

Name- Pratiksha Pacharane
Internship Program- Core Java + SQL
Batch-Jan 2022
Certificate Code- (TCRIC3R192)
Date of submission-14/04/2022



Technical Coding Research Innovation, Navi Mumbai,
Maharashtra, India-410206

(Library Management System)

A Case-Study Submitted for the requirement of
Technical Coding Research Innovation

For the Internship Project work done during
CORE JAVA WITH SQL INTERNSHIP PROGRAM

by

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ABSTRACT :-

The Library Management System is an application for assisting a librarian in managing a book library in a university. The system would provide a basic set of features to update members, add/update books, and manage check-in specifications for the systems based on the client's statement of need.

Library management system is a typical management Information system (MIS), its Development includes the establishment and maintenance of back-end database and front-end application development aspects. The former require the establishment of data consistency and integrity of the strong data security and good libraries. It later requires the application to be fully functional, easy to use and so on.

The Library Management System is an application that helps a librarian manage a university's book library. Based on the student's statement of need, the system would provide a minimal set of features to update student's ID , update books, and statistical check-in specifications for the systems.

The construction of a library management system, which is a typical management information system (MIS), which involves the setup and maintenance of a back-end database as well as front-end application development. For the former, data consistency and integrity, as well as solid data security and reliable libraries, are required. For the latter, the program must be completely functional, user-friendly, and so on.

INTRODUCTION : -

The project titled Library Management System is software for monitoring, maintaining the data and admitting the students in a library .The project "Library Management System" is developed in JAVA, which mainly focuses on basic operations in a library like adding new books, and updating new information, searching books and studentID and returning books.

This "LIBRARY MANAGEMENT" project provides us with all of the essential knowledge about the library. We can create new book records and retrieve information about

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books that are currently available in the library. We may issue books to students and keep track of their progress, as well as check how many books have been distributed and how much stock is available in the library. We can keep the late fee for students who return provided books after the due date with this initiative.

The emphasis has been on presenting information and comments in a simple and understandable manner throughout the project. The project is extremely beneficial to individuals interested in learning more about Library Management Systems.

PROBLEM STATEMENT AND OBJECTIVES :-

It is very important to maintain efficient software to handle information in a library. This application provides a way to record this information and to access it in a simple way.

The general problem goes with the inter-communication among library readers(students),and as we know libraries are little distant from readers(students), also having lots of books makes it difficult to find a specific book.

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FEATURES :-

Search function:

To allow both the librarian and the students of the library to browse the library's catalog of books Each user's search functions can be filtered to meet their own needs.

Management of acquisitions :

To buy new books and digitize them.

Management of membership:

To keep track of the students' information through the database each user's name, ID, and password are saved in the library management system. The system aids in determining the student's track record.

FUNCTIONS :-

1. Admin Login
2. New student Login
3. New book
4. Statistics/View all details
5. Issue book
6. Return book
7. Logout

DETAILS OF HARDWARE AND SOFTWARE :-

Software Requirements :

Operating System : Windows 8,10,11

Front End : Java

Back End : MySQL Server

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Min. Hardware Requirements :

Desktop PC or Laptop
Intel® Core™ i7-3720QM CPU @2.60GHZ
4.00 GB RAM
64-bit operating system, x64 based processor
1024x768 monitor resolution

JAVA PROGRAMMING :-

Java is a general purpose computer programming language that is robust, high-level, objects oriented, The java swing package lets you make GUI components for your java application and it is platform independent.

The swing library is built on top of the Java Abstract Window Toolkit (AWT), an older platform dependent GUI toolkit. We can use the Java GUI components like button, scroll bar etc from the library and do not have to create the component from scratch.

Data Access :-

The Data Access is JDBC (MySQL Driver 8.0.28)

The JDBC module provides connectivity between database and java programming, so that they can communicate with each other.

MySQL Workbench 8.0 CE :-

MySQL Workbench is visual database designing tool that integrates SQL development, design, creation and maintenance into single integrated developed environment for MySQL database system.

