MINI PROJECT

(2021-22)

"LIBRARY MANAGEMENT SYSTEM"

Project Report

Institute of Engineering & Technology

Submitted By -

Yash Nigam (191500929)

Pawan Pandey (191500532)

Yash Gupta (191500925)

Rajat Pandey (191500627)

Under the Supervision of

Mr. Mayank Saxena

Technical Trainer

Department of Computer Engineering & Applications

Department of Computer Engineering and Applications

GLA University, 17 km. Stone NH#2, Mathura-Delhi Road,

Chaumuha, Mathura – 281406 U.P (India)

Declaration

I/we hereby declare that the work which is being presented in the Bachelor of technology. Project **"Library Management System"**, in partial fulfillment of the requirements for the award of the ***Bachelor of Technology*** in Computer Science and Engineering and submitted to the Department of Computer Engineering and Applications of GLA University, Mathura, is an authentic record of my/our own work carried under the supervision of **Mr. Mayank Saxena, Technical Trainer, Dept. of CEA, GLA University.**

The contents of this project report, in full or in parts, have not been submitted to any other Institute or University for the award of any degree.

Sign: Pawan Pandey

Name of Candidate: Pawan Pandey

University Roll No.: 191500532

Sign: Yash Nigam

Name of Candidate: Yash Nigam

University Roll No.:191500929

Sign: Rajat Pandey

Name of Candidate: Rajat Pandey

University Roll No.:191500627

Sign: Yash Gupta

Name of Candidate: Yash Gupta

University Roll No.:191500925

Department of Computer Engineering and Applications

GLA University, 17 km. Stone NH#2, Mathura-Delhi Road,

Chaumuha, Mathura – 281406 U.P (India)

Certificate

This is to certify that the project entitled "Library Management System", carried out in Mini Project – I Lab, is a bona fide work by Pawan Pandey, Yash Nigam, Yash Gupta, Rajat Pandey and is submitted in partial fulfillment of the requirements for the award of the degree Bachelor of Technology (Computer Science & Engineering).

Signature of Supervisor:

Name of Supervisor: Mr. Mayank Saxena

Date:

Department of Computer Engineering and Applications

GLA University, 17 km. Stone NH#2, Mathura-Delhi Road,

Chaumuha, Mathura – 281406 U.P (India)

ACKNOWLEDGEMENT

Presenting the ascribed project paper report in this very simple and official form, we would like to place my deep gratitude to GLA University for providing us the instructor Mr. Mayank Saxena, our technical trainer and supervisor.

He has been helping us since Day 1 in this project. He provided us with the roadmap, the basic guidelines explaining on how to work on the project. He has been conducting regular meeting to check the progress of the project and providing us with the resources related to the project. Without his help, we wouldn't have been able to complete this project.

And at last, but not the least we would like to thank our dear parents for helping us to grab this opportunity to get trained and also my colleagues who helped me find resources during the training.

Thanking You

Sign: Pawan Pandey

Name of Candidate: Pawan Pandey

University Roll No.: 191500532

Sign: Yash Nigam

Name of Candidate: Yash Nigam

University Roll No.:191500929

Sign: Rajat Pandey

Name of Candidate: Rajat Pandey

University Roll No.:191500627

Sign: Yash Gupta

Name of Candidate: Yash Gupta

University Roll No.:191500925

ABSTRACT

Library management system is a project which aims in developing a computerized system to maintain all the daily work of library .This project has many features which are generally not available in normal library management systems like facility of user login and a facility of teachers login .It also has a facility of admin login through which the admin can monitor the whole system .It also has facility of an online notice board where teachers can student can put up information about workshops or seminars being held in our colleges or nearby colleges and librarian after proper verification from the concerned institution organizing the seminar can add it to the notice board . It has also a facility where student after logging in their accounts can see list of books issued and its issue date and return date and also the students can request the librarian to add new books by filling the book request form. The librarian after logging into his account i.e., admin account can generate various reports such as student report, issue report, teacher report and book report

Overall, this project of ours is being developed to help the students as well as staff of library to maintain the library in the best way possible and also reduce the human efforts.

CONTENTS

CHAPTER-1

INTRODUCTION

1.1 CONTEXT

This JAVA Desktop Application "Library Management System" has been submitted in partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering at GLA University, Mathura supervised by Mr. Mayank Saxena. This project has been completed approximately three months and has been executed in modules, meetings have been organized to check the progress of the work and for instructions and guidelines.

1.2 MOTIVATION

Library Management System is an application which refers to library systems which are generally small or medium in size. It is used by librarian to manage the library using a computerized system where he/she can record various transactions like issue of books, return of books, addition of new books, addition of new students etc.

Books and student maintenance modules are also included in this system which would keep track of the students using the library and also a detailed description about the books a library contains. With this computerized system there will be no loss of book record or member record which generally happens when a non-computerized system is used.

In addition, report module is also included in Library Management System. If user's position is admin, the user is able to generate different kinds of reports like lists of students registered, list of books, issue and return reports.

All these modules can help the librarian to manage the library with more convenience and in a more efficient way as compared to library systems which are not

computerized.

OBJECTIVE

The project aims and objectives that will be achieved after completion of this project are discussed in this subchapter. The aims and objectives are as follows:

- Online book issue
- Student login page where student can find books issued by him/her and date of return.
- A search column to search availability of books
- A teacher login page where teacher can add students and new books.

1.3 EXISTING SYSTEM

i. Existing system does not have any facility of teacher's login or student login whereas proposed system will have a facility of student login as well as teacher's login.
ii. Existing system does not have any digital way to maintain the student record and the record of books issued whereas the proposed systema aims to do so.
iii. Existing system has chances of errors due to human mistake but as the proposed system is digital chances of error is very less.
iv. Existing system does not have a structured way of issuing books but the proposed system has a proper structure for the same.

1.4 SOURCES

The source of our project (including all the project work, documentations and presentations) is available at

CHAPTER -2

SOFTWARE REQUIREMENT ANALYSIS

2.1 Software Requirement

- **Operating system**- Windows 10 is used as the operating system as it is stable and supports more features and is more user friendly
- **Database**- MYSQL is used as database as it easy to maintain and retrieve records by simple queries which are in English language which are easy to understand and easy to write.

- **Development tools and Programming language-** Java has been one of the most popular programming languages for many years. Java is Object Oriented. However, it is not considered as pure object-oriented as it provides support for primitive data types (like int, char, etc).

2.2 Hardware Requirement

- Intel core i5 9th generation is used as a processor because it is fast than other processors an provide reliable and stable and we can run our pc for longtime. By using this processor, we can keep on developing our project without any worries.
- Ram 4 GB is used as it will provide fast reading and writing capabilities and will in turn support in processing

2.2 MODULES AND FUNCTIONALITIES

- **Home Screen**: The first screen with which the user interacts will be this screen containing the logo and the software name.

- **Login Page**: This page is for those users who have already registered themselves onthe app and have a username and a password. There is also a way on this page for the new users to register themselves which will take them to the registration page.

- **Signup Page:** This is page is solely designed for the new users of the software who are willing to register themselves. This page takes input of the various details of the user and stores it in the database, later helping the user to login into the account with credentials they have provided.

- **Forget Password Page:** This page comes into picture when one of the users forgets the login credentials. In this case this page asks for the security question which the user has already answered during the registration.

- **Dashboard Page:** This is the page displayed for every user after entering the app successfully. It displays the various options available in our software like add student, add book, issue book, etc.

- **Add Book Page:** In this page we can new books by their book id which is created randomly and they are stored according to their Name, ISBN, Publisher, Edition, Price and Pages.

- **Add Student Page:** In this page we can add new student in out library management software on the basis on their name, father's name, course, branch, year and semester.

- **Issue Book**: In this page we can find books that are available in Library and issue them to the student.

- **Return Book:** As we enter the book id and student id we get all the details related to the book issued to the student and the student can return the Book

  .

- **Statistics**: In this page it displays the information about books issued and returned.

2.3 Library Management System

A Library management system is a software that uses to maintain the record of the library. It contains work like the number of available books in the library, the number of books are issued or returning or renewing a book or late fine charge record, etc. Library Management Systems is software that helps to maintain a database that is useful to enter new books & record books borrowed by the members, with the respective submission dates. Moreover, it also reduces the manual record burden of the librarian.

Library management system allows the librarian to maintain library resources in a more operative manner that will help to save their time. It is also convenient for the librarian to manage the process of books allotting and making payment. Library management system is also useful for students as well as a librarian to keep the constant track of the availability of all books in a store.

CHAPTER- 3

SOFTWARE DESIGN

3.1 Class Diagram:

Database Tables

account table	
Attributes	**DataType**
username	Varchar(20)
name	Varchar(25)
password	Varchar(25)
sec_q	Varchar(25)
Sec_ans	Varchar(25)

Student Table	
Attributes	**DataType**
student_id	Varchar(10)
name	Varchar(25)
Father	Varchar(25)
course	Varchar(10)
branch	Varchar(10)
Semester	Varchar(10)
Year	Varchar(10)

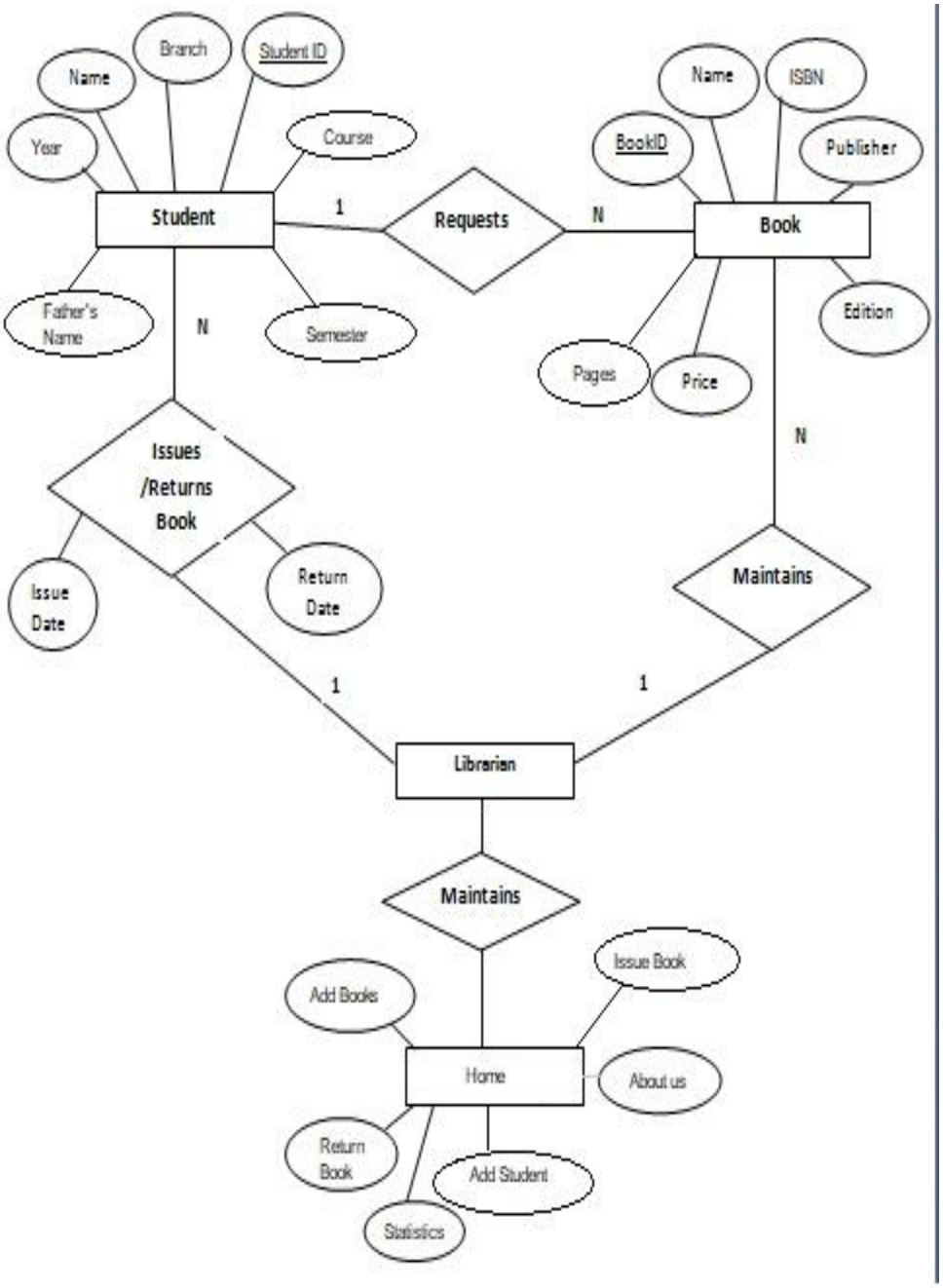
Issue book Table	
Attributes	**DataType**
book_Id	Varchar(10)
Student_id	Varchar(10)
Bname	Varchar(40)
Sname	Varchar(40)
Course	Varchar(20)
Branch	Varchar(10)
dateOfIssue	Varchar(20)

Return book Table	
Attributes	**DataType**
book_Id	Varchar(10)
Student_id	Varchar(10)
Bname	Varchar(40)
Sname	Varchar(40)
Course	Varchar(20)
Branch	Varchar(10)
dateOfIssue	Varchar(30)
dateOfReturn	Varchar(30)

Book Table	
Attributes	**DataType**
book_Id	Varchar(10)
Editioin	Varchar(10)
name	Varchar(40)
Pages	Varchar(10)
ISBN	Varchar(20)
Price	Varchar(10)
Publisher	Varchar(30)

Activate Windows
Go to Settings to activate Windows.

