GIT Department of Computer Engineering

CSE 222/505 - Spring 2020

Homework 6 Report

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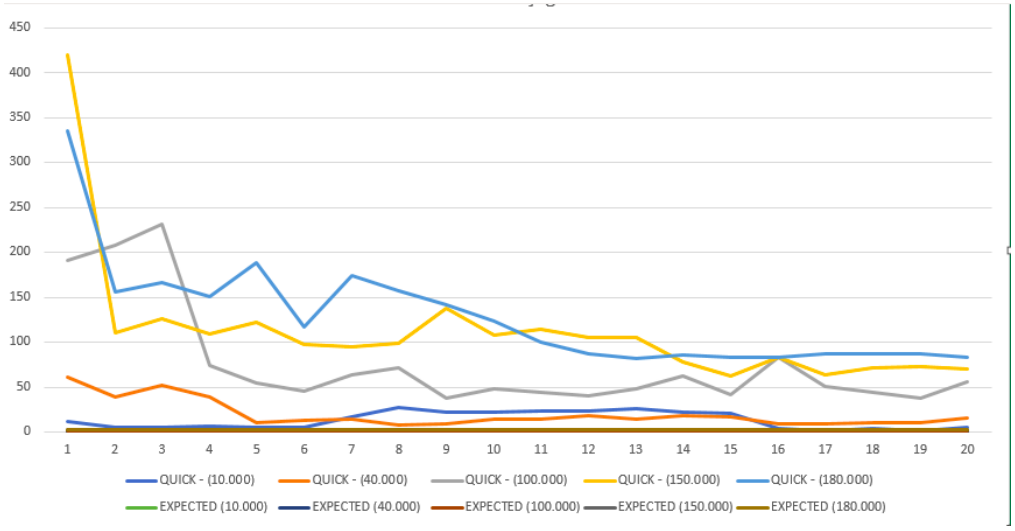
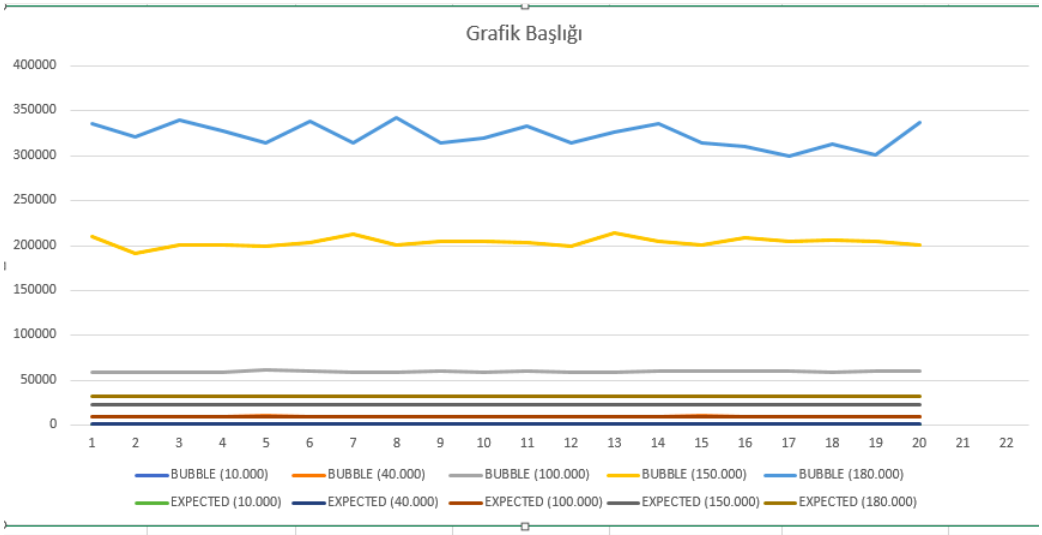
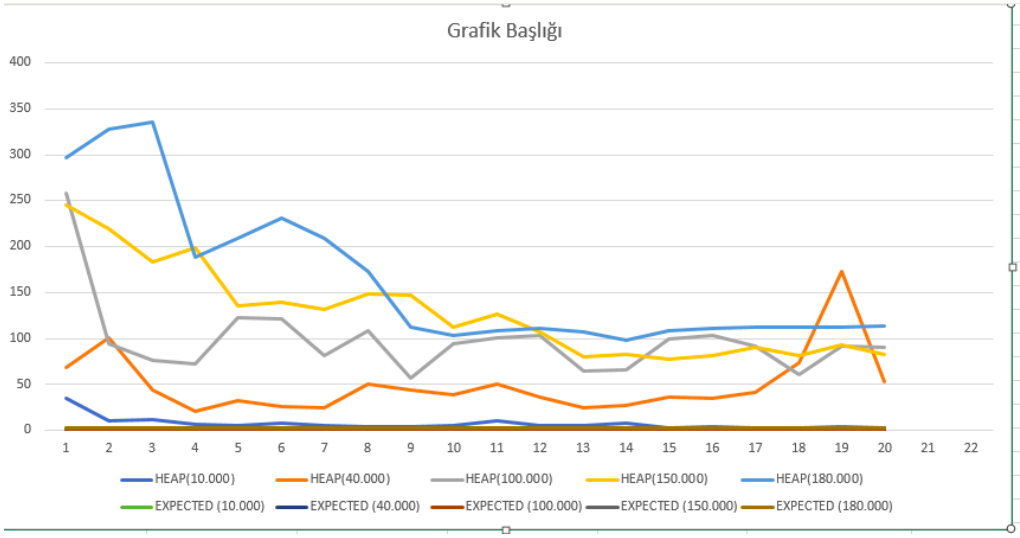
171044010