IDE :-

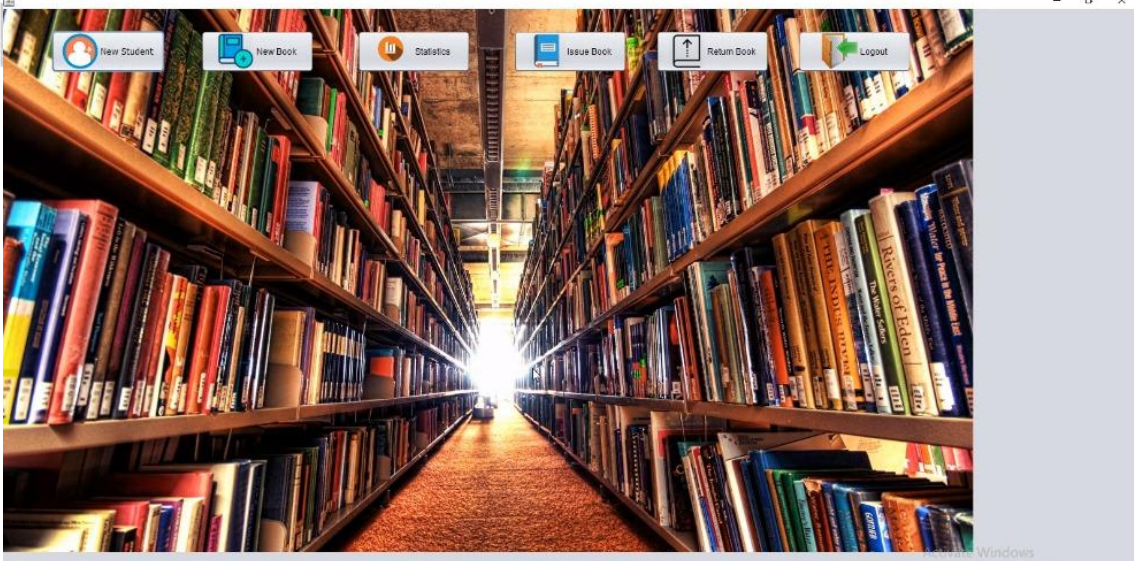
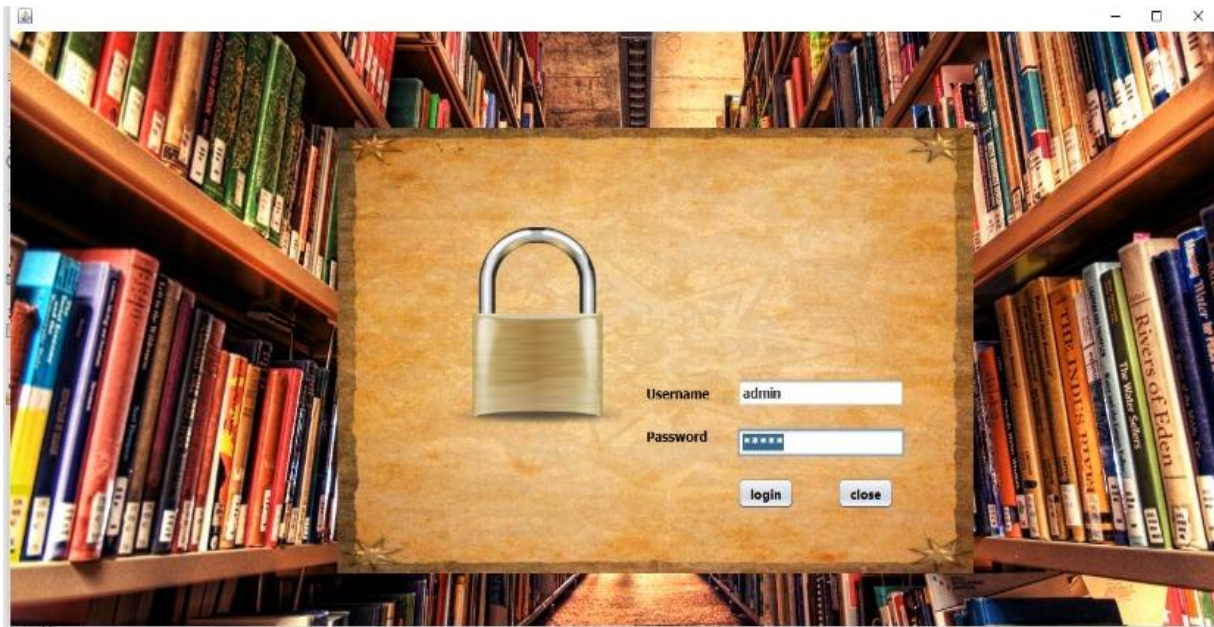
Netbeans :