3.2 ER Diagram:-



CHAPTER-4

TECHNOLOGY USED

4.1 JAVA

Java is a high-level, class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. It is a general-purpose programming language intended to let programmers write once, run anywhere (WORA), meaning that compiled Java code can run on all platforms that support Java without the need for recompilation. Java applications are typically compiled to bytecode that can run on any Java virtual machine (JVM) regardless of the underlying computer architecture.

The syntax of Java is similar to C and C++, but has fewer low-level facilities than either of them. The Java runtime provides dynamic capabilities (such as reflection and runtime code modification) that are typically not available in traditional compiled languages. As of 2019, Java was one of the most popular programming languages in use according to GitHub, particularly for client–server web applications, with a reported 9 million developers.

Below is the Java applications list:

- Desktop GUI Applications
- Mobile Applications
- Enterprise Applications
- Scientific Applications
- Web-based Applications
- Embedded Systems
- Big Data Technologies
- Distributed Applications
- Cloud-based Applications
- Web servers and Application servers
- Software Tools
- Gaming Applications

Principles

There are five primary goals in the creation of the Java language

- It must be simple, object-oriented, and familiar.
- It must be robust and secure.
- It must be architecture-neutral and portable.
- It must execute with high performance.
- It must be interpreted, threaded, and dynamic.

Tools

- JDK (Java Development Kit) --> The JDK is a development environment for building applications, applets, and components using the Java programming language.
- The JDK includes tools useful for developing and testing programs written in the Java programming language and running on the Java platform.

4.1 VERSION OF JAVA

Each year Java releases a new version with better features, better security and betterUser Interface experience and a new symbol. Here is the table of list of versions

Table -1: Versions of JAVA

Version	Date
JDK Beta	1995
JDK1.0	January 23, 1996[40]
JDK 1.1	February 19, 1997
J2SE 1.2	December 8, 1998
J2SE 1.3	May 8, 2000
J2SE 1.4	February 6, 2002
J2SE 5.0	September 30, 2004
Java SE 6	December 11, 2006
Java SE 7	July 28, 2011
Java SE 8 (LTS)	March 18, 2014
Java SE 9	September 21, 2017
Java SE 10	March 20, 2018
Java SE 11 (LTS)	September 25, 2018[41]
Java SE 12	March 19, 2019
Java SE 13	September 17, 2019
Java SE 14	March 17, 2020
Java SE 15	September 15, 2020[42]
Java SE 16	March 16, 2021
Java SE 17 (LTS)	September 14, 2021
Java SE 18	March 2022

4.2 TOOLS AND LANGUAGES

Tools used to build the JAVA Application are:-

- NetBeans: NetBeans is an integrated development environment (IDE) for Java. NetBeans allows applications to be developed from a set of modular software components called modules.
- NetBeans runs on Windows, macOS, Linux and Solaris.
- In addition to Java development, it has extensions for other languages like PHP, C, C++, HTML5 and JavaScript.

Languages used in building a JAVA Application are classified as per the Front End and Back End. For designing the Front End of an application, we have used JAVA and for designing the Back End we have used JAVA & SQL

- **SQL:** SQL or Structured Query Language) is a domain-specific language used in programming and designed for managing data held in a relational database management system (RDBMS), or for stream processing in a relational data stream management system (RDSMS). It is particularly useful in handling structured data, i.e. data incorporating relations among entities and variables.

- **Java:** Java is a high-level, class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. It is a general-purpose programming language intended to let programmers write once, run anywhere , meaning that compiled java code can run on all platforms that support java without need of recompilation.

4.3 BASIC TERMINOLOGY

- **API (Application Programming Interface):** It is the way to expose a set of pre-defined classes and interfaces to external clients to interact with them, without sharing the implementation details

- **Argument**: An input specified in a method call; it can be a literal value, a variable, or an expression:

- **Class**: The core type in Java that defines the implementation of a particular kind of object; it defines instance and class variables and methods, as well as specifies the interfaces it implements and the immediate superclass of the class, by default Object.

- **Constructor**: A method inside the class, which creates and initializes objects in it – needs to be public and names the same as the class

- **JVM**: Java Virtual Machine, the abstract machine where the compiled Java bytecode is executed.

- **API:** An application programming interface (API), in the context of Java, is a collection of prewritten packages, classes, and interfaces with their respective methods, fields and constructors. Similar to a user interface, which facilitates interaction between humans and computers, an API serves as a software program interface facilitating interaction. In Java, most basic programming tasks are performed by the API's classes and packages, which are helpful in minimizing the number of lines written within pieces of code.

- **JDK:** JDK is an acronym for Java Development Kit. The Java Development Kit (JDK) is a software development environment which is used to develop java applications and applets. It physically exists. It contains JRE + development tools. The JDK contains a private Java Virtual Machine (JVM) and a few other resources such as an interpreter/loader (Java), a compiler (javac), an archiver (jar), a documentation generator (Javadoc) etc. to complete the development of a Java Application.

- **Interface:** An Interface in Java is a blueprint of a class. It has static constants and abstract methods. The interface in Java is a mechanism to achieve the Abstraction. There can be only abstract methods in the Java interface, not method body. It is used to achieve abstraction and multiple inheritance in java. In other words, you can say that interfaces can have abstract methods and variables. It cannot have a method body.

- **Object:** It specifies the component to start by name. You'll typically use an explicit intent to start a component in your own app, because you know the class name of the activity or service you want to start.

- **Database**: A database is a collection of tables, with related data.

- **Table:** A table is a matrix with data. A table in a database looks like a simple spreadsheet.

- **Column**: One column (data element) contains data of one and the same kind.

- **Row**: A row (tuple, entry or record) is a group of related data, for example, the data of one subscription.

- **JFrame**: The javax.swing.JFrame class is a type of container which inherits the java.awt.Frame class. JFrame works like the main window where components like labels, buttons, textfields are added to create a GUI.

- **Wamp Server:** WAMP is an acronym that stands for Windows, Apache, MySQL, and PHP. It's a software stack which means installing WAMP installs Apache, MySQL, and PHP on your operating system (Windows in the case of WAMP).

CHAPTER -5

IMPLEMENTATION AND USER INTERFACE

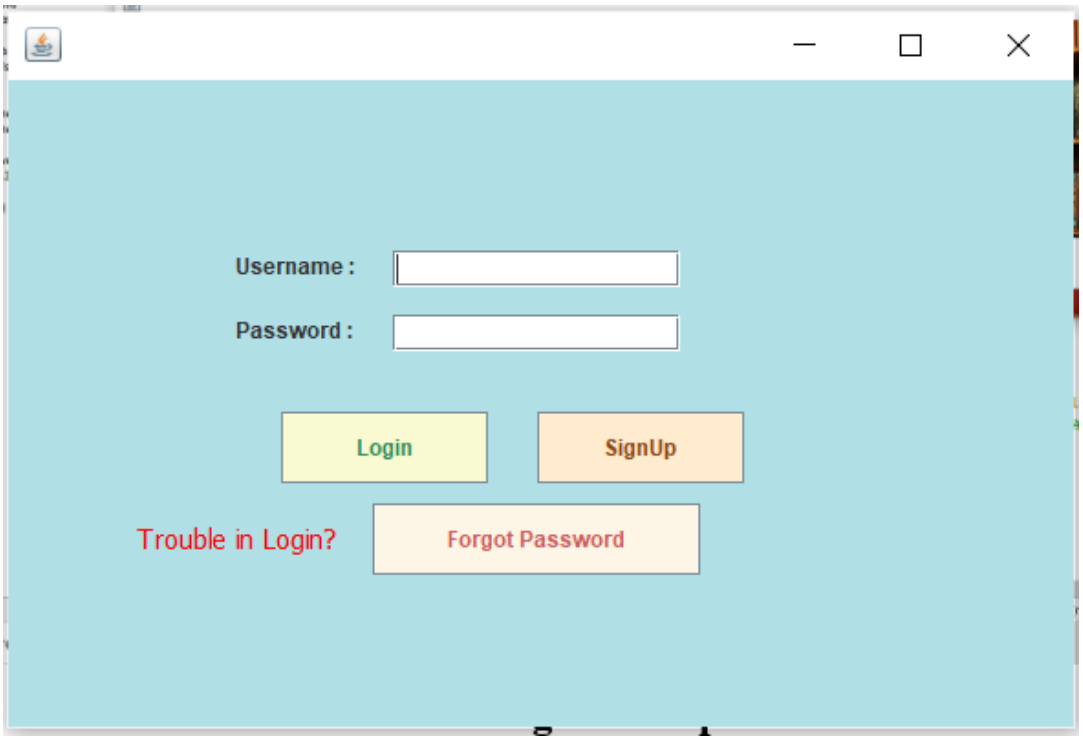
5.1 User Interface

- **Home Screen**


```
package library.management.system;

import java.awt.*;
import javax.swing.*;
import java.awt.event.*;

public class LibraryManagementSystem extends JFrame implements ActionListener{

JLabel l1;
JButton b1;

public LibraryManagementSystem() {

setSize(1366,390);
setLayout(null);
setLocation(300,300);

l1 = new JLabel("");
b1 = new JButton("Next");

b1.setBackground(Color.WHITE);
b1.setForeground(Color.BLACK);



ImageIcon i1  = new ImageIcon(ClassLoader.getSystemResource("library/management/system/icons/first.jpg"));
Image i3 = i1.getImage().getScaledInstance(1366, 390,Image.SCALE_DEFAULT);
ImageIcon i2 = new ImageIcon(i3);
l1 = new JLabel(i2);
```

```
b1.setBounds(1050,250,200,60);
l1.setBounds(0, 0, 1366, 390);

l1.add(b1);
add(l1);

b1.addActionListener(this);
}

public void actionPerformed(ActionEvent ae){
new Login_user().setVisible(true);
this.setVisible(false);

}

public static void main(String[] args) {
LibraryManagementSystem window = new LibraryManagementSystem();
window.setVisible(true);
}
}
```

- **Login Page**




```
package library.management.system;

import java.awt.*;
import javax.swing.*;
import java.awt.event.*;
```

```
public class LibraryManagementSystem extends JFrame implements ActionListener{

    JLabel l1;
    JButton b1;

    public LibraryManagementSystem() {

        setSize(1366,390);
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l1 = new JLabel("");
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        Image i3 = i1.getImage().getScaledInstance(1366, 390,Image.SCALE_DEFAULT);
        ImageIcon i2 = new ImageIcon(i3);
        l1 = new JLabel(i2);

        b1.setBounds(1050,250,200,60);
l1.setBounds(0, 0, 1366, 390);

        l1.add(b1);
add(l1);

        b1.addActionListener(this);
}

    public void actionPerformed(ActionEvent ae){
        new Login_user().setVisible(true);
        this.setVisible(false);

    }

    public static void main(String[] args) {
        LibraryManagementSystem window = new LibraryManagementSystem();
        window.setVisible(true);
}
}
```
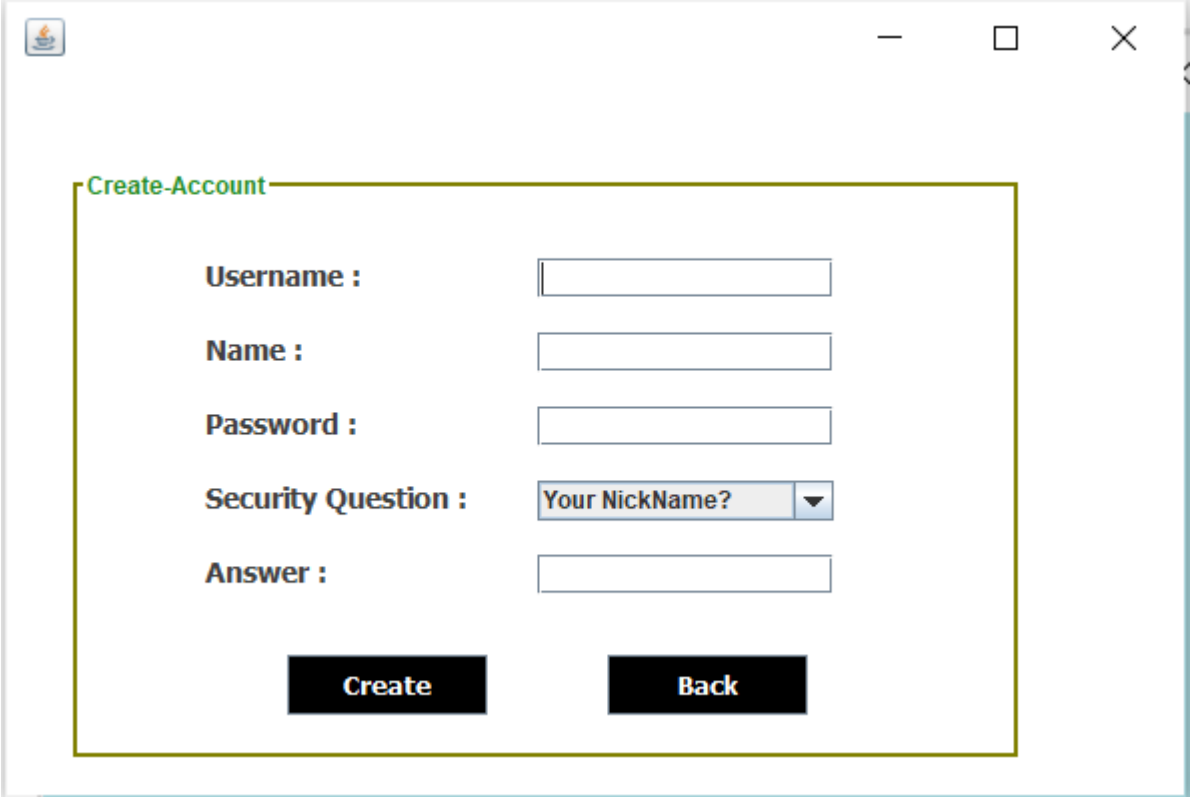

