

Lab Assignment-1 (Library System)

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I have implemented the Library System using Java language, IntelliJ IDEA and Maven.
The java program implements a menu-driven program.

I have implemented 4 classes - Student, Book, Library, Librarian (Main).

Usage-

First Screen

```
"C:\Program Files\Java\jdk-18.0.2.1\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.1\lib\idea_rt.jar=58188:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.1\bin" 58188
Library Portal Initialized....
-----
1. Enter as a librarian
2. Enter as a member
3. Exit
-----
Enter Choice:
```

Options for Librarian :

```
"C:\Program Files\Java\jdk-18.0.2.1\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.1\lib\idea_rt.jar=58188:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.1\bin" 58188
Library Portal Initialized....
-----
1. Enter as a librarian
2. Enter as a member
3. Exit
-----
Enter Choice: 1
-----
1. Register a member
2. Remove a member
3. Add a book
4. Remove a book
5. View all members along with their books and fines to be paid
6. View all books
7. Back
-----
Enter Choice:
```

Options for Student/Member :

```
"C:\Program Files\Java\jdk-18.0.2.1\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.1\lib\idea_rt.jar=58197:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.2.1\bin" -Dfile.encoding=UTF-8
Library Portal Initialized....
-----
1. Enter as a librarian
2. Enter as a member
3. Exit
-----
Enter Choice: 2
-----
1. Register a member
2. Remove a member
3. Add a book
4. Remove a book
5. View all members along with their books and fines to be paid
6. View all books
7. Back
-----
Enter Choice: 1
-----
Name: Vansh
Age: 19
```

7. Back

Enter Choice: 1

Name: Vansh

Age: 19

Phone no: 9812046246

Member Registered Successfully with 1!

1. Register a member
 2. Remove a member
 3. Add a book
 4. Remove a book
 5. View all members along with their books and fines to be paid
 6. View all books
 7. Back
-

Enter Choice: 7

1. Enter as a librarian

```
7. Back
-----
Enter Choice: 7
-----
1. Enter as a librarian
2. Enter as a member
3. Exit
-----
Enter Choice: 2
Name: Vansh
Phone No: 9812046246
Welcome Vansh. Member ID: 1
-----
1. List Available Books
2. List My Books
3. Issue book
4. Return book
5. Pay Fine
6. Back
-----
Enter Choice:
```

The following functionalities are offered in my program :

1. Add Book
2. Remove Book
3. Register Member
4. Remove Member
5. Enter as a member
6. Issue Book
7. Return Book
8. List Books
9. List Members
10. Calculate Fine
11. Exit

Input validation is also taken care of for incorrect user inputs

User Friendly error messages are displayed.

ToString() method is defined for the classes Book and Student/Member.

1. Run the code and you can choose to enter either as a librarian or a member.
2. Student/Member is uniquely identified by Phone number and Student/Member ID.
3. Books are uniquely identified by Book ID.
4. Fine is also calculated using the System.currentTimeMillis().
5. Members and methods are also named accordingly.
6. To login as a Member, you have to verify yourself using your name and phone number.
7. No such verification for librarians is needed.

Input format :

Member name = String

Member phone number= String

Member age = Int

Book ID = Int

Book name =String

Book Author =String

Book Title =String

Total number of copies = Int

Total number of available copies of a book =Int