Netbeans is an open source, tooling platform, integrated, development environment (IDE). For developing with Java, PHP and other programming languages. Netbeans is also referred to as a platform of modular components used for developing java desktop applications.

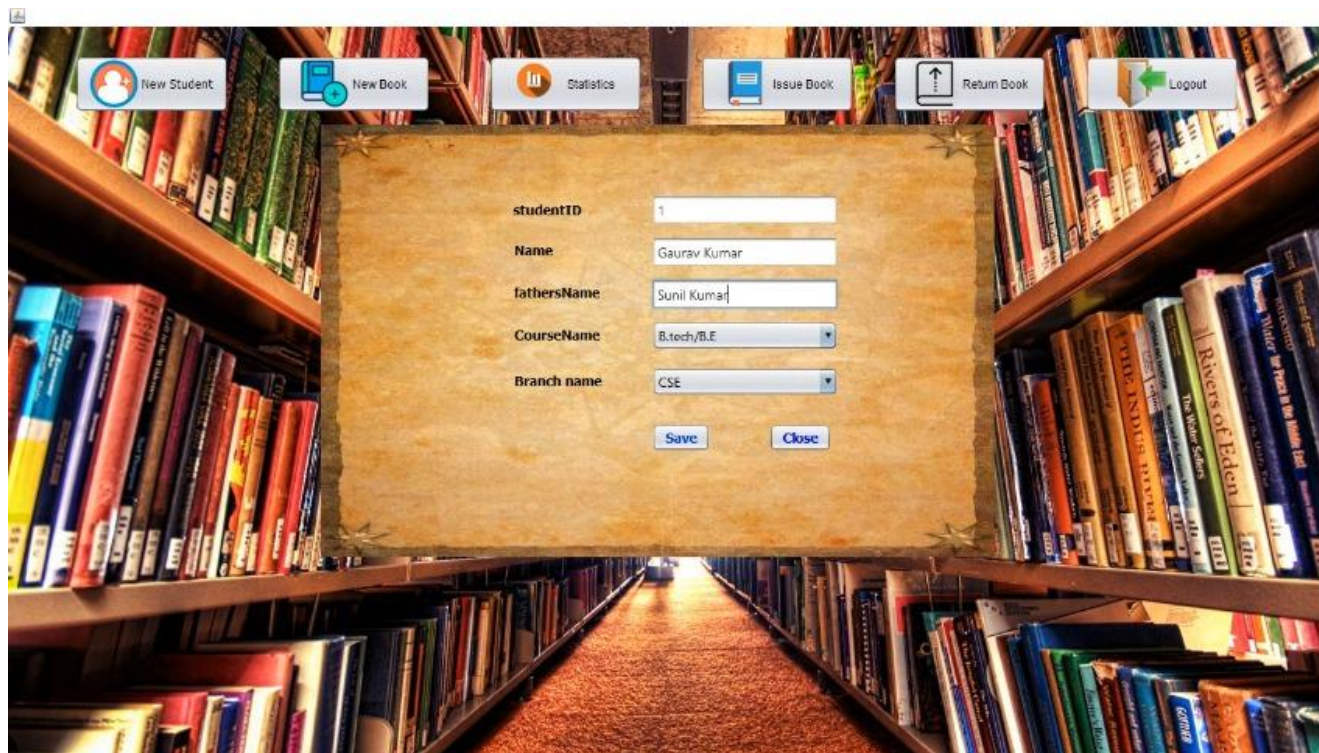
SCREENSHOTS OF PROJECT :-

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Login page :-



