

# **COMP2411 Database Systems (Fall 2022)**

## **Group 4**

### **Library Management System**

### **User Guide**

**CHEN Derun (21098424d)**  
**JIANG Guanlin (21093962d)**  
**KWOK Hin Chi (20060241d)**  
**LIU Minghao (21096308d)**  
**YE Haowen (21098829d)**  
**ZHANG Wengyu (21098431d)**

## Table of Contents

<b>1. INTRODUCTION</b>	<b>3</b>
<b>2. SUPPORTING SYSTEM</b>	<b>3</b>
<b>3. RUNNING</b>	<b>3</b>
3.1 Running in IntelliJ on Lab's PC	3
3.2 Running in Terminal on Lab's PC	3
3.3 Running in Terminal on personal machine	3
<b>4. COMPILE</b>	<b>4</b>
<b>5. LIBRARY MANAGEMENT SYSTEM RULES</b>	<b>4</b>
5.1 Rent Book Rules	4
5.2 Return Book Rules	4
5.3 Want Book Rules	4
5.4 User Rules	4
5.5 System Rules	4
<b>6. OPERATION GUIDE</b>	<b>5</b>
6.1 Welcome Page	5
6.2 Date Setting Page	5
6.3 Main Page	6
6.4 Operation on System	7
6.5 Operation on User and Book	9
6.6 Data Refresh	16
6.7 Data View	17
6.8 Set Current Date	19
6.9 Analysis Report Page	20
6.10 Reset from Database	20

# 1. INTRODUCTION

This document is the user guide of the Library Management System (LMS) for librarians and administrators. The following content would introduce the details of running the LMS document in parts 2 to 4, LMS rules in part 5, and operation procedures in part 6.

## 2. SUPPORTING SYSTEM

- **Running Platform:** COMP Department's Linux server
- **IDEA:** IntelliJ (Version: 2022)
- **Java JDK Version:** 1.8 (Support for COMP Department's Linux server)

## 3. RUNNING

**\*\*\*The LMS project should run in the COMP Department's Linux server (*the COMP Server*), through SSH Connection or Lab's PC, to be granted the connection to Oracle Database in the Server.\*\*\***

### 3.1 Running in IntelliJ on Lab's PC

1. Put the LMS project folder (*LibraryManagementSystemProject*) on Lab's PC;
2. Open the project in IntelliJ;
3. Run the *LMSController.java* file in *src/controller/* path

### 3.2 Running in Terminal on Lab's PC

1. Put the LMS project folder (*LibraryManagementSystemProject*) on the Lab's PC;
2. Open a terminal on Lab's PC;
3. Go into the project directory:
  - a. `cd ./LibraryManagementSystemProject/`
4. Run the LMS with the following command (*in ONE line*):
  - a. `java -cp lib/ojdbc8.jar:out/production/LibraryManagementSystemProject controller.LMSController`

### 3.3 Running in Terminal on personal machine

1. Log into *the COMP Server*;
2. Put the LMS project folder (*LibraryManagementSystemProject*) on *the COMP Server* from your personal machine (e.g. using PuTTY, WinSCP, FileZilla, or Termius);

3. Go into the project directory on *the COMP Server*:  

```
cd ./LibraryManagementSystemProject/
```
4. Run the LMS with the following command (*in ONE line*):  

```
java -cp  
lib/ojdbc8.jar:out/production/LibraryManagementSystemP  
roject controller.LMSController
```

## 4. COMPILE

1. Put the LMS project folder (*LibraryManagementSystemProject*) on Lab's PC;
2. Open the project in IntelliJ;
3. Build the project by click the green hammer button in the top right banner;
4. The built class files are in the *./out/* folder under the project directory;
5. Follow steps in **3. RUNNING** section to run the LMS.

## 5. LIBRARY MANAGEMENT SYSTEM RULES

### 5.1 Rent Book Rules

- Users can borrow unlimited number of books at once
- A book can only be rented for 14 days

### 5.2 Return Book Rules

- There is no need for users to return the books themselves
- If not returned within 14 days, the user's account will be deactivated.
- A deactivated account can be activated back after all overdue rent books are returned.

### 5.3 Want Book Rules

- Users can ask for up to 8 books (with ISBN) in the list of wanted books
- Users cannot want books with the same ISBN

### 5.4 User Rules

- If a user does not return a book or causes damage to a book, their account will be deactivated.
- If a user receives a message that a reserved book is available for rent, the book will be held in place for 7 days for the user to rent. After 7 days, the message will be sent to the next person on the list who wants the book.