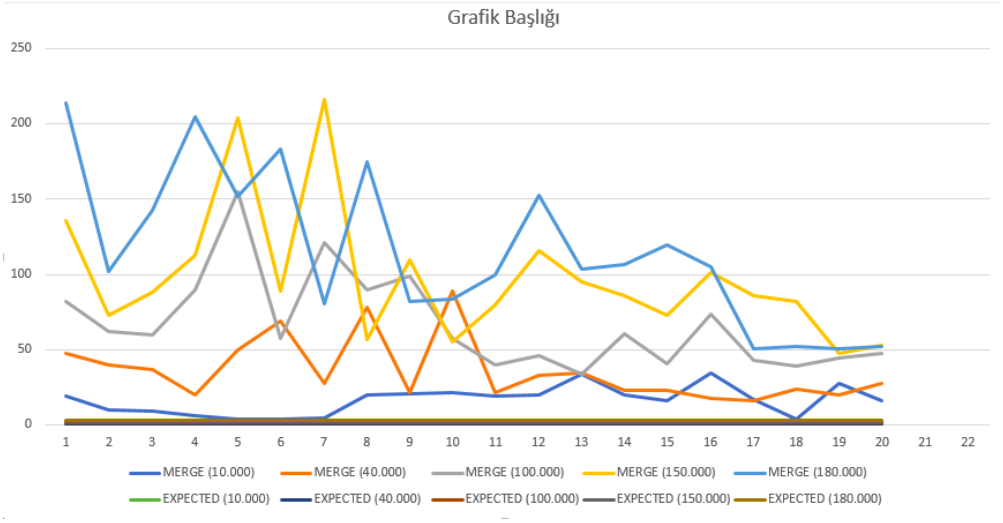
Q2

Graphs is not clear, so they have been added to the file.





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200
150
100
50
0
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MERGE (10.000)
MERGE (40.000)
MERGE (100.000)
MERGE (150.000)
MERGE (180.000)
EXPECTED (10.000)
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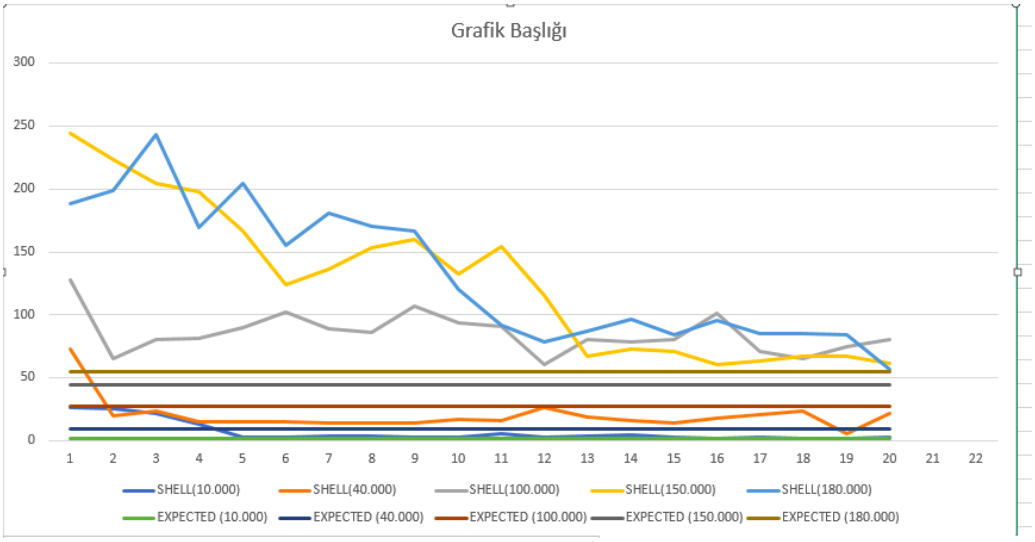
EXPECTED (150.000)
EXPECTED (180.000)