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studentID: 1

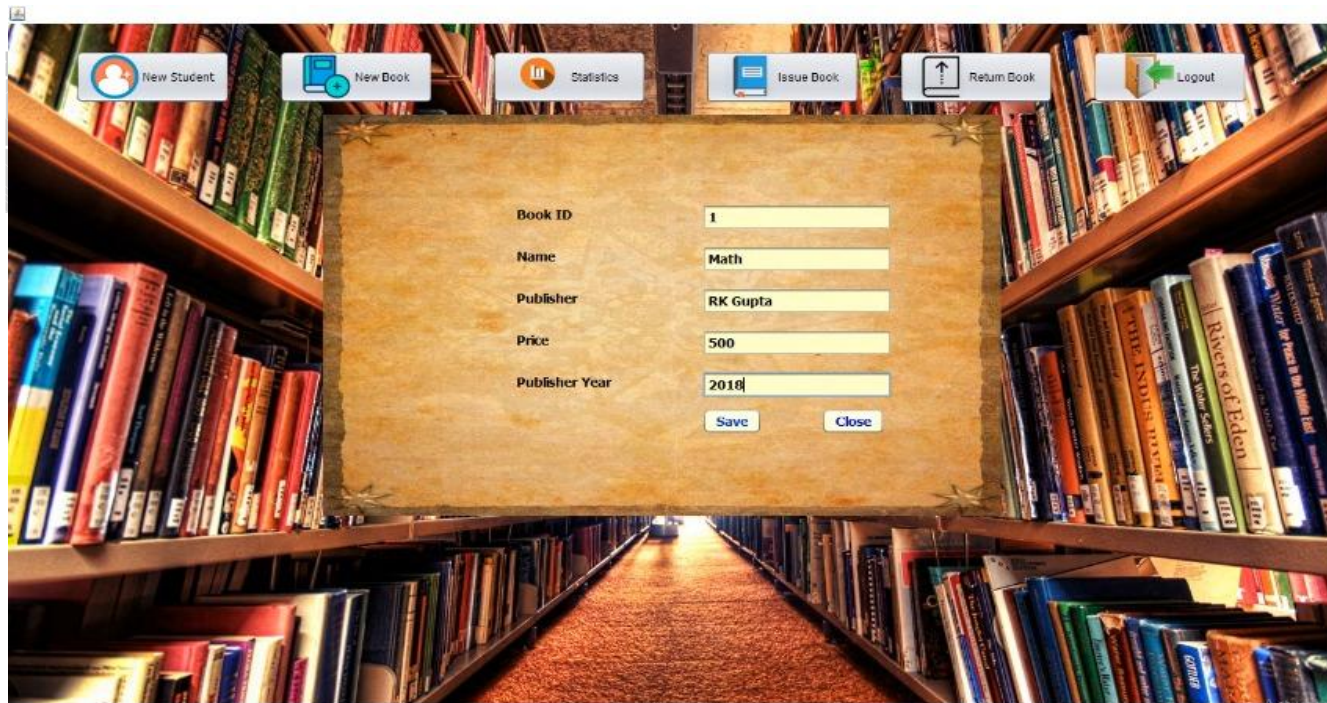
Name: Gaurav Kumar

fathersName: Sunil Kumar

CourseName: B.tech/B.E

Branch name: CSE

Save Close



Book ID: 1

Name: Math

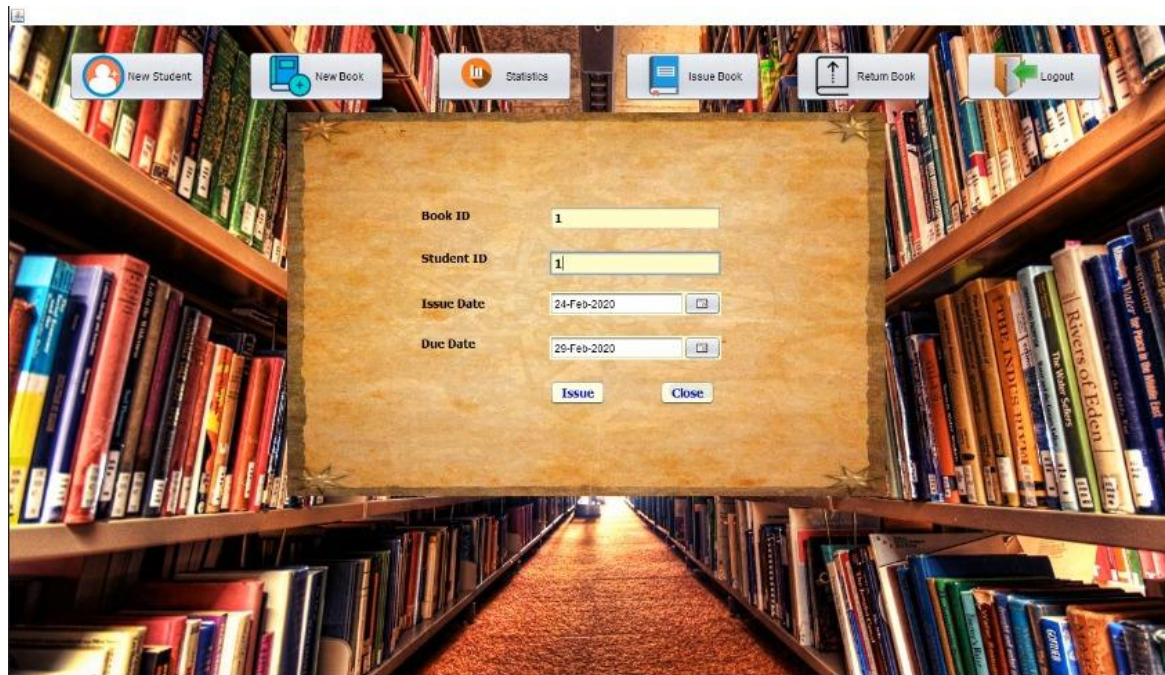
Publisher: RK Gupta

Price: 500

Publisher Year: 2018

Save Close

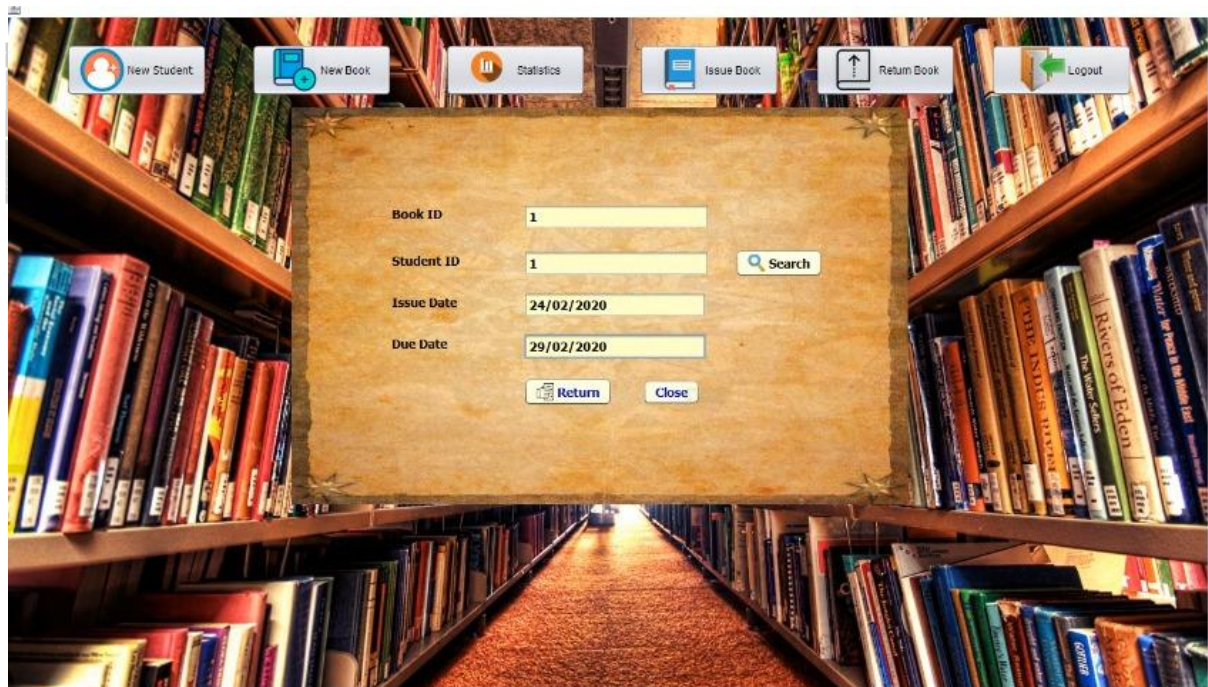
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The screenshot shows a web application interface for a library management system. The background is a photograph of a library aisle with bookshelves. At the top, there is a navigation bar with six buttons: 'New Student', 'New Book', 'Statistics', 'Issue Book', 'Return Book', and 'Logout'. The 'Issue Book' button is active, displaying a form on a parchment-like background. The form contains the following fields and values:

