

KONERU LAKSHMAIAH UNIVERSITY
COMPUTER SCIENCE ENGINEERING DEPARTMENT
A Project Based Lab Report
Of
Library Book Circulation System

SUBMITTED BY:

I.D NUMBER	NAME
190030024	A. Sree Charan
190030080	A. Sai Riteesh Kumar
190032019	S. Karun Kumar
190032024	T. Satya Sai Manoj

UNDER THE ESTEEMED GUIDANCE

OF

Dr. Naveen Kumar

Assistant Professor



KL UNIVERSITY

Green fields, Vaddeswaram – 522 502
Guntur Dt., AP, India.

DEPARTMENT OF BASIC ENGINEERING SCIENCES



CERTIFICATE

This is to certify that the project based laboratory report entitled “**Library Book Circulation System**” submitted by Mr. A. Sree Charan, Mr. A. Sai Riteesh Kumar, Mr. S. Karun Kumar, Mr. T. Satya Sai Manoj bearing Regd. Nos. **190030024, 190030080, 190032019, 190032024** to the **Department of Basic Engineering Sciences, KL University** in partial fulfillment of the requirements for the completion of a project based Laboratory in “**DATA STRUCTURE (19CS1202)**” course in I B Tech II Semester, is a bonafide record of the work carried out by them under my supervision during the academic year 2019 – 2020.

PROJECT SUPERVISOR

Dr. Naveen Kumar
(Assistant Professor)

HEAD OF THE DEPARTMENT

Dr. D. HARITHA
(Professor)

ACKNOWLEDGEMENTS

It is great pleasure for me to express my gratitude to our honorable President **Sri. Koneru Satyanarayana**, for giving the opportunity and platform with facilities in accomplishing the project based laboratory report.

I express the sincere gratitude to our director, FED **Dr. A. Jagadeesh** for his administration towards our academic growth.

I express sincere gratitude to our Coordinator **Dr. V. Krishna Reddy** for her leadership and constant motivation provided in successful completion of our academic semester. I record it as my privilege to deeply thank for providing us the efficient faculty and facilities to make our ideas into reality.

I express sincere gratitude to our HOD-BES **Dr. D. Haritha** for her leadership and constant motivation provided in successful completion of our academic semester. I record it as my privilege to deeply thank for providing us the efficient faculty and facilities to make our ideas into reality.

I express my sincere thanks to our project supervisor **Dr. Naveen kumar** for his novel association of ideas, encouragement, appreciation and intellectual zeal which motivated us to venture this project successfully.

Finally, it is pleased to acknowledge the indebtedness to all those who devoted themselves directly or indirectly to make this project report success.

Submitted By:-

I.D NUMBER	NAME
190030024	A. Sree Charan
190030080	A. Sai Riteesh Kumar
190032019	S. Karun Kumar
190032024	T. Satya Sai Manoj

ABSTRACT

The project titled Library Book Circulation System is Library Management software for monitoring and controlling the transactions in a library. The project “Library Book Circulation 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 members and return books.

“Library Book Circulation System” is a windows application written for 32-bit windows operating systems, designed to help users maintain and organize library. Our software is easy to use for both beginners and advanced users. It features a familiar and well thought-out, an attractive user interface, combined with strong searching insertion and reporting capabilities. The report generation facility of library system helps to get a good idea of which are the books borrowed by the members, makes users possible to generate reports hard copy.

The software Library Book Circulation System has four main modules:-

1. Insertion to Database Module – User friendly input screen.
2. Extracting from Database module – Attractive Output Screen.
3. Report Generation module – borrowed book list & Available book list.
4. Search Facility System – Search for books and members.

INDEX

S.NO	TITLE	PAGE NO
1	Introduction	1
2	Aim of the Project	2
2.1	Advantages & Disadvantages	
2.2	Future Implementation	3
3	System Requirements	4
4	Module Description	6
5	Sources Code	7
6	Integration and System Testing	14
7	Conclusion	18

1. INTRODUCTION

The project titled Library Book Circulation System is Library Management software for monitoring and controlling the transactions in a library. The project “Library Book Circulation 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 members and return books.

This project of “LIBRARY BOOK CIRCULATION SYSTEM” of gives us the complete information about the library. We can enter the record of new books and retrieve the details of books available in the library. We can issue the books to thr students and maintain their records and can also check how many books are issued and stock available in the library. In this project we can maintain the late fine of students who returns the issued books after the due date.

Throughout the project the focus has been on presenting information and comments in an easy and intelligible manner. The project is very useful for those who wants to know about Library Book Circulation System.

2. AIM

To develop a GUI program for Library Book Circulation System.

Advantages:-

1. Simple & Easy to Use

The Library Management Software is simple, user-friendly, and can be easily integrated with your existing system. The library management system benefits provide online and offline storage, automated backups, and easy upgrades to simplify and enhance the learning process.

2. Increased Library Engagement

Avoid frustration and tediousness by providing students with 24/7 access to library resources from anywhere, anytime. Library Management Software allows the librarian to maintain all types of books, eBooks, journals, photos, videos, and create events.

3. Efficient Cloud Data Management

Automate, simplify and deploy library database seamlessly to make it easy for your institution to benefit from secure cloud services. Improve efficiency with the automation of various library tasks including acquisition, cataloging, serials management, circulation and reference

4. Highly Secure, Scalable & Reliable

College libraries benefit from scalable infrastructure, role-based secure access, high performance and reliable to ensure seamless access to library database.

5. Mobile Access

The library management system provides mobile access to search the library catalog, schedules, books and resources from anywhere, at any given time via smartphones and tablets

Disadvantages:-

The following are the disadvantages of Library Book Circulation System:-

1. The data stored is prone to cyber hacks. Opting for a reliable online system eliminates the risk
2. Costly and Expensive
3. Complicated to operate
4. Risk of computer virus

Future enhancements:-

One of the major future scope is making our system online. Connecting libraries to a common data centre will provide globalization to the libraries, and then the user will be able to search books all over the city nearby areas.

3. SYSTEM REQUIREMENTS

➤ SOFTWARE REQUIREMENTS:

The major software requirements of the project are as follows:

Language : Turbo-C

Operating system: Windows Xp or later.

➤ HARDWARE REQUIREMENTS:

The hardware requirements that map towards the software are as follows:

RAM :8GB

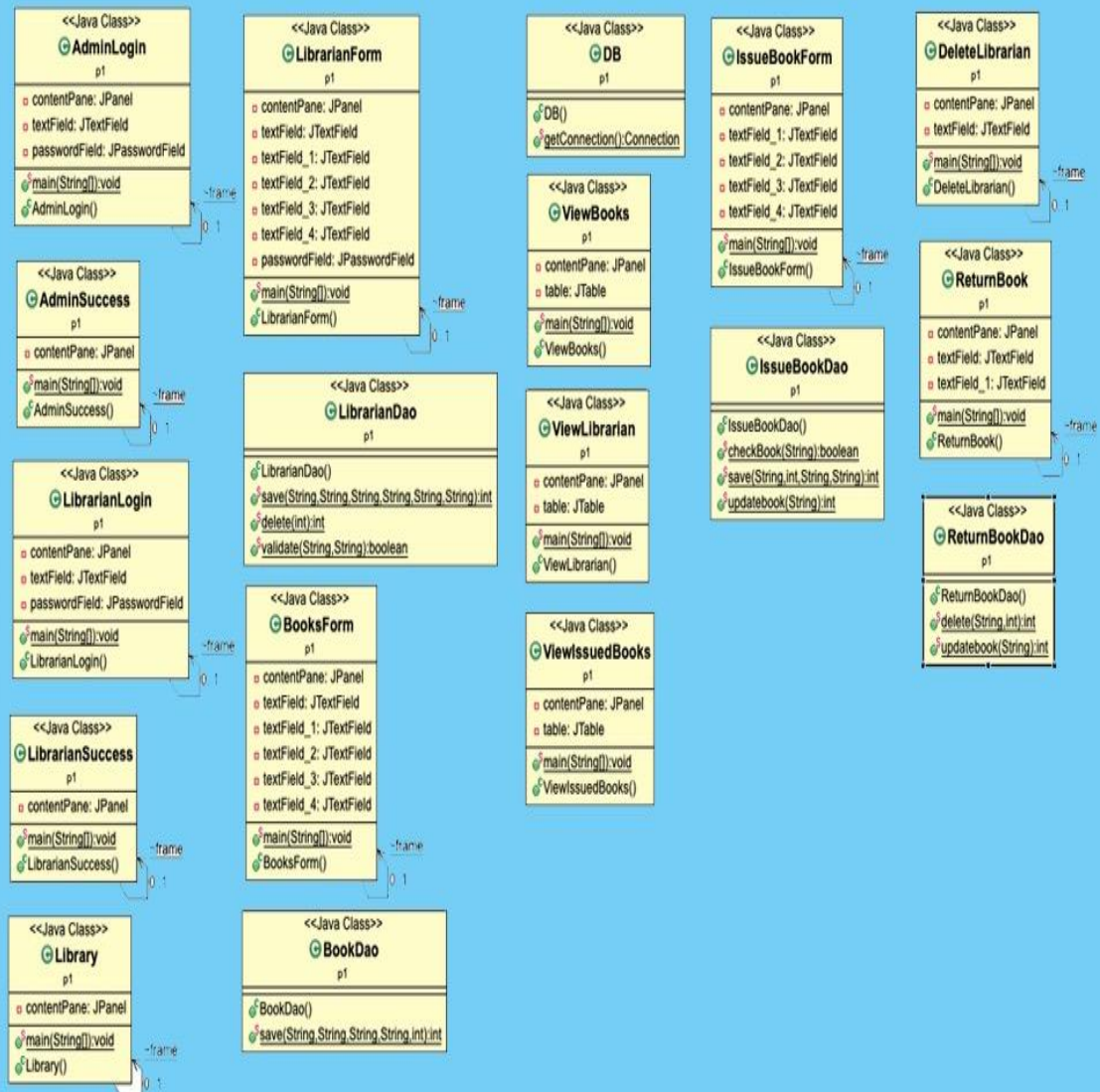
Processor : i5 processor 8th generation

4. MODULE DISCRPTION

MODULES IN THIS PROJECT:-

- 1) **Selecting module:-**We have to select the “Admin login and then we login our librarian account and search for the books.
- 2) **Text field:-** We have to enter the book name or author name to search for the books.
- 3) **Compute module:-**it will search for the book based on your text filed and shows the books available in the library.
- 4) **Exit module:-** It will close the program.