### 5.5 System Rules

- This system is aimed at administrators who can help library patrons search, rent, return and reserve books.

## 6. OPERATION GUIDE

Please follow steps in **3. RUNNING** section to start the LMS first.

Please read the following instructions carefully and find the **desired operation guide**.

### 6.1 Welcome Page

```
-----  
      Welcome to the Library Management System (LMS)!  
      COMP2411 Database System (Fall 2022)  
      Project Group 4  
  
- [L] Manager Login  
- [-1] Exit System  
>>> Please select the above options x in [x]:
```

When the program starts, the user interface (UI) is displayed, the first of which is the welcome page. When “**Please select the following options in [x]**” appear, users can enter commands in the terminal, i.e., the corresponding letter in [] to start the corresponding functions.

#### To login the account

- In the main page, enter [L], and press [Enter] key to continue;

#### To exit the LMS

- Enter [-1] and press [Enter] key to exit the LMS;

### 6.2 Date Setting Page

```
-----  
      Welcome to the Library Management System (LMS)!  
      COMP2411 Database System (Fall 2022)  
      Project Group 4  
  
- [L] Manager Login  
- [-1] Exit System  
>>> Please select the above options x in [x]:L  
-----Welcome Manager-----  
Please set today's date first  
>>> Please enter the Year: 2022  
>>> Please enter the Month: 11  
>>> Please enter the Day: 3  
-----
```

1. On the main page, if the user enters [L], and presses [Enter] key to continue, s/he will enter the LMS successfully;
2. Input the {Year}, and press [Enter] key to continue;
  - a. Please input a **number only** as the Year;
  - b. Otherwise, you have to input again;
3. Input the {Month}, and press [Enter] key to continue;
  - a. Please input a **number only** as the Month;
  - b. Otherwise, you have to input again;
4. Input the {Day}, and press [Enter] key to continue;
  - a. Please input a **number only** as the Day;
  - b. Otherwise, you have to input again;
5. During steps 1 to 4, enter [Back] to cancel the operation and back to the previous page;
6. After the operation, press [Enter] or [Return] key to continue;

### 6.3 Main Page

Based on the {Year, Month, Day} information given by the user, the date will be printed at the top of the main page in the format of **yyyy-mm-dd**.

```

-----Today is 2022-11-03-----
- Operation on System
  - [A] Add Book
  - [B] Add User
  - [C] Delete Book
  - [D] Delete User
- Operation on User
  - [E] Rent a Book from Library
  - [F] Rent a Book from Placed
  - [G] Want a Book
  - [H] Cancel a Reserve Book
  - [I] Cancel a Placed book
  - [J] Search a Book
  - [K] Search a User
  - [L] Return a Book
- Data Refresh
  - [M] Refresh Expired Placed Book
  - [N] Refresh Deactivate User
- Data View
  - [O] View All Book
  - [P] View All Rent Book
  - [Q] View All Want Book
  - [R] View All Placed Book
  - [S] View All User
- [T] Analysis Report
- [U] Set Current Date
- [X] Reset from Database
- [-1] Exit System
-----
>>> Please select the above options x in [x]: █

```

## 6.4 Operation on System

This part will be doing the insertion/deletion operation into/from the LMS, where:

### To add a new book

```
-----  
>>> Please select the above options x in [x]: A  
Please enter book ID (- [Back] for Back):11  
Please enter book ISBN (- [Back] for Back):0-11  
Please enter book name (- [Back] for Back):The Test Book  
Please enter book author (- [Back] for Back):Bob Li  
Please enter book category (- [Back] for Back):Story  
Execute successfully  
  
-----  
>>> Press Enter/Return to continue:
```

1. On the main page, enter [A], and press [Enter] key to continue;
2. Input the {book ID}, and press [Enter] key to continue;
  - a. Please input a **number only** as the book ID;
  - b. Otherwise, you have to input again;
3. Input the {book ISBN}, and press [Enter] key to continue;
4. Input the {book name}, and press [Enter] key to continue;
5. Input the {book author name}, and press [Enter] key to continue;
6. Input the {book category}, and press [Enter] key to continue;
7. If displays “Execute successfully”, the book is added to the LMS;
8. If displays “Execute unsuccessfully”, you should try again;
9. During steps 2 to 6, enter [Back] to cancel the operation and back to the previous page;
10. After the operation, press [Enter]or[Return] key to continue;

