when necessary. When the Administrator logs in to the system, the methods of the administrator class work. In another case, normal user methods work. I designed a book class to keep book data together, this class acts as an intermediate step, its main purpose is to keep book data together.

Part4.

In this part, we were asked to design a hashma. The most important thing to consider when designing this data structure is to prevent collusion. There are 2 techniques for this, one is the open address technique and the other is the chaining technique. We used binary tree instead of linked list in chaining technique. I used this binary tree class as a data structure that I have implemented myself. In the open address method, I planned to increase the performance by performing hash twice.

3) Test Cases

Operations such as adding and subtracting updates for the third part have been tested. These are included in the running result section.

4) Running Results

```
Do you want login library system? [y/n]
y
(Administrator password is admin)
(Else cases will be recognized normal user)

Enter Password: admin

0) Exit
1) Search by book title
2) Search by author name
3) Add book
4) Remove book
5) Update book
Input: 3
Enter the book name: Icımızdeki Seytan
Enter the book author: Sabahattin Ali
Enter the book location: L5

0) Exit
1) Search by book title
2) Search by author name
3) Add book
4) Remove book
5) Update book
Input: 3
Enter the book name: Icımızdeki Seytan
Enter the book author: Sabahattin Ali
Enter the book location: L9

0) Exit
1) Search by book title
2) Search by author name
3) Add book
4) Remove book
5) Update book
Input: 3
Enter the book name: Kuyucakli Yusuf
Enter the book author: Sabahattin Ali
Enter the book location: R9
```

```
0) Exit
1) Search by book title
2) Search by author name
3) Add book
4) Remove book
5) Update book
Input: 2
Author name:
Sabahattin Ali

The book of Sabahattin Ali
Icımızdeki Seytan
Kuyucakli Yusuf

Input: Kuyucakli Yusuf
The book location/s and status
R9

0) Exit
1) Search by book title
2) Search by author name
3) Add book
4) Remove book
5) Update book
Input: 4
1) Kara Kita
2) Icımızdeki Seytan
3) Kuyucakli Yusuf
Select the book number:
Input: 1

0) Exit
1) Search by book title
2) Search by author name
3) Add book
4) Remove book
5) Update book
Input: 4
1) Icımızdeki Seytan
2) Kuyucakli Yusuf
Select the book number:
Input: 2
```

```
0) Exit
1) Search by book title
2) Search by author name
3) Add book
4) Remove book
5) Update book
Input: 5
1) İcımızdeki Seytan
Select the book number:
Input: 1
Input updated new location:
L56

0) Exit
1) Search by book title
2) Search by author name
3) Add book
4) Remove book
5) Update book
Input: 1
Book name: İcımızdeki Seytan

Author: Sabahattin Ali
Book Name: İcımızdeki Seytan
1)Location: L56
2)Location: L9

0) Exit
1) Search by book title
2) Search by author name
3) Add book
4) Remove book
5) Update book
Input: 0
The operation panel turning off...
Do you want login library system? [y/n]
y
(Administrator password is admin)
(Else cases will be recognized normal user)

Enter Password: asdas

0) Exit
1) Search by book title
2) Search by author name
Input: 1
Book name: İcımızdeki Seytan

Author: Sabahattin Ali
Book Name: İcımızdeki Seytan
1)Location: L56
2)Location: L9
```

```
0) Exit
1) Search by book title
2) Search by author name
Input: 2
Author name:
Sabahattin Ali

The book of Sabahattin Ali
Icımızdeki Seytan

Input: Icımızdeki Seytan
The book location/s and status
L56
L9

0) Exit
1) Search by book title
2) Search by author name
Input: 0
The operation panel turning off...
Do you want login library system? [y/n]
n
The program turning off...
```