MYPACKAGE



5. SOURCE CODE

```
package DSProject;
import java.awt.BorderLayout;
import java.awt.EventQueue;
import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.border.EmptyBorder;
import javax.swing.GroupLayout;
import javax.swing.GroupLayout.Alignment;
import javax.swing.JLabel;
import javax.swing.JOptionPane;
import java.awt.Font;
import java.awt.Color;
import javax.swing.JTextField;
import javax.swing.JButton;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import javax.swing.JPasswordField;
public class AdminLogin extends JFrame {
    static AdminLogin frame;
    private JPanel contentPane;
    private JTextField textField;
    private JPasswordField passwordField;

    /**
     * Launch the application.
     */
    public static void main(String[] args) {
        EventQueue.invokeLater(new Runnable() {
            public void run() {
                try {
                    frame = new AdminLogin();
                    frame.setVisible(true);
                } catch (Exception e) {
                    e.printStackTrace();
                }
            }
        });
    }

    /**
     * Create the frame.
     */
    public AdminLogin() {
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setBounds(100, 100, 450, 300);
        contentPane = new JPanel();
        contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
```

```

setContentPane(contentPane);
JLabel lblAdminLoginForm = new JLabel("Admin Login Form");
lblAdminLoginForm.setForeground(Color.GRAY);
lblAdminLoginForm.setFont(new Font("Tahoma", Font.PLAIN, 18));
JLabel lblEnterName = new JLabel("Enter Name:");
JLabel lblEnterPassword = new JLabel("Enter Password:");

        textField = new JTextField();
        textField.setColumns(10);

        JButton btnLogin = new JButton("Login");
        btnLogin.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent e) {
                String name=textField.getText();
                String password=String.valueOf(passwordField.getPassword());
                if(name.equals("admin")&&password.equals("admin123")){
                    AdminSuccess.main(new String[] {});
                    frame.dispose();
                }else{
                    JOptionPane.showMessageDialog(AdminLogin.this, "Sorry, Username or Password
Error", "Login Error!", JOptionPane.ERROR_MESSAGE);
                    textField.setText("");
                    passwordField.setText("");
                }
            }
        });

        passwordField = new JPasswordField();
        GroupLayout gl_contentPane = new GroupLayout(contentPane);
        gl_contentPane.setHorizontalGroup(
            gl_contentPane.createParallelGroup(Alignment.TRAILING)
                .addGroup(gl_contentPane.createSequentialGroup()
                    .addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
                        .addGroup(gl_contentPane.createSequentialGroup()
                            .addGroup(gl_contentPane.createSequentialGroup()
                                .addComponent(lblAdminLoginForm)

                                .addGroup(gl_contentPane.createSequentialGroup()
                                    .addGroup(gl_contentPane.createSequentialGroup()
                                        .addComponent(lblEnterName)

                                        .addComponent(lblEnterPassword))

                                    .addGap(47)
                                )
                            )
                        )
                    )
                )
        );

```

```

        .addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING, false)

        .addComponent(passwordField)
                                .addComponent(textField,
 GroupLayout.DEFAULT_SIZE, 172, Short.MAX_VALUE))))
        .addContainerGap(107, Short.MAX_VALUE))
        .addGroup(gl_contentPane.createSequentialGroup()
        .addContainerGap(187, Short.MAX_VALUE)
        .addComponent(btnLogin,
 GroupLayout.PREFERRED_SIZE, 86, GroupLayout.PREFERRED_SIZE)
        .addGap(151))

    );
    gl_contentPane.setVerticalGroup(
        gl_contentPane.createParallelGroup(Alignment.LEADING)
        .addGroup(gl_contentPane.createSequentialGroup()
        .addComponent(lblAdminLoginForm)
        .addGap(26)
        .addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
        .addComponent(lblEnterName
        .addComponent(textField, GroupLayout.PREFERRED_SIZE,
 GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))

        .addGap(28)

        .addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
        .addComponent(lblEnterPassword)
        .addComponent(passwordField,
 GroupLayout.PREFERRED_SIZE, GroupLayout.DEFAULT_SIZE,
 GroupLayout.PREFERRED_SIZE))

        .addGap(18)
        .addComponent(btnLogin,
 GroupLayout.PREFERRED_SIZE, 37, GroupLayout.PREFERRED_SIZE)
        .addContainerGap(80, Short.MAX_VALUE))

    );
    contentPane.setLayout(gl_contentPane);
}

import java.awt.BorderLayout;
import java.awt.EventQueue;
import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.border.EmptyBorder;
import javax.swing.GroupLayout;
import javax.swing.GroupLayout.Alignment;
import javax.swing.JLabel;
import java.awt.Color;
import java.awt.Font;
import javax.swing.JButton;
import java.awt.event.ActionListener;

```

```

import java.awt.event.ActionEvent;
import javax.swing.LayoutStyle.ComponentPlacement;
import java.sql.*;
public class AdminSuccess extends JFrame {
    static AdminSuccess frame;
    private JPanel contentPane;

    /**
     * Launch the application.
     */
    public static void main(String[] args) {
        EventQueue.invokeLater(new Runnable() {
            public void run() {
                try {
                    frame = new AdminSuccess();
                    frame.setVisible(true);
                } catch (Exception e) {
                    e.printStackTrace();
                }
            }
        });
    }

    /**
     * Create the frame.
     */
    public AdminSuccess() {
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setBounds(100, 100, 450, 371);
        contentPane = new JPanel();
        contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
        setContentPane(contentPane);

        JLabel lblAdminSection = new JLabel("Admin Selection");
        lblAdminSection.setFont(new Font("Tahoma", Font.PLAIN, 22));
        lblAdminSection.setForeground(Color.GRAY);

        JButton btnNewButton = new JButton("Add Librarian");
        btnNewButton.setFont(new Font("Tahoma", Font.PLAIN, 15));
        btnNewButton.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent e) {
                LibrarianForm.main(new String[]{});
                frame.dispose();
            }
        });

        JButton btnViewLibrarian = new JButton("View Librarian");
        btnViewLibrarian.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent arg0) {
                ViewLibrarian.main(new String[]{});
            }
        });
    }
}

```

```

    }
    });
    btnViewLibrarian.setFont(new Font("Tahoma", Font.PLAIN, 15));

    JButton btnDeleteLibrarian = new JButton("Delete Librarian");
    btnDeleteLibrarian.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            DeleteLibrarian.main(new String[]{});
            frame.dispose();
        }
    });
    btnDeleteLibrarian.setFont(new Font("Tahoma", Font.PLAIN, 15));

    JButton btnLogout = new JButton("Logout");
    btnLogout.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent arg0) {
            Library.main(new String[]{});
            frame.dispose();
        }
    });
    btnLogout.setFont(new Font("Tahoma", Font.PLAIN, 15));
    GroupLayout gl_contentPane = new GroupLayout(contentPane);
    gl_contentPane.setHorizontalGroup(
        gl_contentPane.createParallelGroup(Alignment.TRAILING)
            .addGroup(gl_contentPane.createSequentialGroup()
                .addContainerGap(150, Short.MAX_VALUE)
                .addComponent(lblAdminSection,
                    GroupLayout.PREFERRED_SIZE, 151, GroupLayout.PREFERRED_SIZE)
                .addGap(123))
            .addGroup(Alignment.LEADING,
                gl_contentPane.createSequentialGroup()
                    .addGap(134)

                    .addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
                        .addComponent(btnLogout,
                            GroupLayout.PREFERRED_SIZE, 181, GroupLayout.PREFERRED_SIZE)
                        .addComponent(btnDeleteLibrarian,
                            GroupLayout.PREFERRED_SIZE, 181, GroupLayout.PREFERRED_SIZE)
                        .addComponent(btnViewLibrarian,
                            GroupLayout.PREFERRED_SIZE, 181, GroupLayout.PREFERRED_SIZE)
                        .addComponent(btnNewButton,
                            GroupLayout.PREFERRED_SIZE, 181, GroupLayout.PREFERRED_SIZE))
                    .addContainerGap(109, Short.MAX_VALUE))
    );
    gl_contentPane.setVerticalGroup(
        gl_contentPane.createParallelGroup(Alignment.LEADING)
            .addGroup(gl_contentPane.createSequentialGroup()
                .addComponent(lblAdminSection,
                    GroupLayout.PREFERRED_SIZE, 40, GroupLayout.PREFERRED_SIZE)
                .addGap(11)