### To add a new user

```
-----  
>>> Please select the above options x in [x]: B  
>>> Please enter accountID (or 'Back' to back): 1008  
Execute successfully  
  
-----  
>>> Press Enter/Return to continue:█
```

1. In the main page, enter [B], and press [Enter] key to continue;
2. Input the {account ID}, and press [Enter] key to continue;
  - a. Please input a **number only** as the account ID;
  - b. Otherwise, you have to input again;

3. If displays “**Execute successfully**”, the user is added to the LMS;
4. If displays “**Execute unsuccessfully**”, you should try again;
5. During step 2, enter [**Back**] to cancel the operation and back to the previous page;
6. After the operation, press [**Enter**]or[**Return**] key to continue;

### To delete a book

```
>>> Please select the above options x in [x]: C
>>> Please enter the bookID (or 'Back' to back): 11
Execute successfully

-----
>>> Press Enter/Return to continue:█
```

1. In the main page, enter [**C**], and press [**Enter**] key to continue;
2. Input the {**book ID**}, and press [**Enter**] key to continue;
  - a. Please input a **number only** as the book ID;
  - b. Otherwise, you have to input again;
3. If displays “**Execute successfully**”, the book is deleted from the LMS;
4. If displays “**Execute unsuccessfully**”, you should try again;
5. During step 2, enter [**Back**] to cancel the operation and back to the previous page;
6. After the operation, press [**Enter**]or[**Return**] key to continue;

### To delete an user

```
>>> Please select the above options x in [x]: D
>>> Please enter accountID (or 'Back' to back): 1008
Execute successfully

-----
>>> Press Enter/Return to continue:█
```

1. In the main page, enter [**D**], and press [**Enter**] key to continue;
2. Input the {**account ID**}, and press [**Enter**] key to continue;
  - a. Please input a **number only** as the account ID;
  - b. Otherwise, you have to input again;
3. If display “**Execute successfully**”, the user is deleted from the LMS;
4. If display “**Execute unsuccessfully**”, you should try again;
5. During step 2, enter [**Back**] to cancel the operation and back to previous page;
6. After the operation, press [**Enter**]or[**Return**] key to continue;



## 6.5 Operation on User and Book

This part will be doing the operation in the LMS, i.e., renting, wanting, canceling, searching and returning function, where:

### To issue a book from library to user

```
>>> Please select the above options x in [x]: E
>>> Please enter accountID (or 'Back' to back): 1001
>>> Please input the book ID to rent (or 'Back' to back): 10003
Execute successfully

-----
>>> Press Enter/Return to continue:█
```

1. In the main page, enter [E], and press [Enter] key to continue;
2. Input the {**account ID**}, and press [Enter] key to continue;
  - a. Please input a **number only** as the account ID;
  - b. Otherwise, you have to input again;
3. Input the {**book ID**}, and press [Enter] key to continue;
  - a. Please input a **number only** as the book ID;
  - b. Otherwise, you have to input again;
4. If display “**Execute successfully**”, the book is issued from the library to the user;
5. If display “**Execute unsuccessfully**”, it indicates that the user account is no longer activated, or the book is not available in the library currently, you should try again;
6. During step 2 to 3, enter [Back] to cancel the operation and back to previous page;
7. After the operation, press [Enter]or[Return] key to continue;

#### Note:

*A user who is deactivated due to overdue rent books is not allowed to rent any book from the LMS, following notice will be displayed when trying to rent book:*

**“Deactivated account, no function allowed, return expired books first”**

*A deactivated can be activated back after all of his/her overdue rent books are returned.*

### To issue a book from placed book to user

```
>>> Please select the above options x in [x]: F
>>> Please enter accountID (or 'Back' to back): 1003
>>> Please input the book ID to rent (or 'Back' to back): 10002
Execute successfully

-----
>>> Press Enter/Return to continue:█
```

1. In the main page, enter [F], and press [Enter] key to continue;
2. Input the {account ID}, and press [Enter] key to continue;
  - a. Please input a **number only** as the account ID;
  - b. Otherwise, you have to input again;
3. Input the {book ID}, and press [Enter] key to continue;
  - a. Please input a **number only** as the book ID;
  - b. Otherwise, you have to input again;
4. If the display “**Execute successfully**”, the book is issued from the placed book to the user;
5. If the display “**Execute unsuccessfully**”, it indicates that the placed book is not available yet, you may try again later;
6. During step 2 to 3, enter [Back] to cancel the operation and back to previous page;
7. After the operation, press [Enter]or[Return] key to continue;