- **SignUp Page**

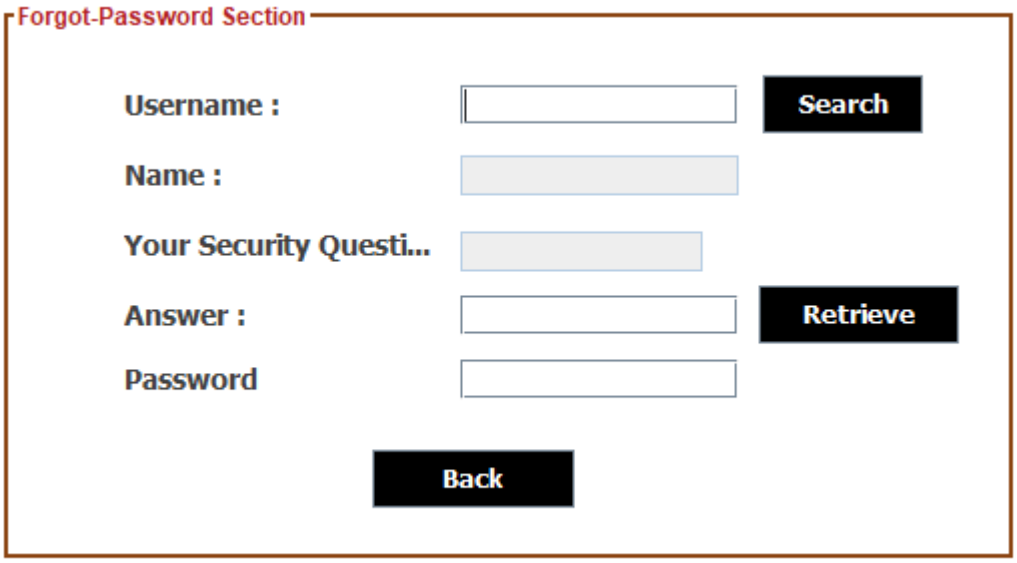



```
package library.management.system;

import java.awt.*;
import javax.swing.*;
import java.sql.*;
import java.awt.event.*;
import javax.swing.border.*;

public class Signup extends JFrame implements ActionListener{

    private JPanel contentPane;
    private JTextField textField;
    private JTextField textField_1;
    private JTextField textField_2;
    private JTextField textField_3;
    private JButton b1, b2;
    private JComboBox comboBox;


    public static void main(String[] args) {
        new Signup().setVisible(true);
    }

    public Signup() {
        setBounds(600, 250, 606, 406);
        contentPane = new JPanel();
        contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
        setContentPane(contentPane);
```

```
 contentPane.setBackground(Color.WHITE);
contentPane.setLayout(null);

JLabel lblUsername = new JLabel("Username :");
lblUsername.setForeground(Color.DARK_GRAY);
lblUsername.setFont(new Font("Tahoma", Font.BOLD, 14));
lblUsername.setBounds(99, 86, 92, 26);
contentPane.add(lblUsername);

JLabel lblName = new JLabel("Name :");
lblName.setForeground(Color.DARK_GRAY);
lblName.setFont(new Font("Tahoma", Font.BOLD, 14));
lblName.setBounds(99, 123, 92, 26);
contentPane.add(lblName);

JLabel lblPassword = new JLabel("Password :");
lblPassword.setForeground(Color.DARK_GRAY);
lblPassword.setFont(new Font("Tahoma", Font.BOLD, 14));
lblPassword.setBounds(99, 160, 92, 26);
contentPane.add(lblPassword);

JLabel lblAnswer = new JLabel("Answer :");
lblAnswer.setForeground(Color.DARK_GRAY);
lblAnswer.setFont(new Font("Tahoma", Font.BOLD, 14));
lblAnswer.setBounds(99, 234, 92, 26);
contentPane.add(lblAnswer);

comboBox = new JComboBox();
comboBox.setModel(new DefaultComboBoxModel(new String[] { "Your NickName?", "Your Lucky Number?",
        "Your child SuperHero?", "Your childhood Name ?" }));
comboBox.setBounds(265, 202, 148, 20);
contentPane.add(comboBox);

JLabel lblSecurityQuestion = new JLabel("Security Question :");
lblSecurityQuestion.setForeground(Color.DARK_GRAY);
lblSecurityQuestion.setFont(new Font("Tahoma", Font.BOLD, 14));
lblSecurityQuestion.setBounds(99, 197, 140, 26);
contentPane.add(lblSecurityQuestion);

 textField = new JTextField();
textField.setBounds(265, 91, 148, 20);
contentPane.add(textField);
textField.setColumns(10);

textField_1 = new JTextField();
textField_1.setColumns(10);
textField_1.setBounds(265, 128, 148, 20);
contentPane.add(textField_1);

 textField_2 = new JTextField();
textField_2.setColumns(10);
textField_2.setBounds(265, 165, 148, 20);
contentPane.add(textField_2);

textField_3 = new JTextField();
textField_3.setColumns(10);
textField_3.setBounds(265, 239, 148, 20);
contentPane.add(textField_3);

b1 = new JButton("Create");
```

```
        b1.addActionListener(this);
        b1.setFont(new Font("Tahoma", Font.BOLD, 13));
        b1.setBounds(140, 289, 100, 30);
         b1.setBackground(Color.BLACK);
         b1.setForeground(Color.WHITE);
        contentPane.add(b1);

        b2 = new JButton("Back");
        b2.addActionListener(this);
        b2.setFont(new Font("Tahoma", Font.BOLD, 13));
        b2.setBounds(300, 289, 100, 30);
        b2.setBackground(Color.BLACK);
         b2.setForeground(Color.WHITE);
        contentPane.add(b2);

        JPanel panel = new JPanel();
        panel.setForeground(new Color(34, 139, 34));
        panel.setBorder(new TitledBorder(new LineBorder(new Color(128, 128, 0), 2), "Create-Account",
                TitledBorder.LEADING, TitledBorder.TOP, null, new Color(34, 139, 34)));
        panel.setBounds(31, 46, 476, 296);
         panel.setBackground(Color.WHITE);
        contentPane.add(panel);
    }

    public void actionPerformed(ActionEvent ae){
        try{
            conn con = new conn();

            if(ae.getSource() == b1){
                String sql = "insert into account(username, name, password, sec_q, sec_ans) values(?, ?, ?, ?, ?)";
                    PreparedStatement st = con.c.prepareStatement(sql);

                    st.setString(1, textField.getText());
                st.setString(2, textField_1.getText());
                    st.setString(3, textField_2.getText());
                    st.setString(4, (String) comboBox.getSelectedItem());
                    st.setString(5, textField_3.getText());

                    int i = st.executeUpdate();
                    if (i > 0){
                    JOptionPane.showMessageDialog(null, "successfully Created");
                }

                textField.setText("");
                textField_1.setText("");
                    textField_2.setText("");
                    textField_3.setText("");
            }
            if(ae.getSource() == b2){
                this.setVisible(false);
                    new Login_user().setVisible(true);

            }
        }catch(Exception e){

        }
    }
}
```

- **Forget Password**



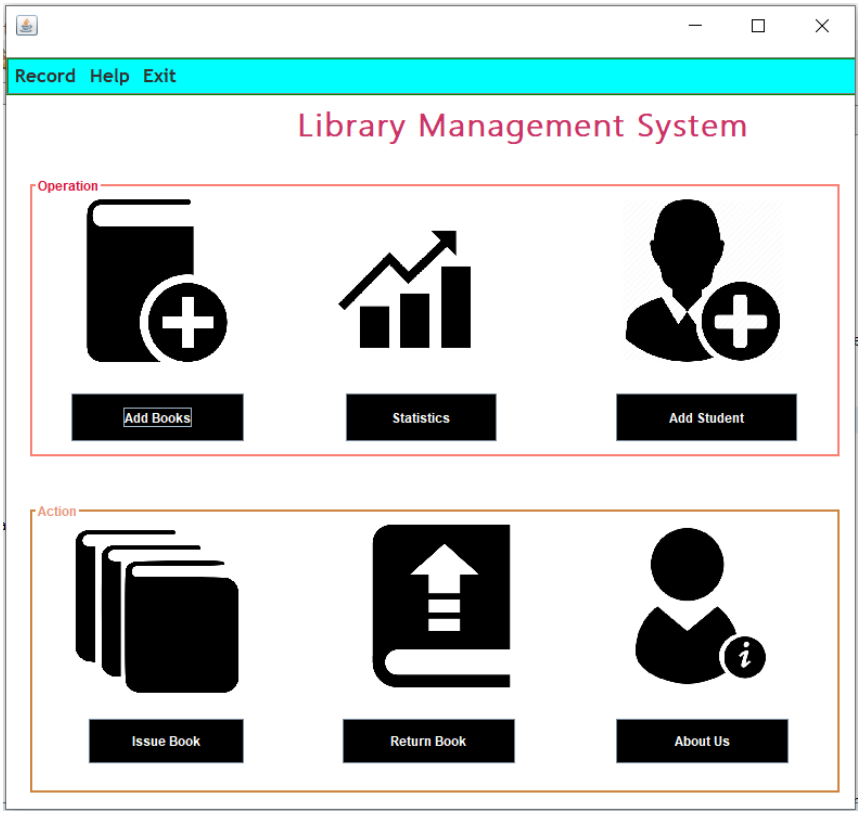

```
package library.management.system;

import java.awt.*;
import javax.swing.*;
import javax.swing.border.*;
import java.sql.*;
import java.awt.event.*;

public class Forgot extends JFrame implements ActionListener{

    private JPanel contentPane;
    private JTextField t1,t2,t3,t4,t5;
    private JButton b1,b2,b3;

    public static void main(String[] args) {
      new Forgot().setVisible(true);
    }

    public Forgot() {

       setBounds(500, 200, 650, 500);
      contentPane = new JPanel();
      contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
      setContentPane(contentPane);
        contentPane.setBackground(Color.WHITE);
      contentPane.setLayout(null);

      JLabel l1 = new JLabel("Username");
      l1.setFont(new Font("Tahoma", Font.BOLD, 13));
      l1.setBounds(109, 83, 87, 29);
      contentPane.add(l1);

      JLabel l2 = new JLabel("Name");
```

```
l2.setFont(new Font("Tahoma", Font.BOLD, 13));
l2.setBounds(109, 122, 75, 21);
contentPane.add(l2);

JLabel l3 = new JLabel("Your Security Question");
l3.setFont(new Font("Tahoma", Font.BOLD, 13));
l3.setBounds(109, 154, 156, 27);
contentPane.add(l3);

JLabel l4 = new JLabel("Answer");
l4.setFont(new Font("Tahoma", Font.BOLD, 13));
l4.setBounds(109, 192, 104, 21);
contentPane.add(l4);

JLabel l5 = new JLabel("Password");
l5.setFont(new Font("Tahoma", Font.BOLD, 13));
l5.setBounds(109, 224, 104, 21);
contentPane.add(l5);

t1 = new JTextField();
t1.setFont(new Font("Tahoma", Font.BOLD, 13));
t1.setForeground(new Color(105, 105, 105));
t1.setBounds(277, 88, 139, 20);
contentPane.add(t1);
t1.setColumns(10);

t2 = new JTextField();
t2.setEditable(false);
t2.setFont(new Font("Tahoma", Font.BOLD, 13));
t2.setForeground(new Color(165, 42, 42));
t2.setColumns(10);
t2.setBounds(277, 123, 139, 20);
contentPane.add(t2);

t3 = new JTextField();
t3.setEditable(false);
t3.setFont(new Font("Tahoma", Font.BOLD, 12));
t3.setForeground(new Color(72, 61, 139));
t3.setColumns(10);
t3.setBounds(277, 161, 221, 20);
contentPane.add(t3);

t4 = new JTextField();
t4.setFont(new Font("Tahoma", Font.BOLD, 13));
t4.setForeground(new Color(205, 92, 92));
t4.setColumns(10);
t4.setBounds(277, 193, 139, 20);
contentPane.add(t4);

t5 = new JTextField();
t5.setEditable(false);
t5.setFont(new Font("Tahoma", Font.BOLD, 13));
t5.setForeground(new Color(50, 205, 50));
t5.setColumns(10);
t5.setBounds(277, 225, 139, 20);
contentPane.add(t5);

b1 = new JButton("Search");
b1.addActionListener(this);
b1.setFont(new Font("Tahoma", Font.BOLD, 12));
```

```
 b1.setBounds(428, 83, 80, 29);
 b1.setBackground(Color.BLACK);
  b1.setForeground(Color.WHITE);
  contentPane.add(b1);

 b2 = new JButton("Retrieve");
 b2.addActionListener(this);
 b2.setFont(new Font("Tahoma", Font.BOLD, 12));
 b2.setBounds(426, 188, 85, 29);
 b2.setBackground(Color.BLACK);
  b2.setForeground(Color.WHITE);
 contentPane.add(b2);

 b3 = new JButton("Back");
 b3.addActionListener(this);
 b3.setFont(new Font("Tahoma", Font.BOLD, 13));
 b3.setBounds(233, 270, 101, 29);
  b3.setBackground(Color.BLACK);
  b3.setForeground(Color.WHITE);
 contentPane.add(b3);

 JPanel panel = new JPanel();
 panel.setBorder(new TitledBorder(new LineBorder(new Color(139, 69, 19), 2), "Forgot-Panel",
  TitledBorder.LEADING, TitledBorder.TOP, null, new Color(178, 34, 34)));
 panel.setBounds(47, 45, 508, 281);
  panel.setBackground(Color.WHITE);
 contentPane.add(panel);
}

public void actionPerformed(ActionEvent ae){
   try{
       conn con = new conn();
       if(ae.getSource() == b1){
          String sql = "select * from account where username=?";
 PreparedStatement st = con.c.prepareStatement(sql);

 st.setString(1, t1.getText());
 ResultSet rs = st.executeQuery();

 while (rs.next()) {
             t2.setText(rs.getString("name"));
             t3.setText(rs.getString("sec_q"));
 }

       }
       if(ae.getSource() == b2){
          String sql = "select * from account where sec_ans=?";
 PreparedStatement st = con.c.prepareStatement(sql);

 st.setString(1, t4.getText());
 ResultSet rs = st.executeQuery();

 while (rs.next()) {
               t5.setText(rs.getString("password"));
 }

       }
       if(ae.getSource() == b3){
          this.setVisible(false);
 new Login_user().setVisible(true);
```

```
            }
        }catch(Exception e){

        }
    }

}
```