```



```

        .addComponent(btnNewButton,
GroupLayout.PREFERRED_SIZE, 49, GroupLayout.PREFERRED_SIZE)
        .addGap(18)
        .addComponent(btnViewLibrarian,
GroupLayout.PREFERRED_SIZE, 49, GroupLayout.PREFERRED_SIZE)
        .addGap(18)
        .addComponent(btnDeleteLibrarian,
GroupLayout.PREFERRED_SIZE, 49, GroupLayout.PREFERRED_SIZE)
        .addGap(18)
        .addComponent(btnLogout,
GroupLayout.PREFERRED_SIZE, 49, GroupLayout.PREFERRED_SIZE)
        .addContainerGap(21, Short.MAX_VALUE))
    );
    contentPane.setLayout(gl_contentPane);
}
}

import java.sql.Connection;

import java.sql.PreparedStatement;

public class BookDao {
    public static int save(String callno,String name,String author,String publisher,int
quantity){
        int status=0;
        try{
            Connection con=DB.getConnection();
            PreparedStatement ps=con.prepareStatement("insert into
books(callno,name,author,publisher,quantity) values(?,?,?,?,?)");
            ps.setString(1,callno);
            ps.setString(2,name);
            ps.setString(3,author);
            ps.setString(4,publisher);
            ps.setInt(5,quantity);
            status=ps.executeUpdate();
            con.close();
        }catch(Exception e){System.out.println(e);}
        return status;
    }
}

import java.awt.BorderLayout;
import java.awt.EventQueue;

import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.border.EmptyBorder;
import javax.swing.GroupLayout;
import javax.swing.GroupLayout.Alignment;
import javax.swing.JLabel;
import javax.swing.JOptionPane;

```

```

import java.awt.Font;
import java.awt.Color;
import javax.swing.JTextField;
import javax.swing.JButton;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import javax.swing.LayoutStyle.ComponentPlacement;

public class BooksForm extends JFrame {
    static BooksForm frame;
    private JPanel contentPane;
    private JTextField textField;
    private JTextField textField_1;
    private JTextField textField_2;
    private JTextField textField_3;
    private JTextField textField_4;

    /**
     * Launch the application.
     */
    public static void main(String[] args) {
        EventQueue.invokeLater(new Runnable() {
            public void run() {
                try {
                    frame = new BooksForm();
                    frame.setVisible(true);
                } catch (Exception e) {
                    e.printStackTrace();
                }
            }
        });
    }

    /**
     * Create the frame.
     */
    public BooksForm() {
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setBounds(100, 100, 450, 404);
        contentPane = new JPanel();
        contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
        setContentPane(contentPane);

        JLabel lblAddBooks = new JLabel("Add Books");
        lblAddBooks.setForeground(Color.GRAY);
        lblAddBooks.setFont(new Font("Tahoma", Font.PLAIN, 18));

        JLabel lblCallNo = new JLabel("Call No:");

        JLabel lblName = new JLabel("Name:");

```

```

JLabel lblAuthor = new JLabel("Author:");

JLabel lblPublisher = new JLabel("Publisher:");

JLabel lblQuantity = new JLabel("Quantity:");

textField = new JTextField();
textField.setColumns(10);

textField_1 = new JTextField();
textField_1.setColumns(10);

textField_2 = new JTextField();
textField_2.setColumns(10);

textField_3 = new JTextField();
textField_3.setColumns(10);

textField_4 = new JTextField();
textField_4.setColumns(10);

JButton btnAddBooks = new JButton("Add Books");
btnAddBooks.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {
String callno=textField.getText();
String name=textField_1.getText();
String author=textField_2.getText();
String publisher=textField_3.getText();
String squantity=textField_4.getText();
int quantity=Integer.parseInt(squantity);
int i=BookDao.save(callno, name, author, publisher, quantity);
if(i>0){
JOptionPane.showMessageDialog(BooksForm.this,"Books added successfully!");
LibrarianSuccess.main(new String[]{});
frame.dispose();

}else{
JOptionPane.showMessageDialog(BooksForm.this,"Sorry, unable to save!");
}
}
});

JButton btnBack = new JButton("Back");
GroupLayout gl_contentPane = new GroupLayout(contentPane);
gl_contentPane.setHorizontalGroup(
gl_contentPane.createParallelGroup(Alignment.TRAILING)
.addGroup(gl_contentPane.createSequentialGroup()
.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
.addGroup(gl_contentPane.createSequentialGroup()

```

```

.addGap(150)
.addComponent(lblAddBooks))
.addGroup(gl_contentPane.createSequentialGroup())
.addGap(18)
.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING, false)
.addComponent(lblName,                GroupLayout.PREFERRED_SIZE,                37,
GroupLayout.PREFERRED_SIZE)
.addComponent(lblCallNo)
.addComponent(lblAuthor,                GroupLayout.PREFERRED_SIZE,                37,
GroupLayout.PREFERRED_SIZE)
.addComponent(lblPublisher, GroupLayout.DEFAULT_SIZE, 67, Short.MAX_VALUE)
.addComponent(lblQuantity,                GroupLayout.PREFERRED_SIZE,                55,
GroupLayout.PREFERRED_SIZE))
.addGap(47)
.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
.addComponent(textField_4,                GroupLayout.PREFERRED_SIZE,                167,
GroupLayout.PREFERRED_SIZE)
.addComponent(textField_3,                GroupLayout.PREFERRED_SIZE,                167,
GroupLayout.PREFERRED_SIZE)
.addComponent(textField_2,                GroupLayout.PREFERRED_SIZE,                167,
GroupLayout.PREFERRED_SIZE)
.addComponent(textField_1,                GroupLayout.PREFERRED_SIZE,                167,
GroupLayout.PREFERRED_SIZE)
.addComponent(textField,                GroupLayout.PREFERRED_SIZE,                167,
GroupLayout.PREFERRED_SIZE))))
.addContainerGap(125, Short.MAX_VALUE))
.addGroup(Alignment.LEADING, gl_contentPane.createSequentialGroup())
.addGap(161)
.addComponent(btnAddBooks,                GroupLayout.PREFERRED_SIZE,                101,
GroupLayout.PREFERRED_SIZE)
.addContainerGap(162, Short.MAX_VALUE))
.addGroup(gl_contentPane.createSequentialGroup())
.addContainerGap(359, Short.MAX_VALUE)
.addComponent(btnBack)
.addContainerGap())
);
gl_contentPane.setVerticalGroup(
gl_contentPane.createParallelGroup(Alignment.LEADING)
.addGroup(gl_contentPane.createSequentialGroup())
.addComponent(lblAddBooks)
.addGap(18)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblCallNo)
.addComponent(textField,                GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
.addGap(18)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblName)
.addComponent(textField_1,                GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))

```

```

.addGap(18)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblAuthor)
.addComponent(textField_2, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
.addGap(18)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblPublisher)
.addComponent(textField_3, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
.addGap(18)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblQuantity)
.addComponent(textField_4, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
.addGap(30)
.addComponent(btnAddBooks, GroupLayout.PREFERRED_SIZE, 31,
GroupLayout.PREFERRED_SIZE)
.addPreferredGap(ComponentPlacement.RELATED)
.addComponent(btnBack)
.addContainerGap(53, Short.MAX_VALUE))
);
contentPane.setLayout(gl_contentPane);
}
}
import java.sql.Connection;
import java.sql.DriverManager;
public class DB {
public static Connection getConnection(){
    Connection con=null;
    try{
        Class.forName("com.mysql.jdbc.Driver");
        con=DriverManager.getConnection("jdbc:mysql://localhost:3306/test","","");
    }catch(Exception e){System.out.println(e);}
    return con;
    }
}
import java.awt.BorderLayout;
import java.awt.Color;
import java.awt.EventQueue;
import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.border.EmptyBorder;
import javax.swing.GroupLayout;
import javax.swing.GroupLayout.Alignment;
import javax.swing.JLabel;
import javax.swing.JOptionPane;
import javax.swing.JTextField;
import javax.swing.JButton;
import java.awt.Font;

```

```

import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;

public class DeleteLibrarian extends JFrame {
    static DeleteLibrarian frame;
    private JPanel contentPane;
    private JTextField textField;

    /**
     * Launch the application.
     */
    public static void main(String[] args) {
        EventQueue.invokeLater(new Runnable() {
            public void run() {
                try {
                    frame = new DeleteLibrarian();
                    frame.setVisible(true);
                } catch (Exception e) {
                    e.printStackTrace();
                }
            }
        });
    }

    /**
     * Create the frame.
     */
    public DeleteLibrarian() {
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setBounds(100, 100, 450, 300);
        contentPane = new JPanel();
        contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
        setContentPane(contentPane);
        JLabel lblLibraryManagement = new JLabel("Delete Librarian Form");
        lblLibraryManagement.setFont(new Font("Tahoma", Font.PLAIN, 18));
        lblLibraryManagement.setForeground(Color.GRAY);
        JLabel lblEnterId = new JLabel("Enter Id:");

        textField = new JTextField();
        textField.setColumns(10);

        JButton btnDelete = new JButton("Delete");
        btnDelete.addActionListener(new ActionListener() {
            public void actionPerformed(ActionEvent e) {
                String sid=textField.getText();
                if(sid==null||sid.trim().equals("")){
                    JOptionPane.showMessageDialog(DeleteLibrarian.this,"Id can't be blank");
                }else{
                    int id=Integer.parseInt(sid);
                    int i=LibrarianDao.delete(id);
                }
            }
        });
    }
}