#### **Note:**

*A user who is deactivated due to overdue rent books is not allowed to rent any book (or take any placed book) from the LMS, following notice will be displayed when trying to rent book:*

**“Deactivated account, no function allowed, return expired books first”**

*A deactivated can be activated back after all of his/her overdue rent books are returned.*

### To return a book from a user

```
>>> Please select the above options x in [x]: L
>>> Please input the return Book ID (or 'Back' to back): 10010
Execute successfully

-----
>>> Press Enter/Return to continue:█
```

1. On the main page, enter [L], and press [Enter] key to continue;
2. Input the {book ID}, and press [Enter] key to continue;
  - a. Please input a **number only** as the book ID;
  - b. Otherwise, you have to input again;
3. If the display “Execute successfully”, it indicates that the user has successfully returned the book;
4. If the display “Execute unsuccessfully”, it indicates that the book return record was not successfully executed, please try again;
5. During step 2, enter [Back] to cancel the operation and back to the previous page;
6. After the operation, press [Enter]or[Return] key to continue;

#### **Note:**

*Deactivated user accounts can only be activated by returning expired rental books.*

### To reserve a book to user

```
>>> Please select the above options x in [x]: G
>>> Please enter accountID (or 'Back' to back): 1006
>>> Please input ISBN (or 'Back' to back): 0-05
Execute successfully

-----
>>> Press Enter/Return to continue:█
```

1. On the main page, enter [G], and press [Enter] key to continue;
2. Input the {account ID}, and press [Enter] key to continue;
  - a. Please input a **number only** as the account ID;
  - b. Otherwise, you have to input again;
3. Input the {book ISBN}, and press [Enter] key to continue;

4. If the display “**Execute successfully**”, it indicates that the book has been successfully reserved for the user;
5. If the display “**Execute unsuccessfully**”, it indicates that the reservation did not proceed successfully, please try again;
6. During steps 2 to 3, enter [**Back**] to cancel the operation and back to the previous page;
7. After the operation, press [**Enter**]or[**Return**] key to continue;

#### To cancel the reserved book form user

```
>>> Please select the above options x in [x]: H
>>> Please enter accountID (or 'Back' to back): 1006
>>> Please input ISBN: 0-05
Execute successfully

-----
>>> Press Enter/Return to continue:█
```

1. On the main page, enter [**H**], and press [**Enter**] key to continue;
2. Input the {**account ID**}, and press [**Enter**] key to continue;
  - a. Please input a **number only** as the account ID;
  - b. Otherwise, you have to input again;
3. Input the {**book ISBN**}, and press [**Enter**] key to continue;
4. If the display “**Execute successfully**”, it indicates that the book has been successfully reserved for the user;
5. If the display “**Execute unsuccessfully**”, it indicates that the reservation did not proceed successfully, please try again;
6. During steps 2 to 3, enter [**Back**] to cancel the operation and back to previous page;
7. After the operation, press [**Enter**]or[**Return**] key to continue;

### To cancel the placed book from the user

```
>>> Please select the above options x in [x]: I
>>> Please enter accountID (or 'Back' to back): 1006
>>> Please input bookID: 10012
[Dear Manager, the following message has been sent to the user 1004 via email:
  "Dear User 1004
    The book (ISBN: 1-08) you want now is available, you can get it in library by yourself!
    Remember the MAX_PLACED_DAY is 7 day, you have better to get it in time
    Or you are supposed to reserve this book by another application!"]
Execute successfully

-----
>>> Press Enter/Return to continue:█
```

1. On the main page, enter [**I**], and press [**Enter**] key to continue;
2. Input the {**account ID**}, and press [**Enter**] key to continue;
  - a. Please input a **number only** as the account ID;
  - b. Otherwise, you have to input again;
3. Input the {**book ID**}, and press [**Enter**] key to continue;
  - a. Please input a **number only** as the account ID;
  - b. Otherwise, you have to input again;
4. If the display “**Execute successfully**”, it indicates that the placed book was successfully canceled for the user;
5. If the display “**Execute unsuccessfully**”, indicates that the placed book cancellation has not been executed successfully, please try again;
6. During steps 2 to 3, enter [**Back**] to cancel the operation and back to the previous page;
7. After the operation, press [**Enter**] or [**Return**] key to continue;