- **Dashboard Page**




```
package library.management.system;

import javax.swing.*;
import javax.swing.border.*;
import java.awt.*;
import java.awt.event.*;

public class Home extends JFrame implements ActionListener{

    private JPanel contentPane;
  private JButton b1,b2,b3,b4,b5,b6;

    public static void main(String[] args) {
    new Home().setVisible(true);
    }

  public Home() {
```

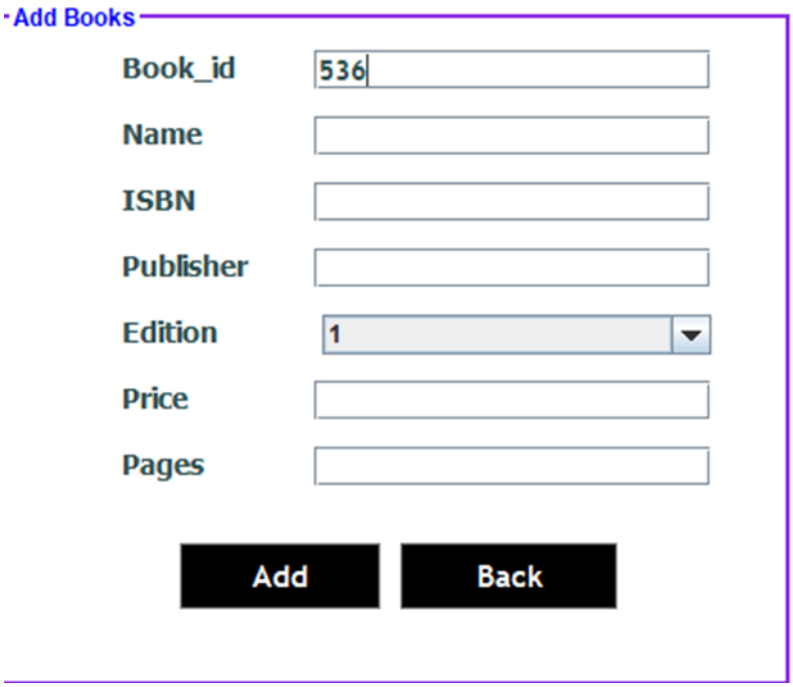
```
setBounds(400, 150, 1000, 800);
contentPane = new JPanel();
setContentPane(contentPane);
contentPane.setLayout(null);


JMenuBar menuBar = new JMenuBar();
menuBar.setBorder(new EtchedBorder(EtchedBorder.LOWERED, new Color(0, 128, 0), new Color(128, 128, 128)));
menuBar.setBackground(Color.CYAN);
menuBar.setBounds(0, 10, 1000, 35);
contentPane.add(menuBar);

JMenu mnExit = new JMenu("Exit");
mnExit.setFont(new Font("Trebuchet MS", Font.BOLD, 17));


JMenuItem mntmLogout = new JMenuItem("Logout");
mntmLogout.setBackground(new Color(211, 211, 211));
mntmLogout.setForeground(new Color(105, 105, 105));
mntmLogout.addActionListener(this);
mnExit.add(mntmLogout);

JMenuItem mntmExit = new JMenuItem("Exit");
mntmExit.setForeground(new Color(105, 105, 105));
mntmExit.setBackground(new Color(211, 211, 211));
mntmExit.addActionListener(this);
mnExit.add(mntmExit);



JMenu mnHelp = new JMenu("Help");
mnHelp.setFont(new Font("Trebuchet MS", Font.BOLD, 17));


JMenuItem mntmReadme = new JMenuItem("Read Me");
mntmReadme.setBackground(new Color(211, 211, 211));
mntmReadme.setForeground(new Color(105, 105, 105));
mnHelp.add(mntmReadme);

JMenuItem mntmAboutUs = new JMenuItem("About Us");
mntmAboutUs.setForeground(new Color(105, 105, 105));
mntmAboutUs.setBackground(new Color(211, 211, 211));
mntmAboutUs.addActionListener(this);
mnHelp.add(mntmAboutUs);

JMenu mnRecord = new JMenu("Record");
mnRecord.setFont(new Font("Trebuchet MS", Font.BOLD, 17));


JMenuItem bookdetails = new JMenuItem("Book Details");
bookdetails.addActionListener(this);
bookdetails.setBackground(new Color(211, 211, 211));
bookdetails.setForeground(Color.DARK_GRAY);
mnRecord.add(bookdetails);

JMenuItem studentdetails = new JMenuItem("Student Details");
studentdetails.setBackground(new Color(211, 211, 211));
studentdetails.setForeground(Color.DARK_GRAY);
studentdetails.addActionListener(this);
mnRecord.add(studentdetails);
```

```
menuBar.add(mnRecord);
menuBar.add(mnHelp);
menuBar.add(mnExit);


JLabel l1 = new JLabel("Library Management System");
l1.setForeground(new Color(204, 51, 102));
l1.setFont(new Font("Segoe UI Semilight", Font.BOLD, 30));
l1.setBounds(268, 30, 701, 80);
contentPane.add(l1);

JLabel l2 = new JLabel("");
l2.setVerticalAlignment(SwingConstants.TOP);
ImageIcon i1  = new ImageIcon(ClassLoader.getSystemResource("library/management/system/icons/second.png"));
Image i2 = i1.getImage().getScaledInstance(150, 150,Image.SCALE_DEFAULT);
ImageIcon i3 = new ImageIcon(i2);
l2 = new JLabel(i3);
l2.setBounds(60, 140, 159, 152);
contentPane.add(l2);

JLabel l3 = new JLabel("");
ImageIcon i4  = new ImageIcon(ClassLoader.getSystemResource("library/management/system/icons/third.png"));
Image i5 = i4.getImage().getScaledInstance(200, 200,Image.SCALE_DEFAULT);
ImageIcon i6 = new ImageIcon(i5);
l3 = new JLabel(i6);
l3.setBounds(300, 160, 134, 128);
contentPane.add(l3);

JLabel l4 = new JLabel("");
ImageIcon i7  = new ImageIcon(ClassLoader.getSystemResource("library/management/system/icons/fourth.png"));
Image i8 = i7.getImage().getScaledInstance(150, 150,Image.SCALE_DEFAULT);
ImageIcon i9 = new ImageIcon(i8);
l4 = new JLabel(i9);
l4.setBounds(530, 140, 225, 152);
contentPane.add(l4);

b1 = new JButton("Add Books");
b1.addActionListener(this);
b1.setBackground(Color.BLACK);
b1.setForeground(Color.WHITE);
b1.setBounds(60, 320, 159, 44);
contentPane.add(b1);

b2 = new JButton("Statistics");
b2.addActionListener(this);
b2.setBackground(Color.BLACK);
b2.setForeground(Color.WHITE);
b2.setBounds(313, 320, 139, 44);
contentPane.add(b2);

b3 = new JButton("Add Student");
b3.addActionListener(this);
b3.setBackground(Color.BLACK);
b3.setForeground(Color.WHITE);
b3.setBounds(562, 320, 167, 44);
contentPane.add(b3);

JPanel panel = new JPanel();
panel.setBorder(new TitledBorder(new LineBorder(new Color(250, 128, 114), 2), "Operation", TitledBorder.LEADING,
```

```
                TitledBorder.TOP, null, new Color(220, 20, 60)));
panel.setBounds(20, 120, 750, 260);
panel.setBackground(Color.WHITE);
contentPane.add(panel);

b4 = new JButton("Issue Book");
b4.addActionListener(this);
b4.setBackground(Color.BLACK);
b4.setForeground(Color.WHITE);
b4.setBounds(76, 620, 143, 41);
contentPane.add(b4);

b5 = new JButton("Return Book");
b5.addActionListener(this);
b5.setBackground(Color.BLACK);
b5.setForeground(Color.WHITE);
b5.setBounds(310, 620, 159, 41);
contentPane.add(b5);

b6 = new JButton("About Us");
b6.addActionListener(this);
b6.setBackground(Color.BLACK);
b6.setForeground(Color.WHITE);
b6.setBounds(562, 620, 159, 41);
contentPane.add(b6);

JLabel l5 = new JLabel("");
ImageIcon i10  = new ImageIcon(ClassLoader.getSystemResource("library/management/system/icons/fifth.png"));
Image i11 = i10.getImage().getScaledInstance(150, 150,Image.SCALE_DEFAULT);
ImageIcon i12 = new ImageIcon(i11);
l5 = new JLabel(i12);
l5.setBounds(60, 440, 159, 163);
contentPane.add(l5);

JLabel l6 = new JLabel("");
ImageIcon i13  = new ImageIcon(ClassLoader.getSystemResource("library/management/system/icons/sixth.png"));
Image i14 = i13.getImage().getScaledInstance(150, 150,Image.SCALE_DEFAULT);
ImageIcon i15 = new ImageIcon(i14);
l6 = new JLabel(i15);
l6.setBounds(332, 440, 139, 152);
contentPane.add(l6);

JLabel l7 = new JLabel("");
ImageIcon i16  = new ImageIcon(ClassLoader.getSystemResource("library/management/system/icons/seventh.png"));
Image i17 = i16.getImage().getScaledInstance(150, 150,Image.SCALE_DEFAULT);
ImageIcon i18 = new ImageIcon(i17);
l7 = new JLabel(i18);
l7.setBounds(562, 440, 157, 152);
contentPane.add(l7);

JPanel panel2 = new JPanel();
panel2.setBorder(new TitledBorder(new LineBorder(new Color(205, 133, 63), 2), "Action", TitledBorder.LEADING,
                TitledBorder.TOP, null, new Color(233, 150, 122)));
panel2.setBounds(20, 420, 750, 270);
panel2.setBackground(Color.WHITE);
contentPane.add(panel2);

getContentPane().setBackground(Color.WHITE);
contentPane.setBackground(Color.WHITE);
}
```

```
    public void actionPerformed(ActionEvent ae){
        String msg = ae.getActionCommand();
        if(msg.equals("Logout")){
            setVisible(false);
                new Login_user().setVisible(true);
        }else if(msg.equals("Exit")){
            System.exit(ABORT);

        }else if(msg.equals("Read Me")){

        }else if(msg.equals("About Us")){
            setVisible(false);
                new aboutUs().setVisible(true);

        }else if(msg.equals("Book Details")){
            setVisible(false);
                new BookDetails().setVisible(true);
        }else if(msg.equals("Student Details")){
            setVisible(false);
            new StudentDetails().setVisible(true);

        }

        if(ae.getSource() == b1){
            this.setVisible(false);
            new AddBook().setVisible(true);
        }
        if(ae.getSource() == b2){
            this.setVisible(false);
            new Statistics().setVisible(true);
        }
        if(ae.getSource() == b3){
            this.setVisible(false);
            new AddStudent().setVisible(true);
        }
        if(ae.getSource() == b4){
            this.setVisible(false);
            new IssueBook().setVisible(true);
        }
        if(ae.getSource() == b5){
            this.setVisible(false);
            new ReturnBook().setVisible(true);

        }
        if(ae.getSource() == b6){
            this.setVisible(false);
            new aboutUs().setVisible(true);

        }

    }
}
```