Grafik Başlığı
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250
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
SHELL(10.000)
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SHELL(100.000)
SHELL(150.000)
SHELL(180.000)
EXPECTED (10.000)
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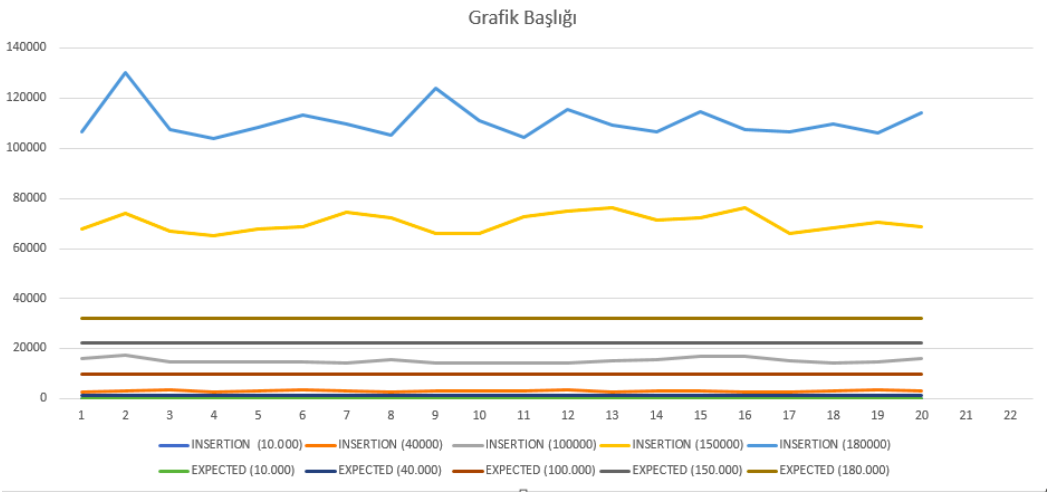
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INSERTION (10.000)
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INSERTION (150000)
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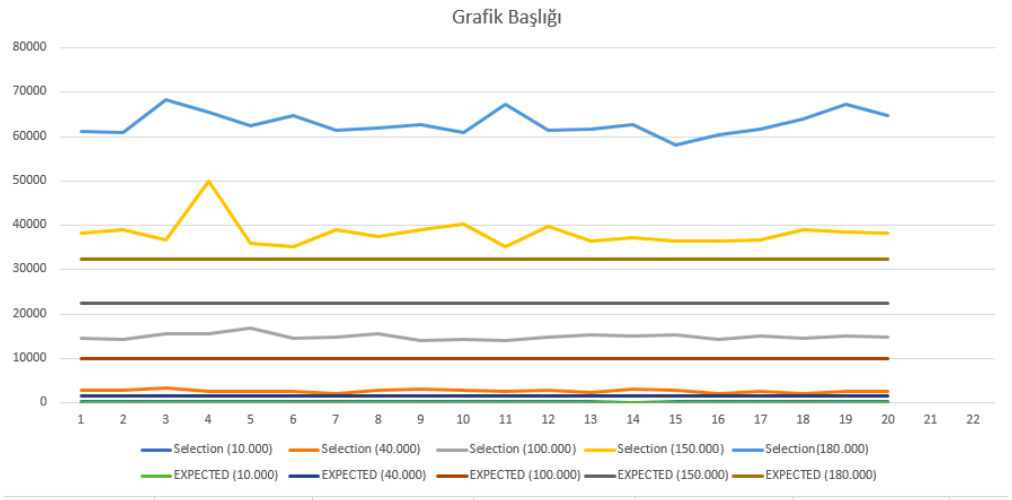
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