```

```

if(i>0){
JOptionPane.showMessageDialog(DeleteLibrarian.this,"Record deleted successfully!");
}else{
JOptionPane.showMessageDialog(DeleteLibrarian.this,"Unable to delete given id!");
}
}
}
});
btnDelete.setFont(new Font("Tahoma", Font.PLAIN, 13));

JButton btnNewButton = new JButton("Back");
btnNewButton.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {
AdminSuccess.main(new String[]{});
frame.dispose();
}
});
btnNewButton.setFont(new Font("Tahoma", Font.PLAIN, 13));
GroupLayout gl_contentPane = new GroupLayout(contentPane);
gl_contentPane.setHorizontalGroup(
gl_contentPane.createParallelGroup(Alignment.LEADING)
.addGroup(gl_contentPane.createSequentialGroup()
.addGap(39)
.addComponent(lblEnterId)
.addGap(57)
.addComponent(textField, GroupLayout.PREFERRED_SIZE, 178,
GroupLayout.PREFERRED_SIZE)
.addContainerGap(107, Short.MAX_VALUE))
.addGroup(Alignment.TRAILING, gl_contentPane.createSequentialGroup()
.addContainerGap(175, Short.MAX_VALUE)
.addComponent(btnDelete, GroupLayout.PREFERRED_SIZE, 109,
GroupLayout.PREFERRED_SIZE)
.addGap(140))
.addGroup(Alignment.TRAILING, gl_contentPane.createSequentialGroup()
.addContainerGap(322, Short.MAX_VALUE)
.addComponent(btnNewButton, GroupLayout.PREFERRED_SIZE, 92,
GroupLayout.PREFERRED_SIZE)
.addContainerGap())
);
gl_contentPane.setVerticalGroup(
gl_contentPane.createParallelGroup(Alignment.LEADING)
.addGroup(gl_contentPane.createSequentialGroup()
.addGap(19)
.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
.addComponent(textField, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE)
.addComponent(lblEnterId))
.addGap(33)
.addComponent(btnDelete, GroupLayout.PREFERRED_SIZE, 33,
GroupLayout.PREFERRED_SIZE)

```

```

.addGap(43)
.addComponent(btnNewButton)
.addContainerGap(78, Short.MAX_VALUE))
);
contentPane.setLayout(gl_contentPane);
}
}
import java.sql.*;
public class IssueBookDao {
    public static boolean checkBook(String bookcallno){
        boolean status=false;
        try{
            Connection con=DB.getConnection();
            PreparedStatement ps=con.prepareStatement("select * from books
where callno=?");
            ps.setString(1,bookcallno);
            ResultSet rs=ps.executeQuery();
            status=rs.next();
            con.close();
        }catch(Exception e){System.out.println(e);}
        return status;
    }
    public static int save(String bookcallno,int studentid,String studentname,String
studentcontact){
        int status=0;
        try{
            Connection con=DB.getConnection();
            status=updatebook(bookcallno);//updating quantity and issue
            if(status>0){
                PreparedStatement ps=con.prepareStatement("insert into
issuebooks(bookcallno,studentid,studentname,studentcontact) values(?,?,?,?)");
                ps.setString(1,bookcallno);
                ps.setInt(2,studentid);
                ps.setString(3,studentname);
                ps.setString(4,studentcontact);
                status=ps.executeUpdate();
            }
            con.close();
        }catch(Exception e){System.out.println(e);}
        return status;
    }
    public static int updatebook(String bookcallno){
        int status=0;
        int quantity=0,issued=0;
        try{
            Connection con=DB.getConnection();
            PreparedStatement ps=con.prepareStatement("select quantity,issued
from books where callno=?");
            ps.setString(1,bookcallno);
            ResultSet rs=ps.executeQuery();

```



```

        if(rs.next()){
            quantity=rs.getInt("quantity");
            issued=rs.getInt("issued");
        }
        if(quantity>0){
            PreparedStatement ps2=con.prepareStatement("update books set
quantity=?,issued=? where callno=?");
            ps2.setInt(1,quantity-1);
            ps2.setInt(2,issued+1);
            ps2.setString(3,bookcallno);
            status=ps2.executeUpdate();
        }
        con.close();
    } catch(Exception e){ System.out.println(e);}
    return status;
}
}

import java.awt.BorderLayout;
import java.awt.EventQueue;
import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.border.EmptyBorder;
import javax.swing.GroupLayout;
import javax.swing.GroupLayout.Alignment;
import javax.swing.JLabel;
import javax.swing.JOptionPane;
import java.awt.Color;
import java.awt.Font;
import javax.swing.JTextField;
import javax.swing.JButton;
import javax.swing.LayoutStyle.ComponentPlacement;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;

public class IssueBookForm extends JFrame {
    static IssueBookForm frame;
    private JPanel contentPane;
    private JTextField textField_1;
    private JTextField textField_2;
    private JTextField textField_3;
    private JTextField textField_4;
    /**
     * Launch the application.
     */
    public static void main(String[] args) {
        EventQueue.invokeLater(new Runnable() {
            public void run() {
                try {
                    frame = new IssueBookForm();
                    frame.setVisible(true);
                } catch (Exception e) {

```

```

e.printStackTrace();
}
}
});
}
/**
 * Create the frame.
 */
public IssueBookForm() {
setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
setBounds(100, 100, 438, 414);
contentPane = new JPanel();
contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
setContentPane(contentPane);
JLabel lblNewLabel = new JLabel("Issue Book ");
lblNewLabel.setFont(new Font("Tahoma", Font.PLAIN, 18));
lblNewLabel.setForeground(Color.GRAY);
JLabel lblBookName = new JLabel("Book Callno:");
textField_1 = new JTextField();
textField_1.setColumns(10);
textField_2 = new JTextField();
textField_2.setColumns(10);
textField_3 = new JTextField();
textField_3.setColumns(10);
textField_4 = new JTextField();
textField_4.setColumns(10);
JLabel lblStudentId = new JLabel("Student Id:");
JLabel lblStudentName = new JLabel("Student Name:");
JLabel lblStudentContact = new JLabel("Student Contact:");
JButton btnIssueBook = new JButton("Issue Book");
btnIssueBook.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {
String bookcallno=textField_1.getText();
int studentid=Integer.parseInt(textField_2.getText());
String studentname=textField_3.getText();
String studentcontact=textField_4.getText();
if(IssueBookDao.checkBook(bookcallno)){
int i=IssueBookDao.save(bookcallno, studentid, studentname, studentcontact);
if(i>0){
JOptionPane.showMessageDialog(IssueBookForm.this,"Book issued successfully!");
LibrarianSuccess.main(new String[]{});
frame.dispose();
}else{
JOptionPane.showMessageDialog(IssueBookForm.this,"Sorry, unable to issue!");
}
}
}
}
});
}
}

```

```

JButton btnBack = new JButton("Back");
btnBack.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {
LibrarianSuccess.main(new String[] {});
frame.dispose();
}
});
JLabel lblNewLabel_1 = new JLabel("Note: Please check Student ID Carefully before
issuing book!");
lblNewLabel_1.setFont(new Font("Tahoma", Font.PLAIN, 13));
lblNewLabel_1.setForeground(Color.RED);
GroupLayout gl_contentPane = new GroupLayout(contentPane);
gl_contentPane.setHorizontalGroup(
gl_contentPane.createParallelGroup(Alignment.LEADING)
.addGroup(gl_contentPane.createSequentialGroup()
.addContainerGap(10, Short.MAX_VALUE)
.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
.addGroup(gl_contentPane.createSequentialGroup()
.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
.addComponent(lblBookName)
.addComponent(lblStudentId)
.addComponent(lblStudentName, GroupLayout.PREFERRED_SIZE, 108,
GroupLayout.PREFERRED_SIZE)
.addComponent(lblStudentContact, GroupLayout.PREFERRED_SIZE, 100,
GroupLayout.PREFERRED_SIZE))
.addGap(10)
.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
.addComponent(textField_2, GroupLayout.PREFERRED_SIZE, 172,
GroupLayout.PREFERRED_SIZE)
.addComponent(textField_1, GroupLayout.PREFERRED_SIZE, 172,
GroupLayout.PREFERRED_SIZE)
.addComponent(textField_3, GroupLayout.PREFERRED_SIZE, 172,
GroupLayout.PREFERRED_SIZE)
.addComponent(textField_4, GroupLayout.PREFERRED_SIZE, 172,
GroupLayout.PREFERRED_SIZE))
.addGap(48))
.addGroup(Alignment.TRAILING, gl_contentPane.createSequentialGroup()
.addGap(20)
.addGroup(gl_contentPane.createParallelGroup(Alignment.TRAILING)
.addComponent(lblNewLabel_1)
.addGroup(gl_contentPane.createSequentialGroup()
.addComponent(btnIssueBook, GroupLayout.PREFERRED_SIZE, 100,
GroupLayout.PREFERRED_SIZE)
.addGap(47)
.addComponent(btnBack)))
.addGap(100)))
.addGroup(gl_contentPane.createSequentialGroup()
.addGap(146)
.addComponent(lblNewLabel)
.addContainerGap(235, Short.MAX_VALUE))