#### **Note:**

*When the wanted book is available (i.e., the placed book is canceled), a message will be sent via email to the corresponding user who reserved this book through the ISBN, and he/she can obtain the book in the library or request another book reservation.*

## To search books

```
>>> Please select the above options x in [x]: J
```

- [A] Search a Book by ISBN
- [B] Search a Book by Name
- [C] Search a Book by Author
- [D] Search a Book by Category
- [Back] Back to previous page

```
-----  
>>> Please select the above options x in [x]: █
```

1. On the main page, enter [J], and press [Enter] key to continue;
2. The sub-pages are shown with the four searching features as follows;
3. During the process, enter [Back] to cancel the operation and back to previous page;
4. After the operation, press [Enter] or [Return] key to continue;

### - To search books on a book ISBN

```
>>> Please select the above options x in [x]: A  
>>> Please enter the book ISBN (or 'Back' to back): 1-07  
-----  
Here is(are) information about book(s) search on ISBN:  
[Book ID]:10008 [Book ISBN]: 1-07 [Book Name]: Pride and Prejudice [Author]: Jane Austen [Category]: Novel [Time of Rent]: 12 [Time of Want]: 5  
[Book ID]:10009 [Book ISBN]: 1-07 [Book Name]: Pride and Prejudice [Author]: Jane Austen [Category]: Novel [Time of Rent]: 2 [Time of Want]: 1  
[Book ID]:10010 [Book ISBN]: 1-07 [Book Name]: Pride and Prejudice [Author]: Jane Austen [Category]: Novel [Time of Rent]: 23 [Time of Want]: 9  
-----  
>>> Press Enter/Return to continue:█
```

1. In the sub-page, enter [A], and press [Enter] key to continue;
2. Input the {book ISBN}, and press [Enter] key to continue;

### - To search books on a book Name

```
>>> Please select the above options x in [x]: B  
>>> Please enter the book name (or 'Back' to back): Butterball  
-----  
Here is(are) information about book(s) search on book name:  
[Book ID]:10011 [Book ISBN]: 1-08 [Book Name]: Butterball [Author]: Henry-Albert-Guy de Maupassant [Category]: Novel [Time of Rent]: 2 [Time of Want]: 5  
[Book ID]:10013 [Book ISBN]: 1-08 [Book Name]: Butterball [Author]: Henry-Albert-Guy de Maupassant [Category]: Novel [Time of Rent]: 10 [Time of Want]: 2  
[Book ID]:10012 [Book ISBN]: 1-08 [Book Name]: Butterball [Author]: Henry-Albert-Guy de Maupassant [Category]: Novel [Time of Rent]: 12 [Time of Want]: 2  
-----  
>>> Press Enter/Return to continue:█
```

1. In the sub-page, enter [B], and press [Enter] key to continue;
2. Input the {book name}, and press [Enter] key to continue;

- To search books on an Author name

```
>>> Please select the above options x in [x]: C
>>> Please enter the author name (or 'Back' to back): Jane Austen
-----
Here is(are) information about book(s) search on author name:
[Book ID]:10008 [Book ISBN]: 1-07 [Book Name]: Pride and Prejudice [Author]: Jane Austen [Category]: Novel [Time of Rent]: 12 [Time of Want]: 5
[Book ID]:10009 [Book ISBN]: 1-07 [Book Name]: Pride and Prejudice [Author]: Jane Austen [Category]: Novel [Time of Rent]: 2 [Time of Want]: 1
[Book ID]:10010 [Book ISBN]: 1-07 [Book Name]: Pride and Prejudice [Author]: Jane Austen [Category]: Novel [Time of Rent]: 23 [Time of Want]: 9
-----
>>> Press Enter/Return to continue:
```

1. In the sub-page, enter [C], and press [Enter] key to continue;
2. Input the {book author name}, and press [Enter] key to continue;

