

Gebze Technical University  
Computer Engineering

CSE 222  
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HOMEWORK 1 REPORT

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## 1. System Requirements

In order to login into the library management system, user must enter his/her **name surname and password** as prompted by the system. Library staff can login as either library staff or library user, but if library user tries to login in the staff mode the system will automatically close.

If system underlying books and users databases do not exist, they will be created automatically with default records. There are no default users and two default staff :

**Name Surname Password**

1) **root root root**

2) **Vakhid Betrakhmadov mans1994**

You can log in as either and start adding library users. You can also add some extra books.

Even though there 3 by default. You can open the file 'books' and check on them.

You can open the file 'users' and see all the user of the library.

On every stage you will be prompted by the system, if you decide to exit , just enter Q(q).

## 2. Use Case Diagrams

[Use case diagrams.pdf](#)

## 3. Class Diagrams

[Class diagrams.pdf](#)

## 5. Problem Solutions Approach

My approach was to divide problem into smaller blocks, and create a logically consistent and practically useful hierarchy upon which I would be able to build on the solution.

I started from the elementary units which every database has, that is records, and operations every database conducts such as search, edition, addition and removal, trying to combine all common functionalities and move on to more particular cases. The same logic was applied to users of the system. And finally, I tried to combine all what I had got into self-consistent system.

## 6. Test Cases

- 1) User trying login in the staff mode
- 2) Trying to get rid of his own old books, but library is not a dumpster
- 3) Trying to take a book which has no copies available for the moment
- 4) Trying to take a book which library does not possess
- 5) Library user borrows a book, but the next day unknowing staff removes that book from the library . Let's see if the user will be able to return it

## 7. Running and Results

```

Welcome to the library management system !
-----

Select your status: Enter '1' for User, '2' for Staff or Q(q) to exit
2

Enter your name,surname and password all delimited by space (Name Surname Password), or Q(
q) to exit
root root root

root root, you have successfully logged in as staff.
Select operation. Enter '1' to ADD a BOOK, '2' to REMOVE a BOOK, '3' to ADD a USER, '4' to
REMOVE a USER Q(q) to exit
1

Enter book's name, author and number of books in the following format: Of humans bondage -
W. Somerset Maugham - 3), or Q(q) to exit
bookName - bookAuthor - 3

Book was successfully added to the database

Select operation. Enter '1' to ADD a BOOK, '2' to REMOVE a BOOK, '3' to ADD a USER, '4' to
REMOVE a USER Q(q) to exit
3

Enter user's name,surname,password,status and books borrowed in the following format : Man
sur Tukaev mans1994 staff bookName - author/bookName - author/
or Sult Tukaev sult1993 user none
sult tukaev sult1993 user none

User was successfully added to the database

Select operation. Enter '1' to ADD a BOOK, '2' to REMOVE a BOOK, '3' to ADD a USER, '4' to
REMOVE a USER Q(q) to exit
q

Goodbye !
mans@mans-VirtualBox:~/Desktop/141044086_hw1/source_code$

```

#### Terminal

```

mans@mans-VirtualBox:~/Desktop/141044086_hw1/source_code$ java Main
Welcome to the library management system !
-----

Select your status: Enter '1' for User, '2' for Staff or Q(q) to exit
1

Enter your name,surname and password all delimited by space (Name Surname Password), or Q(
q) to exit
sult tukaev sult1993

sult tukaev, you have successfully logged in as user.
Select operation. Enter '1' to BORROW a book, '2' to RETURN the book or Q(q) to exit
1

Enter book's name and book's author in the following format: Of humans bondage - W. Somers
et Maugham, or Q(q) to exit
bookName - bookAuthor

The book is successfully borrowed,please ask the staff for help.

Select operation. Enter '1' to BORROW a book, '2' to RETURN the book or Q(q) to exit
2

Enter book's name and book's author in the following format: Of humans bondage - W. Somers
et Maugham, or Q(q) to exit
BOOKNAME - BOOKAUTHOR

The book is successfully returned.

Select operation. Enter '1' to BORROW a book, '2' to RETURN the book or Q(q) to exit
q

Goodbye !
mans@mans-VirtualBox:~/Desktop/141044086_hw1/source_code$

```