```

```

);
gl_contentPane.setVerticalGroup(
gl_contentPane.createParallelGroup(Alignment.TRAILING)
.addGroup(gl_contentPane.createSequentialGroup()
.addGap(37)
.addComponent(lblNewLabel)
.addGap(43)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblBookName)
.addComponent(textField_1, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
.addGap(28)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblStudentId)
.addComponent(textField_2, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
.addGap(28)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblStudentName)
.addComponent(textField_3, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
.addGap(26)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblStudentContact)
.addComponent(textField_4, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
.addPreferredGap(ComponentPlacement.UNRELATED)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(btnIssueBook, GroupLayout.PREFERRED_SIZE, 31,
GroupLayout.PREFERRED_SIZE)
.addComponent(btnBack))
.addGap(18)
.addComponent(lblNewLabel_1)
.addGap(25))
);
contentPane.setLayout(gl_contentPane);
}
}
import java.sql.*;
public class LibrarianDao {
public static int save(String name,String password,String email,String address,String
city,String contact){
    int status=0;
    try{
        Connection con=DB.getConnection();
        PreparedStatement ps=con.prepareStatement("insert into
librarian(name,password,email,address,city,contact) values(?,?,?,?,?,?)");
        ps.setString(1,name);
        ps.setString(2,password);
        ps.setString(3,email);

```

```

        ps.setString(4,address);
        ps.setString(5,city);
        ps.setString(6,contact);
        status=ps.executeUpdate();
        con.close();
    }catch(Exception e){System.out.println(e);}
    return status;
}
public static int delete(int id){
    int status=0;
    try{
        Connection con=DB.getConnection();
        PreparedStatement ps=con.prepareStatement("delete from
librarian where id=?");
        ps.setInt(1,id);
        status=ps.executeUpdate();
        con.close();
    }catch(Exception e){System.out.println(e);}
    return status;
}

public static boolean validate(String name,String password){
    boolean status=false;
    try{
        Connection con=DB.getConnection();
        PreparedStatement ps=con.prepareStatement("select * from
librarian where name=? and password=?");
        ps.setString(1,name);
        ps.setString(2,password);
        ResultSet rs=ps.executeQuery();
        status=rs.next();
        con.close();
    }catch(Exception e){System.out.println(e);}
    return status;
}

}

import java.awt.BorderLayout;
import java.awt.EventQueue;
import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.border.EmptyBorder;
import javax.swing.GroupLayout;
import javax.swing.GroupLayout.Alignment;
import javax.swing.JLabel;
import javax.swing.JOptionPane;
import java.awt.Font;
import java.awt.Color;
import javax.swing.JTextField;
import javax.swing.JPasswordField;

```

```

import javax.swing.LayoutStyle.ComponentPlacement;
import javax.swing.JButton;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
public class LibrarianForm extends JFrame {
static LibrarianForm frame;
private JPanel contentPane;
private JTextField textField;
private JTextField textField_1;
private JTextField textField_2;
private JTextField textField_3;
private JTextField textField_4;
private JPasswordField passwordField;
/**
 * Launch the application.
 */
public static void main(String[] args) {
EventQueue.invokeLater(new Runnable() {
public void run() {
try {
frame = new LibrarianForm();
frame.setVisible(true);
} catch (Exception e) {
e.printStackTrace();
}
}
});
}
/**
 * Create the frame.
 */
public LibrarianForm() {
setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
setBounds(100, 100, 450, 450);
contentPane = new JPanel();
contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
setContentPane(contentPane);
JLabel lblAddLibrarian = new JLabel("Add Librarian");
lblAddLibrarian.setForeground(Color.DARK_GRAY);
lblAddLibrarian.setFont(new Font("Tahoma", Font.PLAIN, 22));
JLabel lblName = new JLabel("Name:");
JLabel lblPassword = new JLabel("Password:");
JLabel lblEmail = new JLabel("Email:");
JLabel lblAddress = new JLabel("Address:");
JLabel lblCity = new JLabel("City:");
JLabel lblContactNo = new JLabel("Contact No:");
textField = new JTextField();
textField.setColumns(10);
textField_1 = new JTextField();
textField_1.setColumns(10);

```

```

textField_2 = new JTextField();
textField_2.setColumns(10);
textField_3 = new JTextField();
textField_3.setColumns(10);
textField_4 = new JTextField();
textField_4.setColumns(10);
passwordField = new JPasswordField();=
JButton btnNewButton = new JButton("Add Librarian");
btnNewButton.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {
String name=textField.getText();
String password=String.valueOf(passwordField.getPassword());
String email=textField_1.getText();
String address=textField_2.getText();
String city=textField_3.getText();
String contact=textField_4.getText();
int i=LibrarianDao.save(name, password, email, address, city, contact);
if(i>0){
JOptionPane.showMessageDialog(LibrarianForm.this,"Librarian added successfully!");
AdminSuccess.main(new String[]{});
frame.dispose();
}else{
JOptionPane.showMessageDialog(LibrarianForm.this,"Sorry, unable to save!");
}
}
});
btnNewButton.setForeground(Color.DARK_GRAY);=
JButton btnBack = new JButton("Back");
btnBack.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {
AdminSuccess.main(new String[]{});
frame.dispose();
}
});
GroupLayout gl_contentPane = new GroupLayout(contentPane);
gl_contentPane.setHorizontalGroup(
gl_contentPane.createParallelGroup(Alignment.TRAILING)
.addGroup(gl_contentPane.createSequentialGroup()
.addGap(20)
.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING, false)
.addComponent(lblPassword, GroupLayout.DEFAULT_SIZE, 62, Short.MAX_VALUE)
.addComponent(lblName)
.addComponent(lblEmail, GroupLayout.PREFERRED_SIZE, 31,
GroupLayout.PREFERRED_SIZE)
.addComponent(lblAddress, GroupLayout.DEFAULT_SIZE,
GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
.addComponent(lblCity, GroupLayout.PREFERRED_SIZE, 31,
GroupLayout.PREFERRED_SIZE)
.addComponent(lblContactNo, GroupLayout.DEFAULT_SIZE,
GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))

```

```

.addGap(58)
.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING, false)
.addComponent(textField_4, GroupLayout.DEFAULT_SIZE, 177, Short.MAX_VALUE)
.addComponent(textField_3, GroupLayout.DEFAULT_SIZE, 177, Short.MAX_VALUE)
.addComponent(textField_2, GroupLayout.DEFAULT_SIZE, 177, Short.MAX_VALUE)
.addComponent(textField_1, GroupLayout.DEFAULT_SIZE, 177, Short.MAX_VALUE)
.addComponent(textField, GroupLayout.DEFAULT_SIZE, 177, Short.MAX_VALUE)
.addComponent(passwordField))
.addContainerGap(107, Short.MAX_VALUE))
.addGroup(gl_contentPane.createSequentialGroup())
.addContainerGap(151, Short.MAX_VALUE)
.addComponent(lblAddLibrarian)
.addGap(144))
.addGroup(gl_contentPane.createSequentialGroup())
.addContainerGap(160, Short.MAX_VALUE)
.addComponent(btnNewButton, GroupLayout.PREFERRED_SIZE, 131,
GroupLayout.PREFERRED_SIZE)
.addGap(133))
.addGroup(gl_contentPane.createSequentialGroup())
.addContainerGap(200, Short.MAX_VALUE)
.addComponent(btnBack)
.addGap(169))
);
gl_contentPane.setVerticalGroup(
gl_contentPane.createParallelGroup(Alignment.LEADING)
.addGroup(gl_contentPane.createSequentialGroup())
.addComponent(lblAddLibrarian)
.addGap(18)
.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
.addGroup(gl_contentPane.createSequentialGroup())
.addComponent(lblName)
.addGap(18)
.addComponent(lblPassword))
.addGroup(gl_contentPane.createSequentialGroup())
.addComponent(textField, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE)
.addPreferredGap(ComponentPlacement.UNRELATED)
.addComponent(passwordField, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE)))
.addGap(18)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblEmail)
.addComponent(textField_1, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
.addGap(18)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblAddress)
.addComponent(textField_2, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
.addGap(18)

```



```

.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblCity)
.addComponent(textField_3, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
.addGap(18)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblContactNo)
.addComponent(textField_4, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
.addGap(18)
.addComponent(btnNewButton, GroupLayout.PREFERRED_SIZE, 36,
GroupLayout.PREFERRED_SIZE)
.addPreferredGap(ComponentPlacement.RELATED, 57, Short.MAX_VALUE)
.addComponent(btnBack)
.addGap(19))
);
contentPane.setLayout(gl_contentPane);
}
}
import java.awt.BorderLayout;
import java.awt.EventQueue;
import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.border.EmptyBorder;
import javax.swing.GroupLayout;
import javax.swing.GroupLayout.Alignment;
import javax.swing.JLabel;
import javax.swing.JOptionPane;
import java.awt.Font;
import java.awt.Color;
import javax.swing.JTextField;
import javax.swing.JButton;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
import javax.swing.JPasswordField;
public class LibrarianLogin extends JFrame {
static LibrarianLogin frame;
private JPanel contentPane;
private JTextField textField;
private JPasswordField passwordField;

/**
 * Launch the application.
 */
public static void main(String[] args) {
EventQueue.invokeLater(new Runnable() {
public void run() {
try {
frame = new LibrarianLogin();
frame.setVisible(true);