- To search books on a book Category

```
>>> Please select the above options x in [x]: D
>>> Please enter the book category (or 'Back' to back): Fantasy
-----
Here is(are) information about book(s) search on category:
[Book ID]:10007 [Book ISBN]: 0-03 [Book Name]: The Hobbit [Author]: J.R.R. Tolkien [Category]: Fantasy [Time of Rent]: 23 [Time of Want]: 1
[Book ID]:10002 [Book ISBN]: 0-02 [Book Name]: Harry Potter and the Philosopher Stone [Author]: J.K. Rowling [Category]: Fantasy [Time of Rent]: 32 [Time of Want]: 2
[Book ID]:10001 [Book ISBN]: 0-01 [Book Name]: The Lord of the Rings [Author]: J.R.R. Tolkien [Category]: Fantasy [Time of Rent]: 12 [Time of Want]: 10
[Book ID]:10004 [Book ISBN]: 0-04 [Book Name]: The Chronicles of Narnia [Author]: C.S. Lewis [Category]: Fantasy [Time of Rent]: 5 [Time of Want]: 0
[Book ID]:10003 [Book ISBN]: 0-03 [Book Name]: The Hobbit [Author]: J.R.R. Tolkien [Category]: Fantasy [Time of Rent]: 4 [Time of Want]: 12
[Book ID]:10006 [Book ISBN]: 0-06 [Book Name]: The Little Prince [Author]: Antoine de Saint [Category]: Fantasy [Time of Rent]: 5 [Time of Want]: 5
[Book ID]:10005 [Book ISBN]: 0-05 [Book Name]: The Lion, the Witch and the Wardrobe [Author]: C.S. Lewis [Category]: Fantasy [Time of Rent]: 1 [Time of Want]: 10
-----
>>> Press Enter/Return to continue:
```

1. In the sub-page, enter [D], and press [Enter] key to continue;
2. Input the {book category}, and press [Enter] key to continue;

To search a user

```
>>> Please select the above options x in [x]: K
>>> Please enter accountID (or 'Back' to back): 1002
-----
Here is(are) information about book(s) search on account ID:
[Account ID]: 1002 [Account Status]: true [Notice String]: Notification \n
-----
>>> Press Enter/Return to continue:
```

1. On the main page, enter [K], and press [Enter] key to continue;
2. Input the {account ID}, and press [Enter] key to continue;
  - a. Please input a **number only** as the account ID;
  - b. Otherwise, you have to input again;
3. After the operation, press [Enter] or [Return] key to continue;

## 6.6 Data Refresh

This page will be used for refreshing operation, where:

### To refresh the expired placed book

```
>>> Please select the above options x in [x]: M
[Dear Manager, the following message has been sent to the user 1001 via email:
  "Dear User 1001
  The book (ISBN: 0-05) you want now is available, you can get it in library by yourself!
  Remember the MAX PLACED DAY is 7 day, you have better to get it in time
  Or you are supposed to reserve this book by another application!"]
[Dear Manager, the following message has been sent to the user 1005 via email:
  "Dear User 1005
  The book (ID: 10005) has been placed on library out of the MAX PLACED DAY - 7 days!
  You are supposed to reserve this book by another application!"]
Execute successfully

-----
>>> Press Enter/Return to continue:█
```

1. On the main page, enter [**M**] and press [**Enter**] key;
2. The information of users who have expired placed book for over 7 days will be displayed;
3. After the operation, press [**Enter**] or [**Return**] key to continue;

#### **Note:**

*Books that have been placed for user for more than 7 days will be unplaced and put back to the library as available for borrowing if no one reserved it in the waiting list, a notice will be sent to the user who reserved this expired placed book before; Or, if someone is in the waiting list, the book will be placed again for this user, and a notice will be sent to the user.*



## To refresh the deactivated user

```
>>> Please select the above options x in [x]: N
[Dear Manager, the following message has been sent to the user 1003 via email:
"Dear User 1003
The book (ID: 10002) has been rent is out of the MAX_RENT_DAY!
Your account will be banned until you return the book!"]
-----
Here is(are) information about expired rent book(s):
[Dear Manager, the following message has been sent to the user 1003 via email:
"Dear User 1003
The book (ID: 10002) has been rent is out of the MAX_RENT_DAY!
Your account will be banned until you return the book!"]
[Account ID]: 1003 [Account Status]: false [Notice String]: Notification \n[2022-11-05]: You have successfully cancelled the reservation of the book with ISBN: 0-05
[2022-11-05]: The book with BookID: 10010 is canceled for placed now.
[2022-11-05]: The book with Book ID: 10002 you rent is expired.
[2022-11-05]: Your account is deactivated for overdue books
[2022-11-05]: The book with Book ID: 10002 you rent is expired.
[2022-11-05]: Your account is deactivated for overdue books
-----
>>> Press Enter/Return to continue:
```