- **Add Book Page**



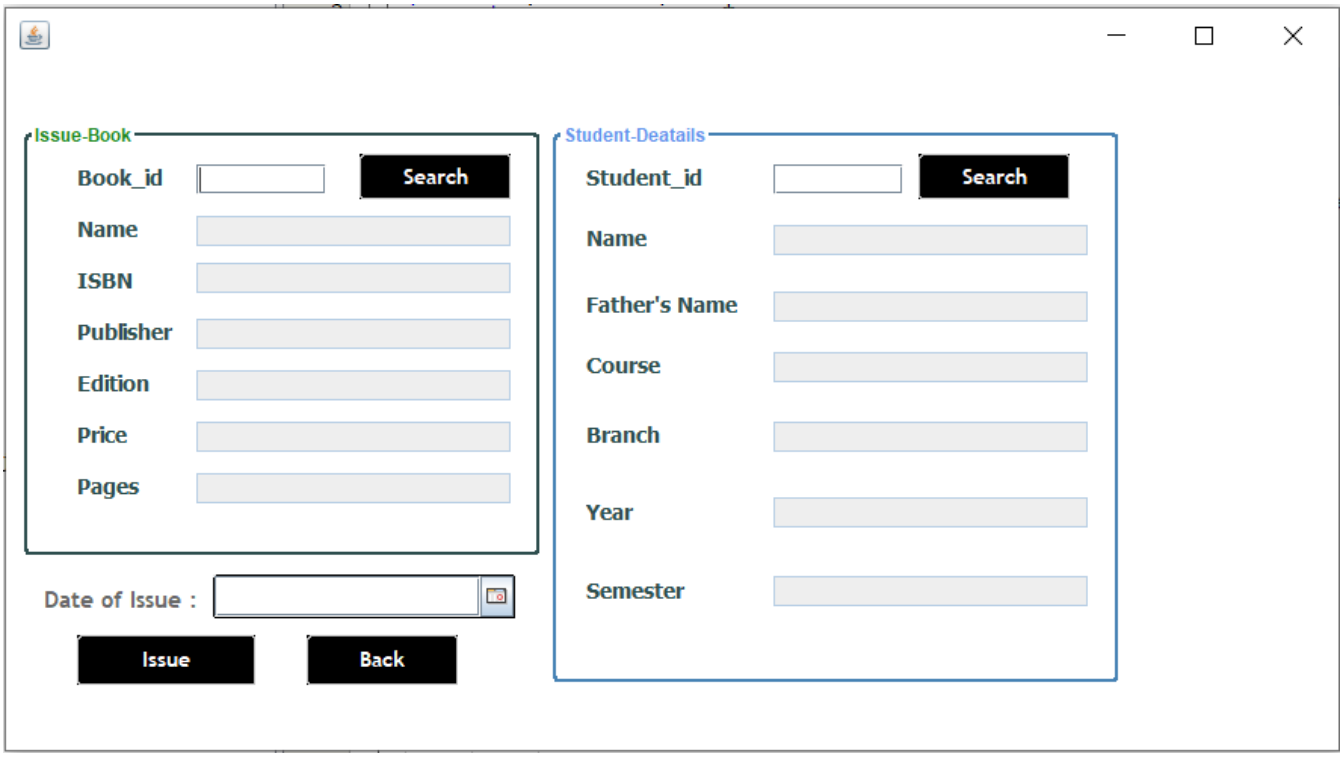

```
package library.management.system;

import java.awt.*;
import javax.swing.*;
import javax.swing.border.*;
import java.awt.event.*;
import java.sql.*;
import java.util.*;

public class AddBook extends JFrame implements ActionListener{

    private JPanel contentPane;
    private JTextField t1,t2,t3,t4,t5,t6;
    private JButton b1,b2;
    JComboBox comboBox;

    public static void main(String[] args) {
      new AddBook().setVisible(true);
    }

    public void random() {
        Random rd = new Random();
      t1.setText("" + rd.nextInt(1000 + 1));
    }

    public AddBook() {
        setBounds(600, 200, 518, 442);
      contentPane = new JPanel();
      contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
      setContentPane(contentPane);
      contentPane.setLayout(null);
```

```
JLabel l1 = new JLabel("Name");
l1.setForeground(new Color(47, 79, 79));
l1.setFont(new Font("Tahoma", Font.BOLD, 14));
l1.setBounds(73, 84, 90, 22);
contentPane.add(l1);

JLabel l2 = new JLabel("ISBN");
l2.setForeground(new Color(47, 79, 79));
l2.setFont(new Font("Tahoma", Font.BOLD, 14));
l2.setBounds(73, 117, 90, 22);
contentPane.add(l2);

JLabel l3 = new JLabel("Publisher");
l3.setForeground(new Color(47, 79, 79));
l3.setFont(new Font("Tahoma", Font.BOLD, 14));
l3.setBounds(73, 150, 90, 22);
contentPane.add(l3);

JLabel l4 = new JLabel("Price");
l4.setForeground(new Color(47, 79, 79));
l4.setFont(new Font("Tahoma", Font.BOLD, 14));
l4.setBounds(73, 216, 90, 22);
contentPane.add(l4);

JLabel l5 = new JLabel("Pages");
l5.setForeground(new Color(47, 79, 79));
l5.setFont(new Font("Tahoma", Font.BOLD, 14));
l5.setBounds(73, 249, 90, 22);
contentPane.add(l5);

JLabel l6 = new JLabel("Book_id");
l6.setForeground(new Color(47, 79, 79));
l6.setFont(new Font("Tahoma", Font.BOLD, 14));
l6.setBounds(73, 51, 90, 22);
contentPane.add(l6);

JLabel l7 = new JLabel("Edition");
l7.setForeground(new Color(47, 79, 79));
l7.setFont(new Font("Tahoma", Font.BOLD, 14));
l7.setBounds(73, 183, 90, 22);
contentPane.add(l7);

t1 = new JTextField();
t1.setForeground(new Color(47, 79, 79));
t1.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
t1.setBounds(169, 54, 198, 20);
contentPane.add(t1);
t1.setColumns(10);

t2 = new JTextField();
t2.setForeground(new Color(47, 79, 79));
t2.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
t2.setColumns(10);
t2.setBounds(169, 87, 198, 20);
contentPane.add(t2);

t3 = new JTextField();
t3.setForeground(new Color(47, 79, 79));
t3.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
```

```
t3.setColumns(10);
t3.setBounds(169, 120, 198, 20);
contentPane.add(t3);

t4 = new JTextField();
t4.setForeground(new Color(47, 79, 79));
t4.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
t4.setColumns(10);
t4.setBounds(169, 153, 198, 20);
contentPane.add(t4);

 t5 = new JTextField();
t5.setForeground(new Color(47, 79, 79));
t5.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
t5.setColumns(10);
t5.setBounds(169, 219, 198, 20);
contentPane.add(t5);

t6 = new JTextField();
t6.setForeground(new Color(47, 79, 79));
t6.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
t6.setColumns(10);
t6.setBounds(169, 252, 198, 20);
contentPane.add(t6);

comboBox = new JComboBox();
comboBox.setModel(new DefaultComboBoxModel(new String[] { "1", "2", "3", "4", "5", "6", "7", "8", "9" }));
comboBox.setBounds(173, 186, 194, 20);
contentPane.add(comboBox);

 b1 = new JButton("Add");
b1.addActionListener(this);
b1.setBorder(new CompoundBorder(new LineBorder(new Color(128, 128, 128)), null));
 b1.setFont(new Font("Trebuchet MS", Font.BOLD, 15));
b1.setBounds(102, 300, 100, 33);
 b1.setBackground(Color.BLACK);
 b1.setForeground(Color.WHITE);
contentPane.add(b1);

b2 = new JButton("Back");
b2.addActionListener(this);
b2.setBorder(new CompoundBorder(new LineBorder(new Color(105, 105, 105)), null));
b2.setFont(new Font("Trebuchet MS", Font.BOLD, 15));
b2.setBounds(212, 300, 108, 33);
 b2.setBackground(Color.BLACK);
 b2.setForeground(Color.WHITE);

contentPane.add(b2);

JPanel panel = new JPanel();
panel.setBorder(new TitledBorder(new LineBorder(new Color(138, 43, 226), 2), "Add Books", TitledBorder.LEADING,
     TitledBorder.TOP, null, new Color(0, 0, 255)));
panel.setBounds(10, 29, 398, 344);
contentPane.add(panel);

 panel.setBackground(Color.WHITE);
 contentPane.setBackground(Color.WHITE);
random();

}
```

```
    public void actionPerformed(ActionEvent ae){
        try{
            conn con = new conn();
            if(ae.getSource() == b1){
                String sql = "insert into book(book_id, name, isbn, publisher, edition, price, pages) values(?, ?, ?, ?, ?, ?, ?)";
             PreparedStatement st = con.c.prepareStatement(sql);
                // st.setInt(1, Integer.parseInt(textField.getText()));
             st.setString(1, t1.getText());
             st.setString(2, t2.getText());
             st.setString(3, t3.getText());
             st.setString(4, t4.getText());
             st.setString(5, (String) comboBox.getSelectedItem());
             st.setString(6, t5.getText());
             st.setString(7, t6.getText());

             int rs = st.executeUpdate();
             if (rs > 0)
                    JOptionPane.showMessageDialog(null, "Successfully Added");
             else
                    JOptionPane.showMessageDialog(null, "Error");
                t1.setText("");
                t2.setText("");
                t3.setText("");
                t4.setText("");
                t5.setText("");
                t6.setText("");
             st.close();
            }
            if(ae.getSource() == b2){
                this.setVisible(false);
             new Home().setVisible(true);

            }
            con.c.close();
        }catch(Exception e){

        }
    }
}
```

- **Issue-Book Page**




```
package library.management.system;

import java.awt.*;
import javax.swing.*;
import javax.swing.border.*;
import com.toedter.calendar.JDateChooser;
import java.awt.event.*;
import java.sql.*;

public class IssueBook extends JFrame implements ActionListener{

    private JPanel contentPane;
    JDateChooser dateChooser;
    private JTextField t1,t2,t3,t4,t5,t6,t7,t8,t9,t10,t11,t12,t13,t14;
    private JButton b1,b2,b3,b4;

    public static void main(String[] args) {
                new IssueBook().setVisible(true);

    }

    public IssueBook() {
       setBounds(300, 200, 900, 500);
                contentPane = new JPanel();
                contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
                setContentPane(contentPane);
       contentPane.setBackground(Color.WHITE);
                contentPane.setLayout(null);
```

```
        JLabel l1 = new JLabel("Book_id");
        l1.setFont(new Font("Tahoma", Font.BOLD, 14));
        l1.setForeground(new Color(47, 79, 79));
        l1.setBounds(47, 63, 100, 23);
        contentPane.add(l1);

        JLabel l2 = new JLabel("Name");
        l2.setForeground(new Color(47, 79, 79));
        l2.setFont(new Font("Tahoma", Font.BOLD, 14));
        l2.setBounds(47, 97, 100, 23);
        contentPane.add(l2);

        JLabel l3 = new JLabel("ISBN");
        l3.setForeground(new Color(47, 79, 79));
        l3.setFont(new Font("Tahoma", Font.BOLD, 14));
        l3.setBounds(47, 131, 100, 23);
        contentPane.add(l3);

        JLabel l4 = new JLabel("Publisher");
        l4.setForeground(new Color(47, 79, 79));
        l4.setFont(new Font("Tahoma", Font.BOLD, 14));
        l4.setBounds(47, 165, 100, 23);
        contentPane.add(l4);

        JLabel l5 = new JLabel("Edition");
        l5.setForeground(new Color(47, 79, 79));
        l5.setFont(new Font("Tahoma", Font.BOLD, 14));
        l5.setBounds(47, 199, 100, 23);
        contentPane.add(l5);

        JLabel l6 = new JLabel("Price");
        l6.setForeground(new Color(47, 79, 79));
        l6.setFont(new Font("Tahoma", Font.BOLD, 14));
        l6.setBounds(47, 233, 100, 23);
        contentPane.add(l6);

        JLabel l7 = new JLabel("Pages");
        l7.setForeground(new Color(47, 79, 79));
        l7.setFont(new Font("Tahoma", Font.BOLD, 14));
        l7.setBounds(47, 267, 100, 23);
        contentPane.add(l7);

        t1 = new JTextField();
        t1.setForeground(new Color(47, 79, 79));
        t1.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        t1.setBounds(126, 66, 86, 20);
        contentPane.add(t1);

        b1 = new JButton("Search");
        b1.addActionListener(this);
        b1.setBorder(new LineBorder(new Color(192, 192, 192), 1, true));
b1.setBackground(Color.BLACK);
b1.setForeground(Color.WHITE);
        b1.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        b1.setBounds(234, 59, 100, 30);

        contentPane.add(b1);

        t2 = new JTextField();
```

```
        t2.setEditable(false);
        t2.setForeground(new Color(47, 79, 79));
        t2.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        t2.setBounds(126, 100, 208, 20);
        contentPane.add(t2);
        t2.setColumns(10);

        t3 = new JTextField();
        t3.setEditable(false);
        t3.setForeground(new Color(47, 79, 79));
        t3.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        t3.setColumns(10);
        t3.setBounds(126, 131, 208, 20);
        contentPane.add(t3);

        t4 = new JTextField();
        t4.setEditable(false);
        t4.setForeground(new Color(47, 79, 79));
        t4.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        t4.setColumns(10);
        t4.setBounds(126, 168, 208, 20);
        contentPane.add(t4);

        t5 = new JTextField();
        t5.setEditable(false);
        t5.setForeground(new Color(47, 79, 79));
        t5.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        t5.setColumns(10);
        t5.setBounds(126, 202, 208, 20);
        contentPane.add(t5);

        t6 = new JTextField();
        t6.setEditable(false);
        t6.setForeground(new Color(47, 79, 79));
        t6.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        t6.setColumns(10);
        t6.setBounds(126, 236, 208, 20);
        contentPane.add(t6);

        t7 = new JTextField();
        t7.setEditable(false);
        t7.setForeground(new Color(47, 79, 79));
        t7.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        t7.setColumns(10);
        t7.setBounds(126, 270, 208, 20);
        contentPane.add(t7);

        JPanel panel = new JPanel();
        panel.setBorder(new TitledBorder(new LineBorder(new Color(47, 79, 79), 2, true), "Issue-Book",
              TitledBorder.LEADING, TitledBorder.TOP, null, new Color(34, 139, 34)));
        panel.setFont(new Font("Tahoma", Font.BOLD, 14));
        panel.setBounds(10, 38, 345, 288);
panel.setBackground(Color.WHITE);
        contentPane.add(panel);

        JLabel l8 = new JLabel("Student_id");
        l8.setForeground(new Color(47, 79, 79));
        l8.setFont(new Font("Tahoma", Font.BOLD, 14));
        l8.setBounds(384, 63, 100, 23);
        contentPane.add(l8);
```