Selection (10.000)
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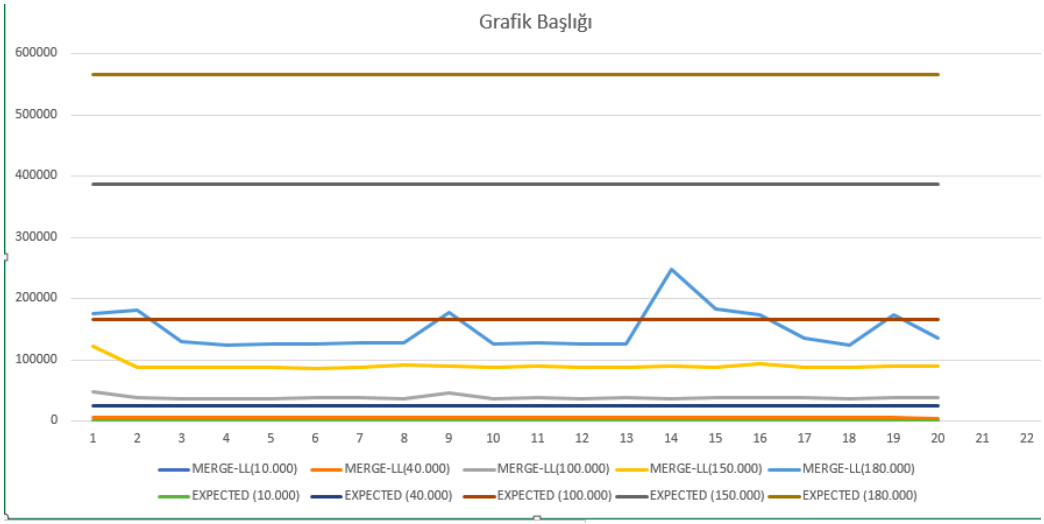
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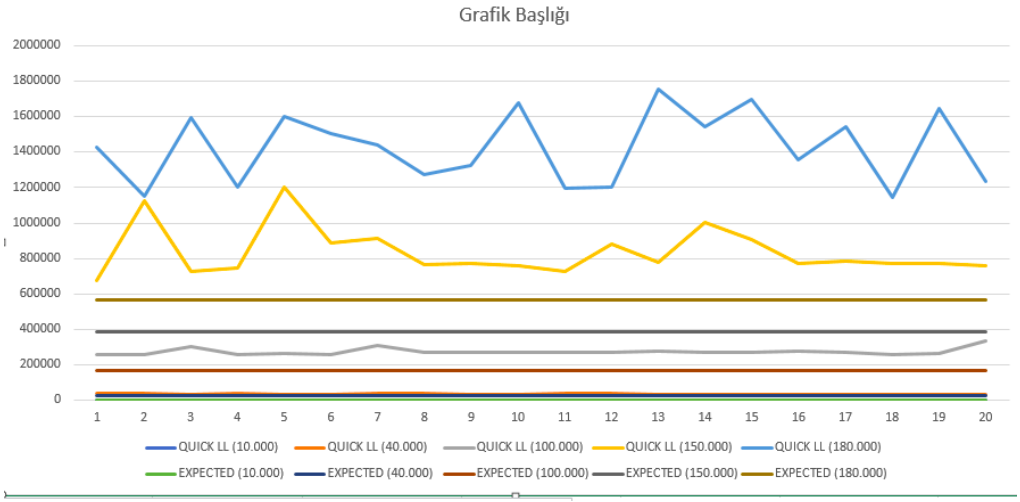
MERGE-LL(40.000)
MERGE-LL(100.000)
MERGE-LL(150.000)
MERGE-LL(180.000)
EXPECTED (10.000)
EXPECTED (40.000)
EXPECTED (100.000)
EXPECTED (150.000)
EXPECTED (180.000)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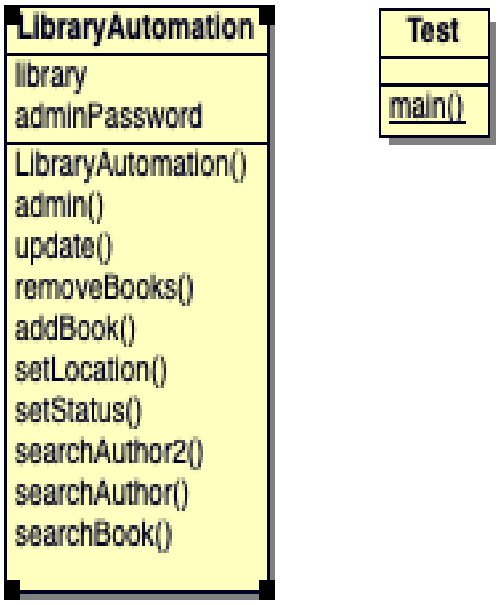
QUICK LL (10.000)
QUICK LL (40.000)
QUICK LL (100.000)
QUICK LL (150.000)
QUICK LL (180.000)
EXPECTED (10.000)
EXPECTED (40.000)
EXPECTED (100.000)
EXPECTED (150.000)
EXPECTED (180.000)