1. On the main page, enter [N] and press [Enter] key;
2. Users who have rented books over 14 days without return back to library will be deactivated;
3. And the deactivated user list will be displayed;
4. After the operation, press [Enter] or [Return] key to continue;

## 6.7 Data View

This page will be used for viewing the book information, where:

### To view all users

```
>>> Please select the above options x in [x]: S
-----
Here is(are) information about all user(s):
[Account ID]: 1007 [Account Status]: true [Notice String]: Notification
[Account ID]: 1006 [Account Status]: true [Notice String]: Notification
[Account ID]: 1005 [Account Status]: true [Notice String]: Notification
[Account ID]: 1004 [Account Status]: true [Notice String]: Notification
[Account ID]: 1003 [Account Status]: true [Notice String]: Notification
[Account ID]: 1002 [Account Status]: true [Notice String]: Notification
[Account ID]: 1001 [Account Status]: true [Notice String]: Notification
-----
>>> Press Enter/Return to continue:
```

1. On the main page, enter [S] and press [Enter] key;
2. The specific information of all users which have been added into the LMS will be displayed;
3. After the operation, press [Enter] or [Return] key to continue;

## To view all the book information

```
>>> Please select the above options x in [x]: 0
-----
Here is(are) information about all book(s):
[Book ID]:10008 [Book ISBN]: 1-07 [Book Name]: Pride and Prejudice [Author]: Jane Austen [Category]: Novel [Time of Rent]: 12 [Time of Want]: 5
[Book ID]:10007 [Book ISBN]: 0-03 [Book Name]: The Hobbit [Author]: J.R.R. Tolkien [Category]: Fantasy [Time of Rent]: 23 [Time of Want]: 1
[Book ID]:10009 [Book ISBN]: 1-07 [Book Name]: Pride and Prejudice [Author]: Jane Austen [Category]: Novel [Time of Rent]: 2 [Time of Want]: 1
[Book ID]:10011 [Book ISBN]: 1-08 [Book Name]: Butterball [Author]: Henry-Albert-Guy de Maupassant [Category]: Novel [Time of Rent]: 2 [Time of Want]: 5
[Book ID]:10010 [Book ISBN]: 1-07 [Book Name]: Pride and Prejudice [Author]: Jane Austen [Category]: Novel [Time of Rent]: 24 [Time of Want]: 11
[Book ID]:10002 [Book ISBN]: 0-02 [Book Name]: Harry Potter and the Philosopher Stone [Author]: J.K. Rowling [Category]: Fantasy [Time of Rent]: 32 [Time of Want]: 2
[Book ID]:10013 [Book ISBN]: 1-08 [Book Name]: Butterball [Author]: Henry-Albert-Guy de Maupassant [Category]: Novel [Time of Rent]: 10 [Time of Want]: 2
[Book ID]:10012 [Book ISBN]: 1-08 [Book Name]: Butterball [Author]: Henry-Albert-Guy de Maupassant [Category]: Novel [Time of Rent]: 12 [Time of Want]: 2
[Book ID]:10001 [Book ISBN]: 0-01 [Book Name]: The Lord of the Rings [Author]: J.R.R. Tolkien [Category]: Fantasy [Time of Rent]: 12 [Time of Want]: 10
[Book ID]:10004 [Book ISBN]: 0-04 [Book Name]: The Chronicles of Narnia [Author]: C.S. Lewis [Category]: Fantasy [Time of Rent]: 5 [Time of Want]: 0
[Book ID]:10015 [Book ISBN]: 1-10 [Book Name]: The Adventures of Tom Sawyer [Author]: Mark Twain [Category]: Story [Time of Rent]: 10 [Time of Want]: 9
[Book ID]:10003 [Book ISBN]: 0-03 [Book Name]: The Hobbit [Author]: J.R.R. Tolkien [Category]: Fantasy [Time of Rent]: 5 [Time of Want]: 12
[Book ID]:10014 [Book ISBN]: 1-09 [Book Name]: The Adventures of Sherlock Holmes [Author]: Arthur Conan Doyle [Category]: Story [Time of Rent]: 13 [Time of Want]: 5
[Book ID]:10006 [Book ISBN]: 0-06 [Book Name]: The Little Prince [Author]: Antoine de Saint [Category]: Fantasy [Time of Rent]: 5 [Time of Want]: 5
[Book ID]:10017 [Book ISBN]: 1-10 [Book Name]: The Adventures of Tom Sawyer [Author]: Mark Twain [Category]: Story [Time of Rent]: 13 [Time of Want]: 4
[Book ID]:10005 [Book ISBN]: 0-05 [Book Name]: The Lion, the Witch and the Wardrobe [Author]: C.S. Lewis [Category]: Fantasy [Time of Rent]: 1 [Time of Want]: 11
[Book ID]:10016 [Book ISBN]: 1-11 [Book Name]: The Adventures of Huckleberry Finn [Author]: Antoine de Saint [Category]: Story [Time of Rent]: 7 [Time of Want]: 6
-----
>>> Press Enter/Return to continue:
```