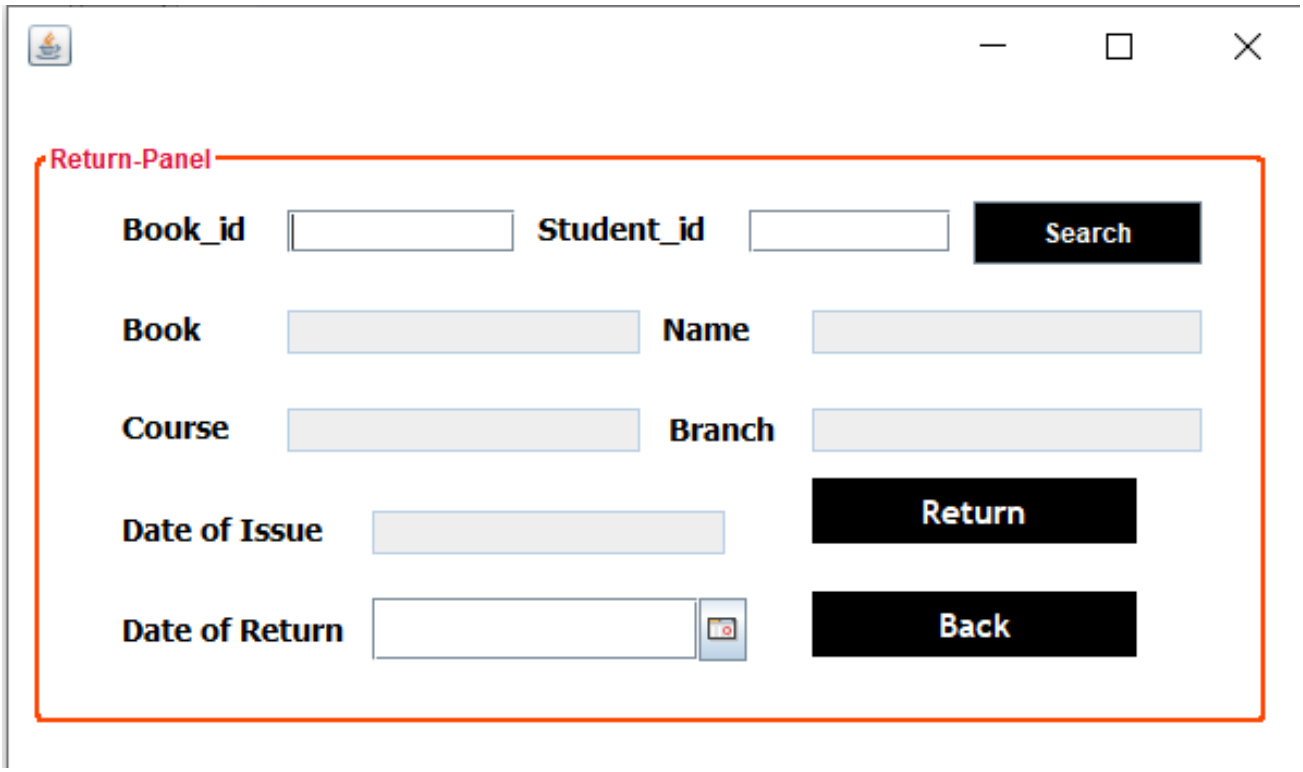
```
        JLabel l9 = new JLabel("Name");
        l9.setForeground(new Color(47, 79, 79));
        l9.setFont(new Font("Tahoma", Font.BOLD, 14));
        l9.setBounds(384, 103, 100, 23);
        contentPane.add(l9);

        JLabel l10 = new JLabel("Father's Name");
        l10.setForeground(new Color(47, 79, 79));
        l10.setFont(new Font("Tahoma", Font.BOLD, 14));
        l10.setBounds(384, 147, 100, 23);
        contentPane.add(l10);

        JLabel l11 = new JLabel("Course");
        l11.setForeground(new Color(47, 79, 79));
        l11.setFont(new Font("Tahoma", Font.BOLD, 14));
        l11.setBounds(384, 187, 100, 23);
        contentPane.add(l11);

        JLabel l12 = new JLabel("Branch");
        l12.setForeground(new Color(47, 79, 79));
        l12.setFont(new Font("Tahoma", Font.BOLD, 14));
        l12.setBounds(384, 233, 100, 23);
        contentPane.add(l12);

        JLabel l13 = new JLabel("Year");
        l13.setForeground(new Color(47, 79, 79));
        l13.setFont(new Font("Tahoma", Font.BOLD, 14));
        l13.setBounds(384, 284, 100, 23);
        contentPane.add(l13);

        JLabel l14 = new JLabel("Semester");
        l14.setForeground(new Color(47, 79, 79));
        l14.setFont(new Font("Tahoma", Font.BOLD, 14));
        l14.setBounds(384, 336, 100, 23);
        contentPane.add(l14);

        t8 = new JTextField();
        t8.setForeground(new Color(47, 79, 79));
        t8.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        t8.setColumns(10);
        t8.setBounds(508, 66, 86, 20);
        contentPane.add(t8);

        b2 = new JButton("Search");
        b2.addActionListener(this);
        b2.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        b2.setBorder(new LineBorder(new Color(192, 192, 192), 1, true));
        b2.setBounds(604, 59, 100, 30);
b2.setBackground(Color.BLACK);
b2.setForeground(Color.WHITE);
        contentPane.add(b2);

        t9 = new JTextField();
        t9.setForeground(new Color(47, 79, 79));
        t9.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        t9.setEditable(false);
        t9.setColumns(10);
        t9.setBounds(508, 106, 208, 20);
        contentPane.add(t9);
```

```
        t10 = new JTextField();
        t10.setForeground(new Color(47, 79, 79));
        t10.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        t10.setEditable(false);
        t10.setColumns(10);
        t10.setBounds(508, 150, 208, 20);
        contentPane.add(t10);

        t11 = new JTextField();
        t11.setForeground(new Color(47, 79, 79));
        t11.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        t11.setEditable(false);
        t11.setColumns(10);
        t11.setBounds(508, 190, 208, 20);
        contentPane.add(t11);

        t12 = new JTextField();
        t12.setForeground(new Color(47, 79, 79));
        t12.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        t12.setEditable(false);
        t12.setColumns(10);
        t12.setBounds(508, 236, 208, 20);
        contentPane.add(t12);

        t13 = new JTextField();
        t13.setForeground(new Color(47, 79, 79));
        t13.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        t13.setEditable(false);
        t13.setColumns(10);
        t13.setBounds(508, 286, 208, 20);
        contentPane.add(t13);

        t14 = new JTextField();
        t14.setForeground(new Color(47, 79, 79));
        t14.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        t14.setEditable(false);
        t14.setColumns(10);
        t14.setBounds(508, 338, 208, 20);
        contentPane.add(t14);

        JPanel panel_1 = new JPanel();
        panel_1.setBorder(new TitledBorder(new LineBorder(new Color(70, 130, 180), 2, true), "Student-Deatails",
            TitledBorder.LEADING, TitledBorder.TOP, null, new Color(100, 149, 237)));
        panel_1.setForeground(new Color(0, 100, 0));
        panel_1.setBounds(360, 38, 378, 372);
panel_1.setBackground(Color.WHITE);
        contentPane.add(panel_1);

        JLabel l15 = new JLabel(" Date of Issue :");
        l15.setForeground(new Color(105, 105, 105));
        l15.setFont(new Font("Trebuchet MS", Font.BOLD, 15));
        l15.setBounds(20, 340, 118, 26);
        contentPane.add(l15);

        dateChooser = new JDateChooser();
        dateChooser.setBorder(new LineBorder(new Color(0, 0, 0), 1, true));
        dateChooser.setForeground(new Color(105, 105, 105));
        dateChooser.setBounds(137, 337, 200, 29);
        contentPane.add(dateChooser);
```

```
            b3 = new JButton("Issue");
            b3.addActionListener(this);
            b3.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
            b3.setBorder(new LineBorder(new Color(192, 192, 192), 1, true));
            b3.setBounds(47, 377, 118, 33);
            b3.setBackground(Color.BLACK);
   b3.setForeground(Color.WHITE);
   contentPane.add(b3);

            b4 = new JButton("Back");
            b4.addActionListener(this);
            b4.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
            b4.setBorder(new LineBorder(new Color(192, 192, 192), 1, true));
            b4.setBounds(199, 377, 100, 33);
            b4.setBackground(Color.BLACK);
   b4.setForeground(Color.WHITE);
   contentPane.add(b4);
}

public void actionPerformed(ActionEvent ae){
   try{
      conn con = new conn();
      if(ae.getSource() == b1){
         String sql = "select * from book where book_id = ?";
               PreparedStatement st = con.c.prepareStatement(sql);
               st.setString(1, t1.getText());
               ResultSet rs = st.executeQuery();

         while (rs.next()) {
            t2.setText(rs.getString("name"));
            t3.setText(rs.getString("isbn"));
            t4.setText(rs.getString("publisher"));
            t5.setText(rs.getString("edition"));
            t6.setText(rs.getString("price"));
            t7.setText(rs.getString("pages"));
               }
               st.close();
               rs.close();

      }
      if(ae.getSource() == b2){
         String sql = "select * from student where student_id = ?";
               PreparedStatement st = con.c.prepareStatement(sql);
               st.setString(1, t8.getText());
               ResultSet rs = st.executeQuery();

         while (rs.next()) {
            t9.setText(rs.getString("name"));
            t10.setText(rs.getString("father"));
            t11.setText(rs.getString("course"));
            t12.setText(rs.getString("branch"));
            t13.setText(rs.getString("year"));
            t14.setText(rs.getString("semester"));
               }
               st.close();
               rs.close();

      }
      if(ae.getSource() == b3){
```

```
            try{
          String sql = "insert into issueBook(book_id, student_id, bname, sname, course, branch, dateOfIssue) values(?, ?, ?, ?, ?, ?, ?)";
                PreparedStatement st = con.c.prepareStatement(sql);
                st.setString(1, t1.getText());
                st.setString(2, t8.getText());
                st.setString(3, t2.getText());
                st.setString(4, t9.getText());
                st.setString(5, t11.getText());
                st.setString(6, t12.getText());
                st.setString(7, ((JTextField) dateChooser.getDateEditor().getUiComponent()).getText());
                int i = st.executeUpdate();
                if (i > 0)
            JOptionPane.showMessageDialog(null, "Successfully Book Issued..!");
                else
            JOptionPane.showMessageDialog(null, "error");
            }catch(Exception e){
               e.printStackTrace();
                    }
        }
        if(ae.getSource() == b4){
           this.setVisible(false);
                new Home().setVisible(true);

        }

        con.c.close();
      }catch(Exception e){

      }
   }
}
```

- **Return Book Page**



```
package library.management.system;

import javax.swing.*;
import javax.swing.border.*;
import java.awt.*;
import com.toedter.calendar.JDateChooser;
import java.awt.event.*;
import java.sql.*;

public class ReturnBook extends JFrame implements ActionListener{

    private JPanel contentPane;
    private JTextField textField;
    private JTextField textField_1;
    private JTextField textField_2;
    private JTextField textField_3;
    private JTextField textField_4;
    private JTextField textField_5;
    private JTextField textField_6;
    private JButton b1,b2,b3;
    private JDateChooser dateChooser;

    public static void main(String[] args) {
                new ReturnBook().setVisible(true);
    }

    public void delete() {
        try {
            conn con = new conn();
            String sql = "delete from issueBook where book_id=?";
            PreparedStatement st = con.c.prepareStatement(sql);
            st.setString(1, textField.getText());
            int i = st.executeUpdate();
            if (i > 0)
                JOptionPane.showConfirmDialog(null, "Book Returned");
            else
                JOptionPane.showMessageDialog(null, "error in Deleting");
        } catch (SQLException e) {
            JOptionPane.showMessageDialog(null, e);
            e.printStackTrace();
                }
    }


    public ReturnBook() {
        setBounds(450, 300, 617, 363);
                contentPane = new JPanel();
                contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
                setContentPane(contentPane);
        contentPane.setBackground(Color.WHITE);
                contentPane.setLayout(null);

                JLabel lblNewLabel = new JLabel("Book_id");
                lblNewLabel.setForeground(new Color(0, 0, 0));
                lblNewLabel.setFont(new Font("Tahoma", Font.BOLD, 14));
                lblNewLabel.setBounds(52, 52, 87, 24);
                contentPane.add(lblNewLabel);
```