Q3

1. CLASS DIAGRAM



2. PROBLEM DEFINITION

An interface has been created in our library automation system. User firstly states that he / she entered the system as user or admin.

It requests password at admin login. Password is automatically assigned. It is assumed that the guy knows this. After the entered password is accepted, one is asked to choose one of the jobs that the step can do. These jobs are: ADD, REMOVE, UPDATE INFORMATION.

ADD: The program gets the author, name and location of the book to be added to the user, as well as its status (available, un-available, reserved). If there is a book to be added, only a new location and status will be added.

REMOVE: This function prompts the user for the book's author and name that should be deleted. If there is more than one in the book, it just deletes the location. But first he checks the status. If status is reserved, it does not delete. If the author does not have any more books after the book is deleted, it will also delete the author.

UPDATE: This function requests the name, author and location of the book to be updated. You can update the status information of the entered book.

If the user logs in, she or he can search the library. The way of searching is of two types.

SEARCH AUTHOR: If the user wants to search for the author, all the books of the desired author are listed. The book he wants to look is asked and asks for the name of the desired book. The locations of the desired book are listed.

SEARCH BOOK: After entering the title of the book you want to search, the author, the locations and the status of the book are printed.

(Map was kept in the set. Key: Location, Value: Status)

3. TEST CASE

TEST CASE NAME	ACTION	TEST DATA	EXPEXTED	TEST RESULTS
ADMIN LOGIN LIBRARY 1	ENTER ADMIN	admin	System should accepts admin	pass
USER LOGIN LIBRARY 1	ENTER USER	user	Sytem should accepts user	pass
ADMIN LOGIN LIBRARY 2	ENTER PASSWORD	123	System should accepts password	pass
USER LOGIN LIBRARY 2	ENTER ACTION	search author	System should accepts action	pass
ADMIN LOGIN LIBRARY 2.1	ENTER ACTION	add	System should accepts action	pass
USER LOGIN LIBRARY 2.1.1	ENTER AUTHOR NAME	xxxxx	System should lists books	pass
ADMIN LOGIN LIBRARY 2.1.1	ENTER AUTHOR NAME, BOOK NAME AND	XXXX	System should adds book	pas
USER LOGIN LIBRARY 2.1.2	ENTER AUTHOR NAME	xxxx	System should lists locations and status	pass
ADMIN LOGIN LIBRARY 2.2	ENTER ACTION	remove	System should accepts action	pass
ADMIN LOGIN LIBRARY 2.2.1	ENTER AUTHOR NAME, BOOK NAME	xxxx	If book' status is not reserved, delete; otherwise, not delete	pass
ADMIN LOGIN LIBRARY 2.3	ENTER ACTION	update	System should accepts action	pass
ADMIN LOGIN	ENTER BOOK NAME	xxxx	System should update for status information	pass

LIBRARY 2.3.1				
USER LOGIN LIBRARY 2	ENTER ACTION	search book	System should accepts action	pass
USER LOGIN LIBRARY 2.1.2	ENTER BOOK NAME	xxxx	System should lists author name, locations and status	pass

(Incorrect inputs are also successful.)

4.TEST RESULT

It has been added to the file because it has poor clarity.