1. On the main page, enter [**O**] and press [**Enter**] key;
2. Specific information about all books that have been added to the LMS will be displayed;
3. After the operation, press [**Enter**] or [**Return**] key to continue;

## To view all the rent book

```
>>> Please select the above options x in [x]: P
-----
Here is(are) information about all rent book(s):
[Account ID]:1004 [Book ID]: 10007 [Year]: 2022 [Month]: 11 [Day]: 2
[Account ID]:1006 [Book ID]: 10013 [Year]: 2022 [Month]: 10 [Day]: 30
[Account ID]:1001 [Book ID]: 10001 [Year]: 2022 [Month]: 10 [Day]: 30
[Account ID]:1005 [Book ID]: 10004 [Year]: 2022 [Month]: 11 [Day]: 5
[Account ID]:1001 [Book ID]: 10003 [Year]: 2022 [Month]: 11 [Day]: 5
-----
>>> Press Enter/Return to continue:
```

1. On the main page, enter [**P**] and press [**Enter**] key;
2. Specific information about all books rented by users and not returned to the library will be displayed;
3. After the operation, press [**Enter**] or [**Return**] key to continue;

### To view all the want book

```
-----
>>> Please select the above options x in [x]: Q
-----
Here is(are) information about all want book(s):
[Account ID]: 1002 [ISBN]: 0-04 [Year]: 2022 [Month]: 10 [Day]: 30
[Account ID]: 1001 [ISBN]: 0-04 [Year]: 2022 [Month]: 11 [Day]: 1
-----
>>> Press Enter/Return to continue:█
```

1. In the main page, enter [Q] and press [Enter] key;
2. Specific information will be displayed for all books that are being reserved by users and have not been cancelled.;
3. After the operation, press [Enter] or [Return] key to continue;

### To view all the placed book

```
-----
>>> Please select the above options x in [x]: R
-----
Here is(are) information about all placed book(s):
[Account ID]:1007 [Book ID]: 10009 [Year]: 2022 [Month]: 11 [Day]: 5
[Account ID]:1001 [Book ID]: 10005 [Year]: 2022 [Month]: 11 [Day]: 11
-----
>>> Press Enter/Return to continue:█
```

1. In the main page, enter [R] and press [Enter] key;
2. Specific information will be displaced for all placed books that are being placed for reserved users and have not been unplaced;
3. After the operation, press [Enter] or [Return] key to continue;

## 6.8 Set Current Date

### To set current date

```
-----
>>> Please select the above options x in [x]: U
>>> Please enter the Year: 2022
>>> Please enter the Month: 11
>>> Please enter the Day: 5
Execute successfully
-----
>>> Press Enter/Return to continue:█
```

1. In the main page, enter [U] and press [Enter] key;
2. Input line by line with {Year}, {Month}, {Day} that users prefer to change to reset the current date for further operations. If appears “Execute successfully”, it means the current date setting is successfully completed;
3. After the operation, press [Enter] or [Return] key to continue;

## 6.9 Analysis Report Page

### To generate the analysis report about the LMS

1. On the main page, enter [T] and press [Enter] key;
2. The specific information of all the analysis about the count of all books, rent books and the extreme values of books with different sorting will be displayed;
3. After the operation, press [Enter] or [Return] key to continue;

## 6.10 Reset from Database

### To reset buffer data from LMS Database

```
-----  
>>> Please select the above options x in [x]: X  
-----  
>>> Press Enter/Return to continue:
```

1. On the main page, enter [X] and press [Enter] key;
2. The data in the buffer will be overwritten by the data in the LMS database as a data reset. If “Execution successfully” appears, it means the current date setting has been completed successfully;
3. After the operation, press [Enter] or [Return] key to continue;