```

```

    } catch (Exception e) {
    e.printStackTrace();
    }
    });
    }
    /**
    * Create the frame.
    */
    public LibrarianLogin() {
    setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    setBounds(100, 100, 450, 300);
    contentPane = new JPanel();
    contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
    setContentPane(contentPane);
    JLabel lblAdminLoginForm = new JLabel("Librarian Login Form");
    lblAdminLoginForm.setForeground(Color.GRAY);
    lblAdminLoginForm.setFont(new Font("Tahoma", Font.PLAIN, 18));
    JLabel lblEnterName = new JLabel("Enter Name:");
    JLabel lblEnterPassword = new JLabel("Enter Password:");
    textField = new JTextField();
    textField.setColumns(10);
    JButton btnLogin = new JButton("Login");
    btnLogin.addActionListener(new ActionListener() {
    public void actionPerformed(ActionEvent e) {
    String name=textField.getText();
    String password=String.valueOf(passwordField.getPassword());
    //System.out.println(name+" "+password);
    if(name.equals("karun")&&password.equals("karun123")){
    LibrarianSuccess.main(new String[] { });
    frame.dispose();
    }else{
    JOptionPane.showMessageDialog(LibrarianLogin.this, "Sorry, Username or Password
    Error","Login Error!", JOptionPane.ERROR_MESSAGE);
    textField.setText("");
    passwordField.setText("");
    }
    }
    });
    passwordField = new JPasswordField();
    GroupLayout gl_contentPane = new GroupLayout(contentPane);
    gl_contentPane.setHorizontalGroup(
    gl_contentPane.createParallelGroup(Alignment.TRAILING)
    .addGroup(gl_contentPane.createSequentialGroup()
    .addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
    .addGroup(gl_contentPane.createSequentialGroup()
    .addGroup(gl_contentPane.createSequentialGroup()
    .addGap(124)
    .addComponent(lblAdminLoginForm))
    .addGroup(gl_contentPane.createSequentialGroup()
    .addGroup(gl_contentPane.createSequentialGroup()
    .addGap(19)

```

```

.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
.addComponent(lblEnterName)
.addComponent(lblEnterPassword))
.addGap(47)
.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING, false)
.addComponent(passwordField)
.addComponent(textField, GroupLayout.DEFAULT_SIZE, 172, Short.MAX_VALUE))))
.addContainerGap(107, Short.MAX_VALUE))
.addGroup(gl_contentPane.createSequentialGroup())
.addContainerGap(187, Short.MAX_VALUE)
.addComponent(btnLogin, GroupLayout.PREFERRED_SIZE, 86,
GroupLayout.PREFERRED_SIZE)
.addGap(151))
);
gl_contentPane.setVerticalGroup(
gl_contentPane.createParallelGroup(Alignment.LEADING)
.addGroup(gl_contentPane.createSequentialGroup())
.addComponent(lblAdminLoginForm)
.addGap(26)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblEnterName)
.addComponent(textField, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
.addGap(28)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblEnterPassword)
.addComponent(passwordField, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
.addGap(18)
.addComponent(btnLogin, GroupLayout.PREFERRED_SIZE, 37,
GroupLayout.PREFERRED_SIZE)
.addContainerGap(80, Short.MAX_VALUE))
);
contentPane.setLayout(gl_contentPane);
}
}
import java.awt.BorderLayout;
import java.awt.EventQueue;
import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.border.EmptyBorder;
import javax.swing.GroupLayout;
import javax.swing.GroupLayout.Alignment;
import javax.swing.JLabel;
import java.awt.Font;
import java.awt.Color;
import javax.swing.JButton;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
public class LibrarianSuccess extends JFrame {

```

```

static LibrarianSuccess frame;
private JPanel contentPane;
/**
 * Launch the application.
 */
public static void main(String[] args) {
    EventQueue.invokeLater(new Runnable() {
        public void run() {
            try {
                frame = new LibrarianSuccess();
                frame.setVisible(true);
            } catch (Exception e) {
                e.printStackTrace();
            }
        }
    });
}
/**
 * Create the frame.
 */
public LibrarianSuccess() {
    setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    setBounds(100, 100, 450, 433);
    contentPane = new JPanel();
    contentPane.setForeground(Color.GRAY);
    contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
    setContentPane(contentPane);
    JLabel lblLibrarianSection = new JLabel("Librarian Selection Form");
    lblLibrarianSection.setFont(new Font("Tahoma", Font.PLAIN, 22));
    JButton btnNewButton = new JButton("Add Books");
    btnNewButton.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            BooksForm.main(new String[]{});
            frame.dispose();
        }
    });
    btnNewButton.setFont(new Font("Tahoma", Font.PLAIN, 13));
    JButton btnViewBooks = new JButton("View Books");
    btnViewBooks.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent arg0) {
            ViewBooks.main(new String[]{});
        }
    });
    btnViewBooks.setFont(new Font("Tahoma", Font.PLAIN, 13));
    JButton btnIssueBook = new JButton("Issue Book");
    btnIssueBook.addActionListener(new ActionListener() {
        public void actionPerformed(ActionEvent e) {
            IssueBookForm.main(new String[]{});
            frame.dispose();
        }
    });
}

```

```

});
btnIssueBook.setFont(new Font("Tahoma", Font.PLAIN, 13));
JButton btnViewIssuedBooks = new JButton("View Issued Books");
btnViewIssuedBooks.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {
ViewIssuedBooks.main(new String[]{});
}
});
btnViewIssuedBooks.setFont(new Font("Tahoma", Font.PLAIN, 13));
JButton btnReturnBook = new JButton("Return Book");
btnReturnBook.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {
ReturnBook.main(new String[]{});
}
});
frame.dispose();
});
btnReturnBook.setFont(new Font("Tahoma", Font.PLAIN, 13));
JButton btnLogout = new JButton("Logout");
btnLogout.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {
Library.main(new String[]{});
}
});
frame.dispose();
});
btnLogout.setFont(new Font("Tahoma", Font.PLAIN, 13));
GroupLayout gl_contentPane = new GroupLayout(contentPane);
gl_contentPane.setHorizontalGroup(
gl_contentPane.createParallelGroup(Alignment.LEADING)
.addGroup(Alignment.TRAILING, gl_contentPane.createSequentialGroup()
.addContainerGap(81, Short.MAX_VALUE)
.addComponent(lblLibrarianSection)
.addGap(54))
.addGroup(gl_contentPane.createSequentialGroup()
.addGap(132)
.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
.addComponent(btnLogout, GroupLayout.PREFERRED_SIZE, 191,
GroupLayout.PREFERRED_SIZE)
.addComponent(btnReturnBook, GroupLayout.PREFERRED_SIZE, 191,
GroupLayout.PREFERRED_SIZE)
.addComponent(btnViewIssuedBooks, GroupLayout.PREFERRED_SIZE, 191,
GroupLayout.PREFERRED_SIZE)
.addComponent(btnIssueBook, GroupLayout.PREFERRED_SIZE, 191,
GroupLayout.PREFERRED_SIZE)
.addComponent(btnViewBooks, GroupLayout.PREFERRED_SIZE, 191,
GroupLayout.PREFERRED_SIZE)
.addComponent(btnNewButton, GroupLayout.PREFERRED_SIZE, 191,
GroupLayout.PREFERRED_SIZE))
.addContainerGap(101, Short.MAX_VALUE))
);
gl_contentPane.setVerticalGroup(

```

```

gl_contentPane.createParallelGroup(Alignment.LEADING)
.addGroup(gl_contentPane.createSequentialGroup()
.addContainerGap()
.addComponent(lblLibrarianSection)
.addGap(18)
.addComponent(btnNewButton, GroupLayout.PREFERRED_SIZE, 37,
GroupLayout.PREFERRED_SIZE)
.addGap(18)
.addComponent(btnViewBooks, GroupLayout.PREFERRED_SIZE, 37,
GroupLayout.PREFERRED_SIZE)
.addGap(18)
.addComponent(btnIssueBook, GroupLayout.PREFERRED_SIZE, 37,
GroupLayout.PREFERRED_SIZE)
.addGap(18)
.addComponent(btnViewIssuedBooks, GroupLayout.PREFERRED_SIZE, 37,
GroupLayout.PREFERRED_SIZE)
.addGap(18)
.addComponent(btnReturnBook, GroupLayout.PREFERRED_SIZE, 37,
GroupLayout.PREFERRED_SIZE)
.addGap(18)
.addComponent(btnLogout, GroupLayout.PREFERRED_SIZE, 37,
GroupLayout.PREFERRED_SIZE)
.addContainerGap(16, Short.MAX_VALUE))
);
contentPane.setLayout(gl_contentPane);
}
}
import java.awt.BorderLayout;
import java.awt.EventQueue;
import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.border.EmptyBorder;
import javax.swing.GroupLayout;
import javax.swing.GroupLayout.Alignment;
import javax.swing.JLabel;
import java.awt.Color;
import java.awt.Font;
import javax.swing.JButton;
import javax.swing.LayoutStyle.ComponentPlacement;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
public class Library extends JFrame {
static Library frame;
private JPanel contentPane;

/**
 * Launch the application.
 */
public static void main(String[] args) {
EventQueue.invokeLater(new Runnable() {

```

```

public void run() {
try {
frame= new Library();
frame.setVisible(true);
} catch (Exception e) {
e.printStackTrace();
}
}
});
}
/**
 * Create the frame.
 */
public Library() {
setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
setBounds(100, 100, 450, 300);
contentPane = new JPanel();
contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
setContentPane(contentPane);
JLabel lblLibraryManagement = new JLabel("Library Management Form");
lblLibraryManagement.setFont(new Font("Tahoma", Font.PLAIN, 18));
lblLibraryManagement.setForeground(Color.GRAY);
JButton btnAdminLogin = new JButton("Admin Login");
btnAdminLogin.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {
AdminLogin.main(new String[]{});
frame.dispose();
}
});
btnAdminLogin.setFont(new Font("Tahoma", Font.PLAIN, 15));
JButton btnLibrarianLogin = new JButton("Librarian Login");
btnLibrarianLogin.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent arg0) {
LibrarianLogin.main(new String[]{});
}
});
btnLibrarianLogin.setFont(new Font("Tahoma", Font.PLAIN, 15));
GroupLayout gl_contentPane = new GroupLayout(contentPane);
gl_contentPane.setHorizontalGroup(
gl_contentPane.createParallelGroup(Alignment.LEADING)
.addGroup(gl_contentPane.createSequentialGroup()
.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
.addGroup(gl_contentPane.createSequentialGroup()
.addGap(64)
.addComponent(lblLibraryManagement)
.addComponent(btnLibrarianLogin, Alignment.LEADING, GroupLayout.DEFAULT_SIZE,
GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