Field	Value
Book ID	1
Student ID	1
Issue Date	24-Feb-2020
Due Date	29-Feb-2020

At the bottom of the form are two buttons: 'Issue' and 'Close'.



The screenshot shows the same web application interface, but with the 'Return Book' button active. The form on the parchment background is updated with the following values:

Field	Value
Book ID	1
Student ID	1
Issue Date	24/02/2020
Due Date	29/02/2020

In addition to the 'Return' and 'Close' buttons at the bottom, a 'Search' button with a magnifying glass icon is now visible to the right of the 'Student ID' field.

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Issue Details					
studentID	name	bookID	name	issueDate	dueDate
1	Gaurav kumar	1	Physics	24-02-2020	29-02-2020
1	Gaurav kumar	1	Physics	25-02-2020	25-02-2020
2	Saurav kumar	3	The water Sellers	24-02-2020	29-02-2020
Return Details					
studentID	name	bookID	name	issueDate	dueDate
2	Saurav kumar	2	Chemistry	24-02-2020	29-02-2020
2	Saurav kumar	1	Physics	24-02-2020	29-02-2020
3	Amit kumar	4	Hindi	24-02-2020	28-02-2020
4	Sumit kumar	5	The Indus river	25-02-2020	29-02-2020

```
mysql> select *from student;
```

studentID	name	fathersName	courseName	branchName
1	Gaurav Kumar	Sunil Kumar	B.E/B.Tech	CSE
2	Saurav Kumar	Vaibhav Kumar	B.E/B.Tech	Civil
3	Amit Kumar	Mangesh Kumar	B.E/B.Tech	IT

```
3 rows in set (0.09 sec)
```

```
mysql> select *from book;
-> select *from book;
ERROR 1064 (42000): You have an error in your SQL syntax; che
mysql> select *from book;
```

bookid	name	publisher	price	publisherYear
1	Math	RK Gupta	500	2010

```
1 row in set (0.00 sec)
```

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Conclusion :-

The LIBRARY MANAGEMENT initiative aims to computerize library operations. The programme meets all of a library's needs and is capable of storing information about books and users in an efficient manner.

References :-

[http://en.wikipedia.org/wiki/Java_\(programming_language\)](http://en.wikipedia.org/wiki/Java_(programming_language))

http://en.wikipedia.org/wiki/MySQL_Workbench

<https://www.javatpoint.com/library-management-system-in-java-swing>

<https://projectgurukul.org/java-library-management-system/>

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