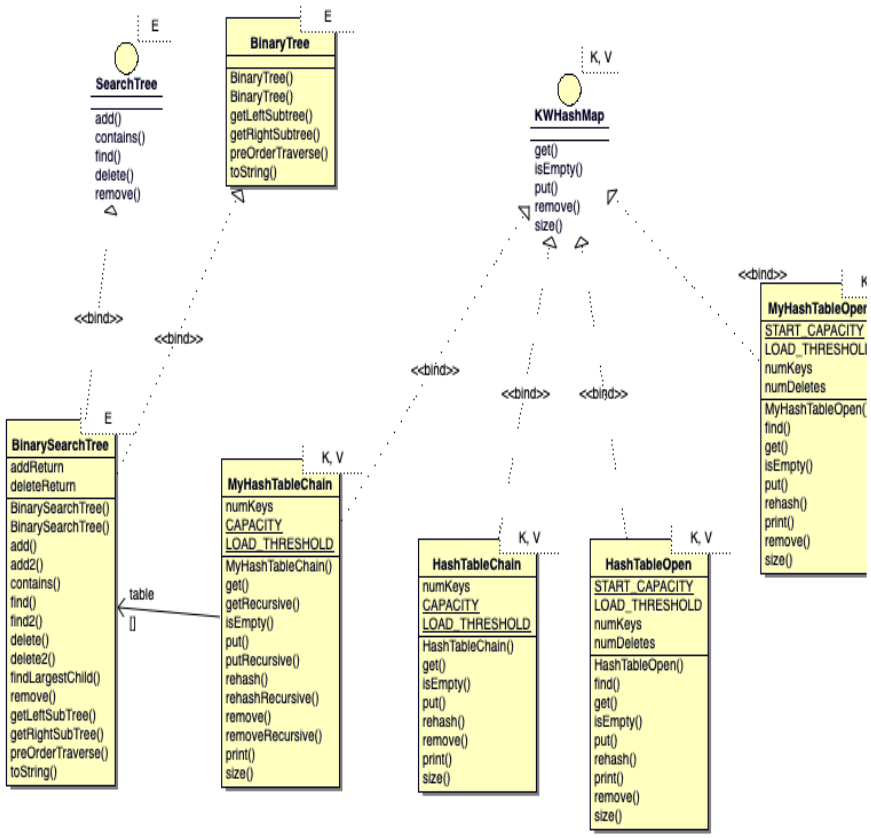
```
Dilara-MacBook-Air:src dilarakarakas$ javac Test.java
Dilara-MacBook-Air:src dilarakarakas$ java Test.java
****WELCOME THE NED STARK LIBRARY****
Enter the user, admin or exit
admin
Enter the password (The system identified the password as 123. The admin is assumed to know this.)
123
Enter the you want to do (add)(remove)(update)(exit)
add
Author name:
ahmet ümit
Book name:
istanbul hatırası
enter the location:
c1s1
enter the status:
reserved
{ahmet ümit={istanbul hatırası=[{c1s1=reserved}]}}
Enter the you want to do (add)(remove)(update)(exit)
add
Author name:
ahmet ümit
Book name:
patasana
enter the location:
c1s2
enter the status:
available
{ahmet ümit={patasana=[{c1s2=available}], istanbul hatırası=[{c1s1=reserved}]}}
Enter the you want to do (add)(remove)(update)(exit)
add
Author name:
orhan pamuk
Book name:
kırmızı saçlı kadın
enter the location:
c4s1
enter the status:
available
{ahmet ümit={patasana=[{c1s2=available}], istanbul hatırası=[{c1s1=reserved}]}, orhan pamuk={kırmızı saçlı kadın=[{c4s1=available}]}}
Enter the you want to do (add)(remove)(update)(exit)
add
```