```

```

.addComponent(btnAdminLogin, Alignment.LEADING, GroupLayout.DEFAULT_SIZE,
135, Short.MAX_VALUE)))
.addContainerGap(95, Short.MAX_VALUE))
);
gl_contentPane.setVerticalGroup(
gl_contentPane.createParallelGroup(Alignment.LEADING)
.addGroup(gl_contentPane.createSequentialGroup()
.addContainerGap()
.addComponent(lblLibraryManagement)
.addGap(32)
.addComponent(btnAdminLogin, GroupLayout.PREFERRED_SIZE, 52,
GroupLayout.PREFERRED_SIZE)
.addPreferredGap(ComponentPlacement.UNRELATED)
.addComponent(btnLibrarianLogin, GroupLayout.PREFERRED_SIZE, 53,
GroupLayout.PREFERRED_SIZE)
.addContainerGap(70, Short.MAX_VALUE))
);
contentPane.setLayout(gl_contentPane);
}
}
import java.awt.BorderLayout;
import java.awt.EventQueue;
import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.border.EmptyBorder;
import javax.swing.GroupLayout;
import javax.swing.GroupLayout.Alignment;
import javax.swing.JLabel;
import javax.swing.JOptionPane;
import java.awt.Font;
import java.awt.Color;
import javax.swing.JTextField;
import javax.swing.JButton;
import javax.swing.LayoutStyle.ComponentPlacement;
import java.awt.event.ActionListener;
import java.awt.event.ActionEvent;
public class ReturnBook extends JFrame {
    static ReturnBook frame;
    private JPanel contentPane;
    private JTextField textField;
    private JTextField textField_1;
    /**
     * Launch the application.
     */
    public static void main(String[] args) {
        EventQueue.invokeLater(new Runnable() {
            public void run() {
                try {
                    frame = new ReturnBook();
                    frame.setVisible(true);

```



```

    } catch (Exception e) {
    e.printStackTrace();
    }
    });
}
/**
 * Create the frame.
 */
public ReturnBook() {
setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
setBounds(100, 100, 516, 413);
contentPane = new JPanel();
contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
setContentPane(contentPane);
JLabel lblReturnBook = new JLabel("Return Book");
lblReturnBook.setForeground(Color.GRAY);
lblReturnBook.setFont(new Font("Tahoma", Font.PLAIN, 18));
JLabel lblBookCallno = new JLabel("Book Callno:");
JLabel lblStudentId = new JLabel("Student Id:");
textField = new JTextField();
textField.setColumns(10);
textField_1 = new JTextField();
textField_1.setColumns(10);
JButton btnReturnBook = new JButton("Return Book");
btnReturnBook.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {
String bookcallno=textField.getText();
int studentid=Integer.parseInt(textField_1.getText());
int i=ReturnBookDao.delete(bookcallno, studentid);
if(i>0){
JOptionPane.showMessageDialog(ReturnBook.this,"Book returned successfully!");
LibrarianSuccess.main(new String[]{});
frame.dispose();
}else{
JOptionPane.showMessageDialog(ReturnBook.this,"Sorry, unable to return book!");
}
}
});
JLabel lblNewLabel = new JLabel("Note: Check the book properly!");
lblNewLabel.setForeground(Color.RED);
lblNewLabel.setFont(new Font("Tahoma", Font.PLAIN, 13));
JButton btnBack = new JButton("Back");
btnBack.addActionListener(new ActionListener() {
public void actionPerformed(ActionEvent e) {
LibrarianSuccess.main(new String[]{});
frame.dispose();
}
});
GroupLayout gl_contentPane = new GroupLayout(contentPane);

```

```

gl_contentPane.setHorizontalGroup(
gl_contentPane.createParallelGroup(Alignment.TRAILING)
.addGroup(gl_contentPane.createSequentialGroup()
.addGap(36)
.addGroup(gl_contentPane.createParallelGroup(Alignment.TRAILING, false)
.addComponent(lblStudentId, Alignment.LEADING, GroupLayout.DEFAULT_SIZE,
GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
.addComponent(lblBookCallno, Alignment.LEADING, GroupLayout.DEFAULT_SIZE, 78,
Short.MAX_VALUE))
.addGap(56)
.addGroup(gl_contentPane.createParallelGroup(Alignment.LEADING)
.addComponent(textField_1, GroupLayout.PREFERRED_SIZE, 181,
GroupLayout.PREFERRED_SIZE)
.addComponent(textField, GroupLayout.PREFERRED_SIZE, 181,
GroupLayout.PREFERRED_SIZE))
.addContainerGap(139, Short.MAX_VALUE))
.addGroup(gl_contentPane.createSequentialGroup()
.addContainerGap(210, Short.MAX_VALUE)
.addComponent(btnReturnBook, GroupLayout.PREFERRED_SIZE, 104,
GroupLayout.PREFERRED_SIZE)
.addGap(176))
.addGroup(gl_contentPane.createSequentialGroup()
.addContainerGap(205, Short.MAX_VALUE)
.addComponent(lblReturnBook)
.addGap(187))
.addGroup(gl_contentPane.createSequentialGroup()
.addGap(19)
.addComponent(lblNewLabel)
.addContainerGap(294, Short.MAX_VALUE))
.addGroup(gl_contentPane.createSequentialGroup()
.addContainerGap(355, Short.MAX_VALUE)
.addComponent(btnBack)
.addGap(46))
);
gl_contentPane.setVerticalGroup(
gl_contentPane.createParallelGroup(Alignment.LEADING)
.addGroup(gl_contentPane.createSequentialGroup()
.addContainerGap()
.addComponent(lblReturnBook)
.addGap(32)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblBookCallno)
.addComponent(textField, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
.addGap(34)
.addGroup(gl_contentPane.createParallelGroup(Alignment.BASELINE)
.addComponent(lblStudentId)
.addComponent(textField_1, GroupLayout.PREFERRED_SIZE,
GroupLayout.DEFAULT_SIZE, GroupLayout.PREFERRED_SIZE))
.addGap(29)

```

```

.addComponent(btnReturnBook, GroupLayout.PREFERRED_SIZE, 34,
GroupLayout.PREFERRED_SIZE)
.addGap(23)
.addComponent(btnBack)
.addPreferredGap(ComponentPlacement.RELATED, 28, Short.MAX_VALUE)
.addComponent(lblNewLabel)
.addGap(72))
);
contentPane.setLayout(gl_contentPane);
}
}
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
public class ReturnBookDao {
public static int delete(String bookcallno,int studentid){
int status=0;
try{
Connection con=DB.getConnection();
status=updatebook(bookcallno);//updating quantity and issue
if(status>0){
PreparedStatement ps=con.prepareStatement("delete from issuebooks where bookcallno=?
and studentid=?");
ps.setString(1,bookcallno);
ps.setInt(2,studentid);
status=ps.executeUpdate();
}
con.close();
}catch(Exception e){System.out.println(e);}
return status;
}
public static int updatebook(String bookcallno){
int status=0;
int quantity=0,issued=0;
try{
Connection con=DB.getConnection();

PreparedStatement ps=con.prepareStatement("select quantity,issued from books where
callno=?");
ps.setString(1,bookcallno);
ResultSet rs=ps.executeQuery();
if(rs.next()){
quantity=rs.getInt("quantity");
issued=rs.getInt("issued");
}
if(issued>0){
PreparedStatement ps2=con.prepareStatement("update books set quantity=?,issued=? where
callno=?");
ps2.setInt(1,quantity+1);
ps2.setInt(2,issued-1);

```

```

ps2.setString(3,bookcallno);
status=ps2.executeUpdate();
}
con.close();
}catch(Exception e){System.out.println(e);}
return status;
}
}
import java.awt.BorderLayout;
import java.awt.EventQueue;
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.ResultSetMetaData;
import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.JScrollPane;
import javax.swing.border.EmptyBorder;
import javax.swing.JTable;
public class ViewBooks extends JFrame {
private JPanel contentPane;
private JTable table;
public static void main(String[] args) {
EventQueue.invokeLater(new Runnable() {
public void run() {
try {
ViewBooks frame = new ViewBooks();
frame.setVisible(true);
} catch (Exception e) {
e.printStackTrace();
}
}
});
}
/**
 * Create the frame.
 */
public ViewBooks() {
setDefaultCloseOperation(JFrame.HIDE_ON_CLOSE);
setBounds(100, 100, 450, 300);
contentPane = new JPanel();
contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
contentPane.setLayout(new BorderLayout(0, 0));
setContentPane(contentPane);
String data[][]=null;
String column[]=null;
try{
Connection con=DB.getConnection();
PreparedStatement ps=con.prepareStatement("select * from
books",ResultSet.TYPE_SCROLL_SENSITIVE,ResultSet.CONCUR_UPDATABLE);