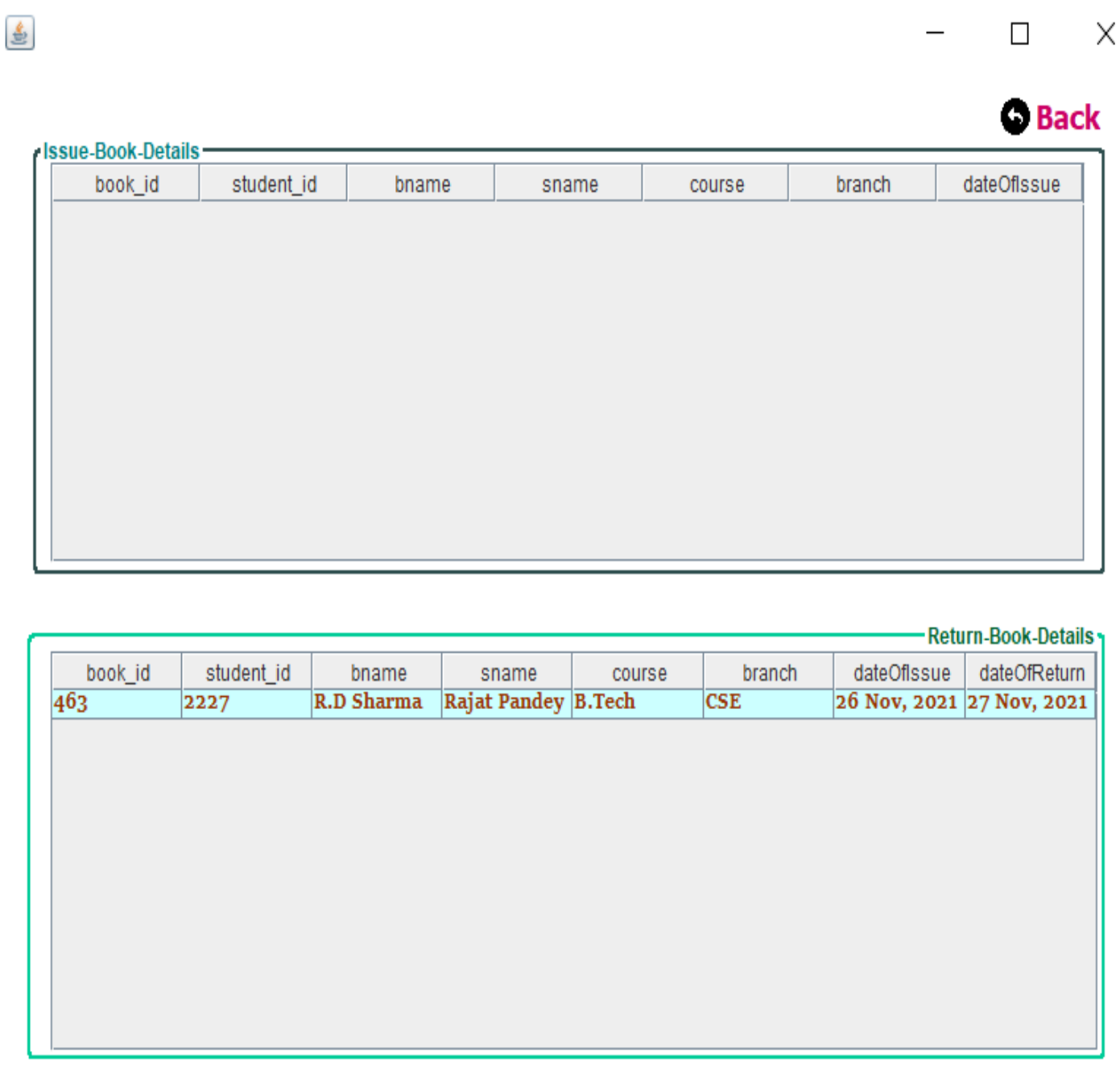
```
        JLabel lblStudentid = new JLabel("Student_id");
        lblStudentid.setForeground(Color.BLACK);
        lblStudentid.setFont(new Font("Tahoma", Font.BOLD, 14));
        lblStudentid.setBounds(243, 52, 87, 24);
        contentPane.add(lblStudentid);

        JLabel lblBook = new JLabel("Book");
        lblBook.setForeground(Color.BLACK);
        lblBook.setFont(new Font("Tahoma", Font.BOLD, 14));
        lblBook.setBounds(52, 98, 71, 24);
        contentPane.add(lblBook);

        JLabel lblName = new JLabel("Name");
        lblName.setForeground(Color.BLACK);
        lblName.setFont(new Font("Tahoma", Font.BOLD, 14));
        lblName.setBounds(300, 98, 71, 24);
        contentPane.add(lblName);

JLabel lblCourse = new JLabel("Course");
        lblCourse.setForeground(Color.BLACK);
        lblCourse.setFont(new Font("Tahoma", Font.BOLD, 14));
        lblCourse.setBounds(52, 143, 87, 24);
        contentPane.add(lblCourse);

JLabel lblBranch = new JLabel("Branch");
        lblBranch.setForeground(Color.BLACK);
        lblBranch.setFont(new Font("Tahoma", Font.BOLD, 14));
        lblBranch.setBounds(303, 144, 68, 24);
        contentPane.add(lblBranch);

        JLabel lblDateOfIssue = new JLabel("Date of Issue");
        lblDateOfIssue.setForeground(Color.BLACK);
        lblDateOfIssue.setFont(new Font("Tahoma", Font.BOLD, 14));
        lblDateOfIssue.setBounds(52, 188, 105, 29);
        contentPane.add(lblDateOfIssue);

        JLabel lblDateOfReturn = new JLabel("Date of Return");
        lblDateOfReturn.setForeground(Color.BLACK);
        lblDateOfReturn.setFont(new Font("Tahoma", Font.BOLD, 14));
        lblDateOfReturn.setBounds(52, 234, 118, 29);
        contentPane.add(lblDateOfReturn);

textField = new JTextField();
        textField.setForeground(new Color(105, 105, 105));
        textField.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        textField.setBounds(128, 56, 105, 20);
        contentPane.add(textField);
        textField.setColumns(10);

        textField_1 = new JTextField();
        textField_1.setForeground(new Color(105, 105, 105));
        textField_1.setFont(new Font("Trebuchet MS", Font.BOLD, 14));
        textField_1.setBounds(340, 56, 93, 20);
        contentPane.add(textField_1);
        textField_1.setColumns(10);

        b1 = new JButton("Search");
        b1.addActionListener(this);
        b1.setBounds(443, 52, 105, 29);
b1.setBackground(Color.BLACK);
```

```
b1.setForeground(Color.WHITE);
        contentPane.add(b1);

        textField_2 = new JTextField();
        textField_2.setEditable(false);
        textField_2.setForeground(new Color(0, 100, 0));
        textField_2.setFont(new Font("Trebuchet MS", Font.BOLD, 13));
        textField_2.setBounds(128, 102, 162, 20);
        contentPane.add(textField_2);
        textField_2.setColumns(10);

        textField_3 = new JTextField();
        textField_3.setEditable(false);
        textField_3.setForeground(new Color(0, 100, 0));
        textField_3.setFont(new Font("Trebuchet MS", Font.BOLD, 13));
        textField_3.setColumns(10);
        textField_3.setBounds(369, 102, 179, 20);
        contentPane.add(textField_3);

textField_4 = new JTextField();
        textField_4.setEditable(false);
        textField_4.setForeground(new Color(0, 100, 0));
        textField_4.setFont(new Font("Trebuchet MS", Font.BOLD, 13));
        textField_4.setColumns(10);
        textField_4.setBounds(128, 147, 162, 20);
        contentPane.add(textField_4);

        textField_5 = new JTextField();
        textField_5.setForeground(new Color(0, 100, 0));
        textField_5.setFont(new Font("Trebuchet MS", Font.BOLD, 13));
        textField_5.setEditable(false);
        textField_5.setColumns(10);
        textField_5.setBounds(369, 147, 179, 20);
        contentPane.add(textField_5);

        textField_6 = new JTextField();
        textField_6.setForeground(new Color(0, 100, 0));
        textField_6.setFont(new Font("Trebuchet MS", Font.BOLD, 13));
        textField_6.setEditable(false);
        textField_6.setColumns(10);
        textField_6.setBounds(167, 194, 162, 20);
        contentPane.add(textField_6);

        dateChooser = new JDateChooser();
        dateChooser.setBorder(new LineBorder(new Color(0, 0, 0), 0, true));
        dateChooser.setBounds(167, 234, 172, 29);
        contentPane.add(dateChooser);

        b2 = new JButton("Return");
        b2.addActionListener(this);
        b2.setFont(new Font("Trebuchet MS", Font.BOLD, 15));
        b2.setBorder(new LineBorder(new Color(0, 0, 0), 0, true));
        b2.setBounds(369, 179, 149, 30);
b2.setBackground(Color.BLACK);
b2.setForeground(Color.WHITE);

        contentPane.add(b2);

        b3 = new JButton("Back");
        b3.addActionListener(this);
```

```
            b3.setFont(new Font("Trebuchet MS", Font.BOLD, 15));
            b3.setBorder(new LineBorder(new Color(0, 0, 0), 0, true));
            b3.setBounds(369, 231, 149, 30);
        b3.setBackground(Color.BLACK);
        b3.setForeground(Color.WHITE);
            contentPane.add(b3);

            JPanel panel = new JPanel();
            panel.setBorder(new TitledBorder(new LineBorder(new Color(255, 69, 0), 2, true), "Return-Panel",
                TitledBorder.LEADING, TitledBorder.TOP, null, new Color(220, 20, 60)));
            panel.setBounds(10, 24, 569, 269);
        panel.setBackground(Color.WHITE);
            contentPane.add(panel);
    }

    public void actionPerformed(ActionEvent ae){
        try{
            conn con = new conn();
            if(ae.getSource() == b1){
                String sql = "select * from issueBook where student_id = ? and book_id =?";
                    PreparedStatement st = con.c.prepareStatement(sql);
                    st.setString(1, textField_1.getText());
                    st.setString(2, textField.getText());
                    ResultSet rs = st.executeQuery();

                while (rs.next()) {
                    textField_2.setText(rs.getString("bname"));
                    textField_3.setText(rs.getString("sname"));
                    textField_4.setText(rs.getString("course"));
                    textField_5.setText(rs.getString("branch"));
                    textField_6.setText(rs.getString("dateOfIssue"));
                        }
                        st.close();
                        rs.close();

            }
            if(ae.getSource() == b2)
String sql = "insert into returnBook(book_id, student_id, bname, sname,course, branch, dateOfIssue, dateOfReturn)
                     values(?, ?, ?, ?, ?, ?, ?, ?)";
                    PreparedStatement st = con.c.prepareStatement(sql);
                    st.setString(1, textField.getText());
                    st.setString(2, textField_1.getText());
                    st.setString(3, textField_2.getText());
                    st.setString(4, textField_3.getText());
                    st.setString(5, textField_4.getText());
                    st.setString(6, textField_5.getText());
                    st.setString(7, textField_6.getText());

                    st.setString(8, ((JTextField) dateChooser.getDateEditor().getUiComponent()).getText());
                    int i = st.executeUpdate();
                    if (i > 0) {
                JOptionPane.showMessageDialog(null, "Processing..");
                delete();
                    } else
                JOptionPane.showMessageDialog(null, "error");

            }
            if(ae.getSource() == b3){
                this.setVisible(false);
                    new Home().setVisible(true);
```

```
            }
        }catch(Exception e){

        }
    }
}
```

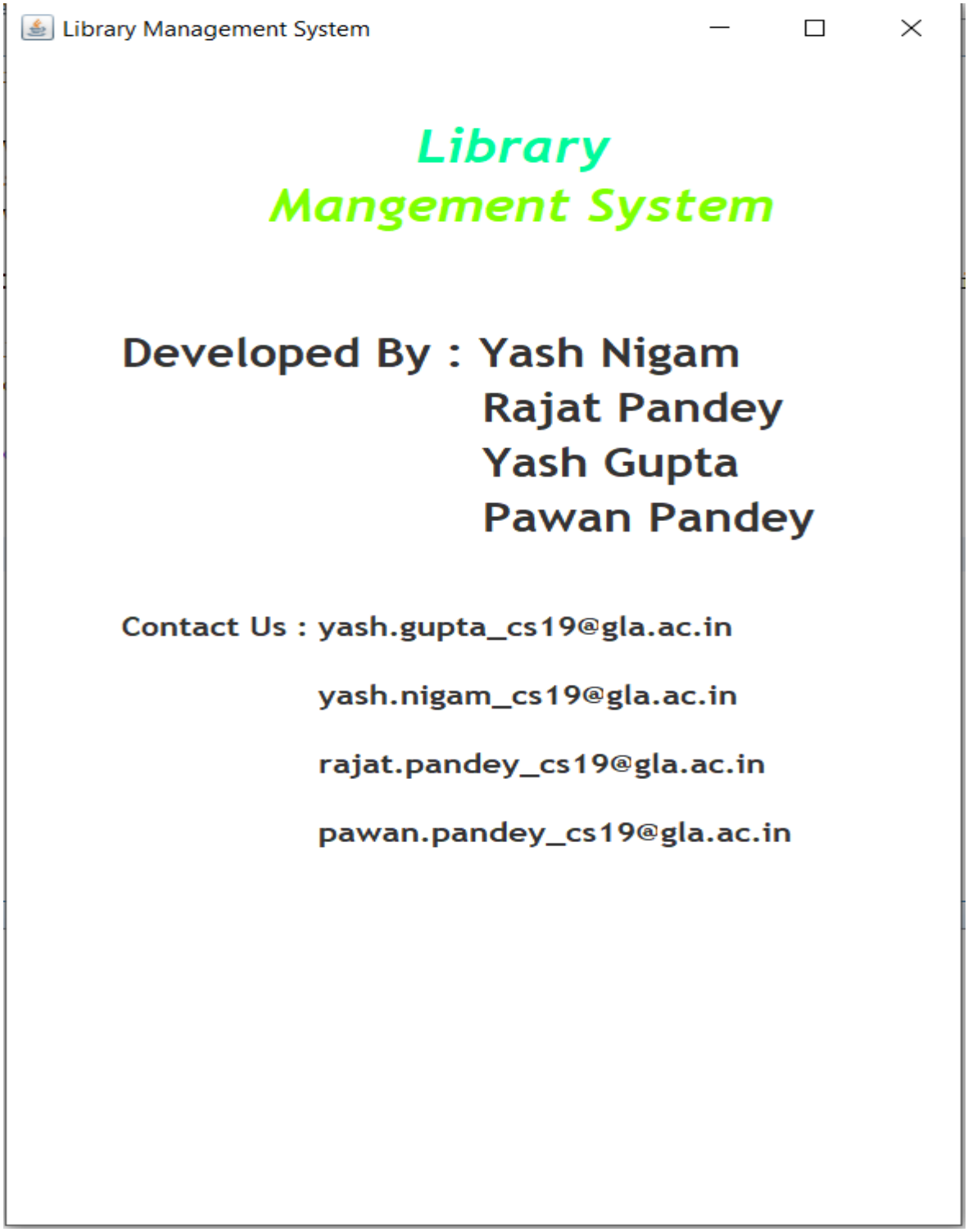
- **Statistics Page**



```
package library.management.system;

import java.awt.*;
import java.sql.*;
import javax.swing.*;
import javax.swing.border.*;
import net.proteanit.sql.DbUtils;
import java.awt.event.*;

public class Statistics extends JFrame{

    private JPanel contentPane;
    private JTable table;
    private JTable table_1;

    public static void main(String[] args) {
        new Statistics().setVisible(true);
    }

    public void issueBook() {
                try {
            conn con =  new conn();
            String sql = "select * from issueBook";
            PreparedStatement st = con.c.prepareStatement(sql);
            ResultSet rs = st.executeQuery();

            table.setModel(DbUtils.resultSetToTableModel(rs));

                } catch (Exception e) {
                    // TODO: handle exception
                }
    }

    public void returnBook() {
        try {
            conn con = new conn();
            String sql = "select * from returnBook";
            PreparedStatement st = con.c.prepareStatement(sql);
            ResultSet rs = st.executeQuery();
            table_1.setModel(DbUtils.resultSetToTableModel(rs));
                } catch (Exception e) {
                    // TODO: handle exception
                }
    }

    public Statistics() {
        setBounds(400, 200, 810, 594);
                contentPane = new JPanel();
        contentPane.setBackground(Color.WHITE);
                contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
                setContentPane(contentPane);
                contentPane.setLayout(null);

                JScrollPane scrollPane = new JScrollPane();
                scrollPane.setBounds(40, 51, 708, 217);
                contentPane.add(scrollPane);

        table = new JTable();
```

```
            table.setBackground(new Color(224, 255, 255));
            table.setForeground(new Color(128, 128, 0));
            table.setFont(new Font("Trebuchet MS", Font.BOLD, 15));
            scrollPane.setViewportView(table);

            JPanel panel = new JPanel();
            panel.setBorder(new TitledBorder(new LineBorder(new Color(47, 79, 79), 2, true), "Issue-Book-Details",
                  TitledBorder.LEADING, TitledBorder.TOP, null, new Color(0, 128, 128)));
            panel.setForeground(new Color(0, 128, 128));
            panel.setBounds(26, 36, 737, 240);
        panel.setBackground(Color.WHITE);
            contentPane.add(panel);

            JLabel l1 = new JLabel("Back");
            l1.addMouseListener(new MouseAdapter() {
          @Override
          public void mouseClicked(MouseEvent arg0) {
                  setVisible(false);
                  Home home = new Home();
                  home.setVisible(true);
          }
            });
            l1.setForeground(new Color(204, 0, 102));
            l1.setFont(new Font("Tahoma", Font.BOLD, 18));
            ImageIcon i1 = new ImageIcon(ClassLoader.getSystemResource("library/management/system/icons/tenth.png"));
        Image i2 = i1.getImage().getScaledInstance(20, 20, Image.SCALE_DEFAULT);
        ImageIcon i3 = new ImageIcon(i2);
        l1.setIcon(i3);
            l1.setBounds(690, 13, 96, 27);
            contentPane.add(l1);

            JScrollPane scrollPane_1 = new JScrollPane();
            scrollPane_1.setBounds(40, 316, 717, 217);
            contentPane.add(scrollPane_1);

            table_1 = new JTable();
            table_1.setBackground(new Color(204, 255, 255));
            table_1.setForeground(new Color(153, 51, 0));
            table_1.setFont(new Font("Sitka Small", Font.BOLD, 12));
            scrollPane_1.setViewportView(table_1);

            JPanel panel_1 = new JPanel();
            panel_1.setBorder(new TitledBorder(new LineBorder(new Color(0, 204, 153), 2, true), "Return-Book-Details",
                TitledBorder.RIGHT, TitledBorder.TOP, null, new Color(0, 102, 51)));
            panel_1.setBounds(22, 299, 741, 240);
        panel_1.setBackground(Color.WHITE);
            contentPane.add(panel_1);


            issueBook();
            returnBook();
    }
}
```