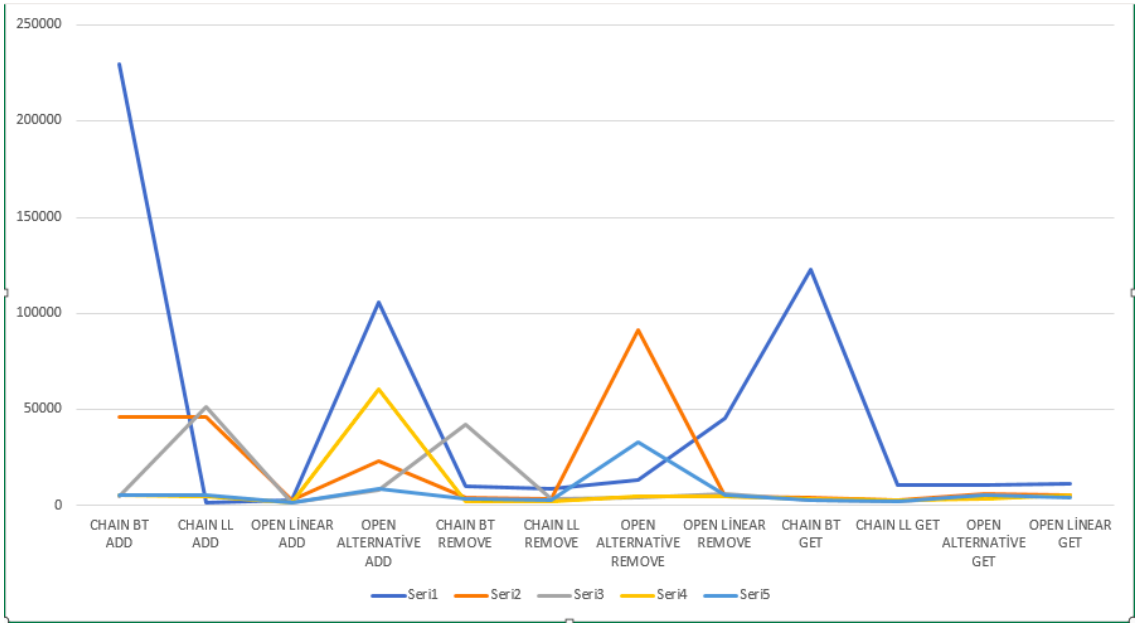
```
{ahmet ümit={patasana=[{c1s2=available}], istanbul hatırası=[{c1s1=reserved}]}, orhan pamuk={kırmızı saçlı kadın=[{c4s1=available}]}}
Enter the you want to do (add)(remove)(update)(exit)
add
Author name:
orhan pamuk
Book name:
kafamda bir tuhaflık
enter the location:
c5s2
enter the status:
reserved
{ahmet ümit={patasana=[{c1s2=available}], istanbul hatırası=[{c1s1=reserved}]}, orhan pamuk={kırmızı saçlı kadın=[{c4s1=available}], kafamda bir tuhaflık=[{c5s2=reserved}]}}
Enter the you want to do (add)(remove)(update)(exit)
remove
Author name:
ahmet ümit
Book name:
istanbul hatırası
This book is reserved. So you cannot delete!!
{ahmet ümit={patasana=[{c1s2=available}], istanbul hatırası=[{c1s1=reserved}]}, orhan pamuk={kırmızı saçlı kadın=[{c4s1=available}], kafamda bir tuhaflık=[{c5s2=reserved}]}}
Enter the you want to do (add)(remove)(update)(exit)
remove
Author name:
ahmet ümit
Book name:
patasana
{ahmet ümit={istanbul hatırası=[{c1s1=reserved}]}, orhan pamuk={kırmızı saçlı kadın=[{c4s1=available}], kafamda bir tuhaflık=[{c5s2=reserved}]}}
Enter the you want to do (add)(remove)(update)(exit)
update
Author name:
orhan pamuk
Book name:
kafamda bir tuhaflık
Location:
c5s2
Enter the new status :
available
{ahmet ümit={istanbul hatırası=[{c1s1=reserved}]}, orhan pamuk={kırmızı saçlı kadın=[{c4s1=available}], kafamda bir tuhaflık=[{c5s2=available}]}}
Enter the you want to do (add)(remove)(update)(exit)
add
Author name:
ahmet ümit
```

```
Enter the you want to do (add)(remove)(update)(exit)
add
Author name:
ahmet ümit
Book name:
istanbul hatırası
enter the location:
c1s2
enter the status:
available
{ahmet ümit={istanbul hatırası=[{c1s1=reserved}, {c1s2=available}]}, orhan pamuk={kırmızı saçlı kadın=[{c4s1=available}], kafamda bir tuhaflık=[{c5s2=available}]}}
Enter the you want to do (add)(remove)(update)(exit)
exit
****WELCOME THE NED STARK LIBRARY****
Enter the user, admin or exit
user
Enter you want to do (search author)(search book)(exit)
search author
Enter the author name:
ahmet ümit
[istanbul hatırası]
Enter the title of the book you want to view :
istanbul hatırası
Location and Status :  {c1s1=reserved}
Location and Status :  {c1s2=available}
Enter you want to do (search author)(search book)(exit)
search book
Enter the book name:
kırmızı saçlı kadın
Author : orhan pamuk
Location and Status :  {c4s1=available}
```

Q4

Graph and class diagram not clear, so they have been added to file.





We added 100,000 data and made various operations with a loop and calculated their time.