- About Us


Library Management System
Library
Mangement System
Developed By : Yash Nigam
Rajat Pandey
Yash Gupta
Pawan Pandey
Contact Us : yash.gupta_cs19@gla.ac.in
yash.nigam_cs19@gla.ac.in
rajat.pandey_cs19@gla.ac.in
pawan.pandey_cs19@gla.ac.in

```
package library.management.system;

import java.awt.*;
import javax.swing.*;
import javax.swing.border.*;

public class aboutUs extends JFrame{

        private JPanel contentPane;

    public static void main(String[] args) {
        new aboutUs().setVisible(true);
          }

    public aboutUs() {

        super("Library Management System");
        setBackground(new Color(173, 216, 230));
        setBounds(700, 100, 600, 900);

        contentPane = new JPanel();
        setContentPane(contentPane);
        contentPane.setLayout(null);

        JLabel l3 = new JLabel("Library");
        l3.setForeground(new Color(0, 250, 154));
        l3.setFont(new Font("Trebuchet MS", Font.BOLD | Font.ITALIC, 34));
        l3.setBounds(250, 40, 150, 55);
        contentPane.add(l3);

        JLabel l4 = new JLabel("Mangement System");
        l4.setForeground(new Color(127, 255, 0));
        l4.setFont(new Font("Trebuchet MS", Font.BOLD | Font.ITALIC, 34));
        l4.setBounds(160, 90, 405, 40);
```

```
contentPane.add(l4);



JLabel l6 = new JLabel("Developed By : Yash Nigam");
JLabel l11 = new JLabel("Rajat Pandey");
JLabel l12 = new JLabel("Yash Gupta");
JLabel l13 = new JLabel("Pawan Pandey");
l6.setFont(new Font("Trebuchet MS", Font.BOLD, 30));
l6.setBounds(70, 200, 600, 35);
l11.setFont(new Font("Trebuchet MS", Font.BOLD, 30));
l11.setBounds(290, 240, 600, 35);
l12.setFont(new Font("Trebuchet MS", Font.BOLD, 30));
l12.setBounds(290, 280, 600, 35);
l13.setFont(new Font("Trebuchet MS", Font.BOLD, 30));
l13.setBounds(290, 320, 600, 35);

contentPane.add(l6);
contentPane.add(l11);
contentPane.add(l12);
contentPane.add(l13);

JLabel l7 = new JLabel("Contact Us : yash.gupta_cs19@gla.ac.in");
l7.setFont(new Font("Trebuchet MS", Font.BOLD, 20));
JLabel l14 = new JLabel("yash.gupta_cs19@gla.ac.in");
l14.setFont(new Font("Trebuchet MS", Font.BOLD, 20));
JLabel l15 = new JLabel("yash.gupta_cs19@gla.ac.in");
l15.setFont(new Font("Trebuchet MS", Font.BOLD, 20));
JLabel l16 = new JLabel("yash.gupta_cs19@gla.ac.in");
l16.setFont(new Font("Trebuchet MS", Font.BOLD, 20));
l7.setBounds(70, 400, 600, 34);
l14.setBounds(190, 450, 600, 34);
l15.setBounds(190, 500, 600, 34);
```

```
        l16.setBounds(190, 550, 600, 34);
        contentPane.add(l7);
        contentPane.add(l14);
        contentPane.add(l15);
        contentPane.add(l16);
        contentPane.setBackground(Color.WHITE);
          }
}
```

SQL Screenshots: -

```
Server version: 5.7.31 MySQL Community Server (GPL)

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Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| project            |
| sys                |
+--------------------+
5 rows in set (0.00 sec)

mysql> use project;
Database changed
mysql> show tables;
+-------------------+
| Tables_in_project |
+-------------------+
| account           |
| book              |
| issuebook         |
| returnbook        |
| student           |
+-------------------+
5 rows in set (0.00 sec)

mysql> select * from all;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'all' at line 1
mysql> select * from account;
+----------+------+----------+---------------+---------+
| username | name | password | sec_q         | sec_ans |
+----------+------+----------+---------------+---------+
| yash     | yash | 123      | Your NickName? | yash    |
| yash     | yash | yash     | Your NickName? | yash    |
+----------+------+----------+---------------+---------+
2 rows in set (0.00 sec)

mysql>
```

```
+-------------------+
| account           |
| book              |
| issuebook         |
| returnbook        |
| student           |
+-------------------+
5 rows in set (0.00 sec)

mysql> select * from all;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'all' at line 1
mysql> select * from account;
+----------+------+----------+---------------+---------+
| username | name | password | sec_q         | sec_ans |
+----------+------+----------+---------------+---------+
| yash     | yash | 123      | Your NickName? | yash    |
| yash     | yash | yash     | Your NickName? | yash    |
+----------+------+----------+---------------+---------+
2 rows in set (0.00 sec)

mysql> select * from account , student ;
+----------+------+----------+---------------+---------+------------+------+--------+--------+------------+-------+----------+
| username | name | password | sec_q         | sec_ans | student_id | name | father | course | branch     | year  | semester |
+----------+------+----------+---------------+---------+------------+------+--------+--------+------------+-------+----------+
| yash     | yash | 123      | Your NickName? | yash    | 2353       | yash | yash   | B.E    | Mechanical | First | 1st      |
| yash     | yash | yash     | Your NickName? | yash    | 2353       | yash | yash   | B.E    | Mechanical | First | 1st      |
+----------+------+----------+---------------+---------+------------+------+--------+--------+------------+-------+----------+
2 rows in set (0.01 sec)

mysql> select * from student;
+------------+------+--------+--------+------------+-------+----------+
| student_id | name | father | course | branch     | year  | semester |
+------------+------+--------+--------+------------+-------+----------+
| 2353       | yash | yash   | B.E    | Mechanical | First | 1st      |
+------------+------+--------+--------+------------+-------+----------+
1 row in set (0.00 sec)

mysql> select * from issuebook;
Empty set (0.00 sec)

mysql> select * from book;
+---------+------+------+-----------+---------+-------+-------+
| book_id | name | isbn | publisher | edition | price | pages |
+---------+------+------+-----------+---------+-------+-------+
| 719     | c    | 123  | c         | 1       | 123   | 123   |
+---------+------+------+-----------+---------+-------+-------+
1 row in set (0.00 sec)

mysql>
```

CHAPTER - 6

TESTING

Once source code has been generated, software must be tested to uncover as many errors as possible before delivery. It is very important to work the system successfully and achieve high quality of software. Testing include designing a series of test cases that have a high likelihood of finding errors by applying software-testing techniques.

System testing makes logical assumptions that if all the parts of the system are correct, the goal will be successfully achieved. The system should be checked logically. Validations and cross checks should be there. Avoid duplications of record that cause redundancy of data.

In other Words, Testing is the process of evaluating a system or its component(s) with the intent to find whether it satisfies the specified requirements or not. It is executing a system in order to identify any gaps, errors, or missing requirements in contrary to the actual requirements.

The Android framework includes an integrated testing framework that helps you test all aspects of your application and the SDK tools include tools for setting up and running test applications. Whether you are working in Eclipse with ADT or working from the command line, the SDK tools help you set up and run your tests within an emulator or the device you are targeting.

There are different types of testing some of them are listed below:

6.1 Installation Testing:

There are two types of apps on an Android device i.e., Pre-installed applications and the applications which are installed later by the user.

For both of the above, installation testing is carried out by our teammates. It is ensuring smooth installation of the application without ending up in errors, partial installation etc.

6.2 Unit Testing

It focuses on smallest unit of software design. In this we test an individual unit or groups of inter related units. It is often done by programmer by using sample input and observing its corresponding outputs. In this testing technique we are primarily focuses on

- Loop methods and function is working fine or not.
- Misunderstood or incorrect Arithmetic precedence
- Incorrect Initialization

Unit Testing of the app:

Test cases	**Description**	**Expected Outcome**	**Result**
1	Home Page – Launch Screen	Should display Home screen with background image and next button.	Pass
2	Login Page	Should display login screen where you need to fill the required details	Pass

3	Signup Screen	Should display signup page for your credentials to create your account.	Pass
4	Forget Password	Should Receive password	Pass
5	Dashboard	Should display the all the functionalities of project	Pass
6	Add Book	Should display the add book menu and should add new books.	Pass

7	Add Student Page	Should be able to add student details and store them	Pass
8	Issue Books	Should be able to issue Books to the student on a particular date	Pass
9	Return Books	Should be able to return Books to the student on a particular date	Pass
10	Statistics Page	Should display details of all the books that are issued and returned.	Pass

11	About Us	Shouls display the details about the team members.	Pass

6.3 User Testing

User testing is the process through which the interface and functions of a website, app, product, or service are tested by real users who perform specific tasks in realistic conditions. The purpose of this process is to evaluate the usability of that website or app and to decide whether the product is ready to be launched for real users.

This software was tested by our team mates and friends who are using different and it seems to be working fine and users of this software are satisfied with the facilities and performance of the software and like the way how the software is worked.

6.4 Performance Testing

In this type of testing we have checked the performances of our application under some peculiar conditions are checked. Those conditions include:

- Low memory in the device.
- The battery in extremely at a low level.
- Poor/Bad network reception.

Performance is basically tested from 2 ends, application end, and the application server end. Our software is also performing well in this phase of testing as well. And we are getting positive feedback from user of our software.

6.5 Combability Testing

This software was tested and used on different devices like acre aspire, Lenovo. The software worked fine and is stable. The software worked fine in portrait mode and there isn't any problem with compatibility.

CHAPTER -7
CONCLUSION

This website provides a computerized version of library management system which will benefit the students as well as the staff of the library.

It makes entire process online where student can search books, staff can generate reports and do book transactions. It also has a facility for student login where student can login and can see status of books issued as well request for book or give some suggestions. It has a facility of teacher's login where teachers can add lectures notes and also give necessary suggestion to library and also add info about workshops or events happening in our college or nearby college in the online notice board.

There is a future scope of this facility that many more features such as online lectures video tutorials can be added by teachers as well as online assignments submission facility , a feature

Of group chat where students can discuss various issues of engineering can be added to this project thus making it more interactive more user friendly and project which fulfills each users need in the best way possible

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