```

```

ResultSet rs=ps.executeQuery();
ResultSetMetaData rsmd=rs.getMetaData();
int cols=rsmd.getColumnCount();
column=new String[cols];
for(int i=1;i<=cols;i++){
column[i-1]=rsmd洗getColumnName(i);
}
rs.last();
int rows=rs.getRow();
rs.beforeFirst();
data=new String[rows][cols];
int count=0;
while(rs.next()){
for(int i=1;i<=cols;i++){
data[count][i-1]=rs.getString(i);
}
count++;
}
con.close();
} catch (Exception e) { System.out.println(e); }
table = new JTable(data,column);
JScrollPane sp=new JScrollPane(table);
contentPane.add(sp, BorderLayout.CENTER);
}
}
import java.awt.BorderLayout;
import java.awt.EventQueue;
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.ResultSetMetaData;
import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.JScrollPane;
import javax.swing.border.EmptyBorder;
import javax.swing.JTable;
public class ViewIssuedBooks extends JFrame {
private JPanel contentPane;
private JTable table;
public static void main(String[] args) {
EventQueue.invokeLater(new Runnable() {
public void run() {
try {
ViewIssuedBooks frame = new ViewIssuedBooks();
frame.setVisible(true);
} catch (Exception e) {
e.printStackTrace();
}
}
});
}

```

```

}

/**
 * Create the frame.
 */
public ViewIssuedBooks() {
    setDefaultCloseOperation(JFrame.HIDE_ON_CLOSE);
    setBounds(100, 100, 450, 300);
    contentPane = new JPanel();
    contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
    contentPane.setLayout(new BorderLayout(0, 0));
    setContentPane(contentPane);
    String data[][]=null;
    String column[]=null;
    try{
        Connection con=DB.getConnection();
        PreparedStatement ps=con.prepareStatement("select * from
        issuebooks",ResultSet.TYPE_SCROLL_SENSITIVE,ResultSet.CONCUR_UPDATABLE);
        ResultSet rs=ps.executeQuery();
        ResultSetMetaData rsmd=rs.getMetaData();
        int cols=rsmd.getColumnCount();
        column=new String[cols];
        for(int i=1;i<=cols;i++){
            column[i-1]=rsmd.getColumnName(i);
        }
        rs.last();
        int rows=rs.getRow();
        rs.beforeFirst();
        data=new String[rows][cols];
        int count=0;
        while(rs.next()){
            for(int i=1;i<=cols;i++){
                data[count][i-1]=rs.getString(i);
            }
            count++;
        }
        con.close();
    }catch(Exception e){System.out.println(e);}
    table = new JTable(data,column);
    JScrollPane sp=new JScrollPane(table);
    contentPane.add(sp, BorderLayout.CENTER);
}
}

import java.awt.BorderLayout;
import java.awt.EventQueue;
import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.ResultSetMetaData;
import javax.swing.JFrame;

```

```

import javax.swing.JPanel;
import javax.swing.JScrollPane;
import javax.swing.border.EmptyBorder;
import javax.swing.JTable;
public class ViewLibrarian extends JFrame {
private JPanel contentPane;
private JTable table;
public static void main(String[] args) {
EventQueue.invokeLater(new Runnable() {
public void run() {
try {
ViewLibrarian frame = new ViewLibrarian();
frame.setVisible(true);
} catch (Exception e) {
e.printStackTrace();
}
}
});
}
/**
 * Create the frame.
 */
public ViewLibrarian() {
setDefaultCloseOperation(JFrame.HIDE_ON_CLOSE);
setBounds(100, 100, 450, 300);
contentPane = new JPanel();
contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));
contentPane.setLayout(new BorderLayout(0, 0));
setContentPane(contentPane);
String data[][]=null;
String column[]=null;
try{
Connection con=DB.getConnection();
PreparedStatement ps=con.prepareStatement("select * from
librarian",ResultSet.TYPE_SCROLL_SENSITIVE,ResultSet.CONCUR_UPDATABLE);
ResultSet rs=ps.executeQuery();
ResultSetMetaData rsmd=rs.getMetaData();
int cols=rsmd.getColumnCount();
column=new String[cols];
for(int i=1;i<=cols;i++){
column[i-1]=rsmd.getColumnName(i);
}
rs.last();
int rows=rs.getRow();
rs.beforeFirst();
data=new String[rows][cols];
int count=0;
while(rs.next()){
for(int i=1;i<=cols;i++){
data[count][i-1]=rs.getString(i);

```

```
}  
count++;  
}  
con.close();  
} catch (Exception e) { System.out.println(e); }  
table = new JTable(data, column);  
JScrollPane sp = new JScrollPane(table);  
contentPane.add(sp, BorderLayout.CENTER);  
}  
}
```


6. INTEGRATION AND SYSTEM TESTING OUTPUTS

Screen Shots:

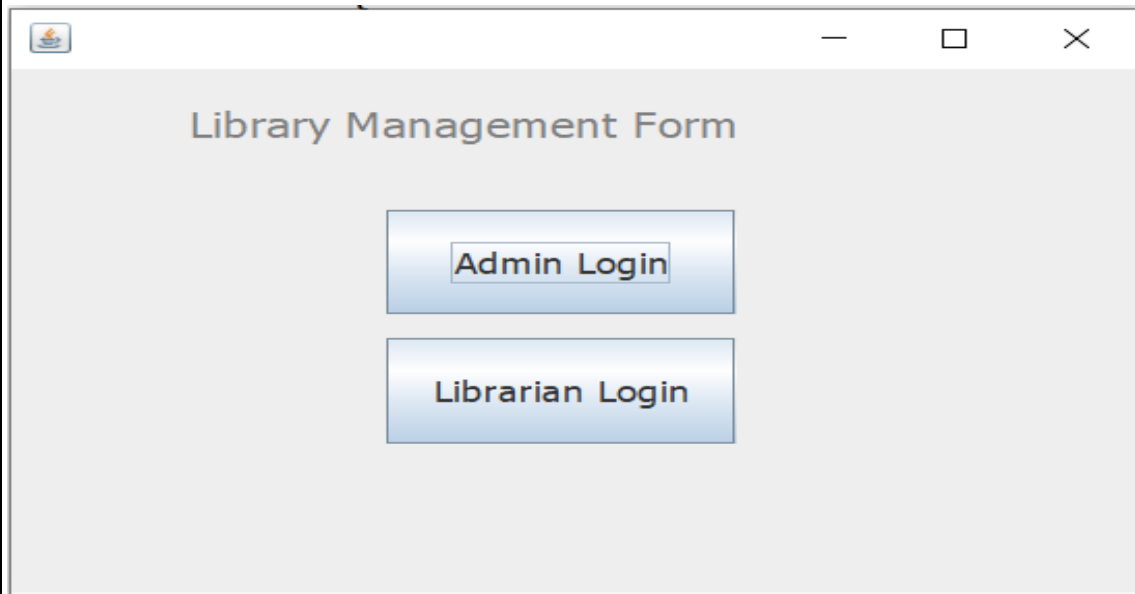
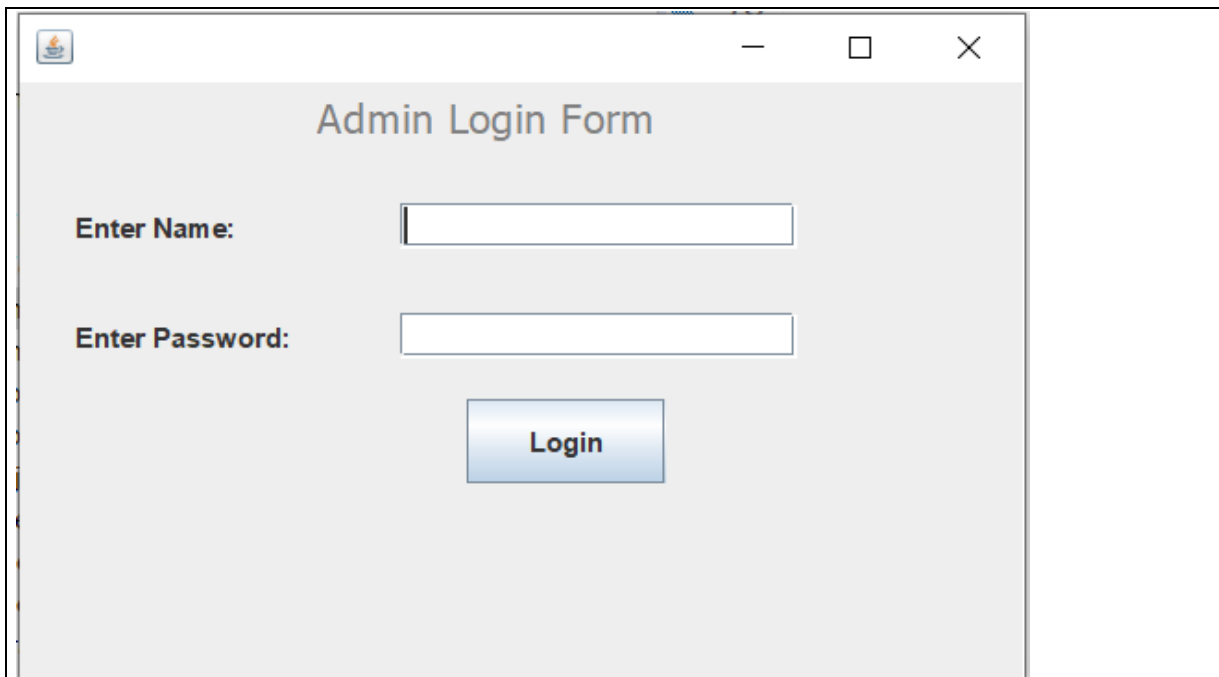


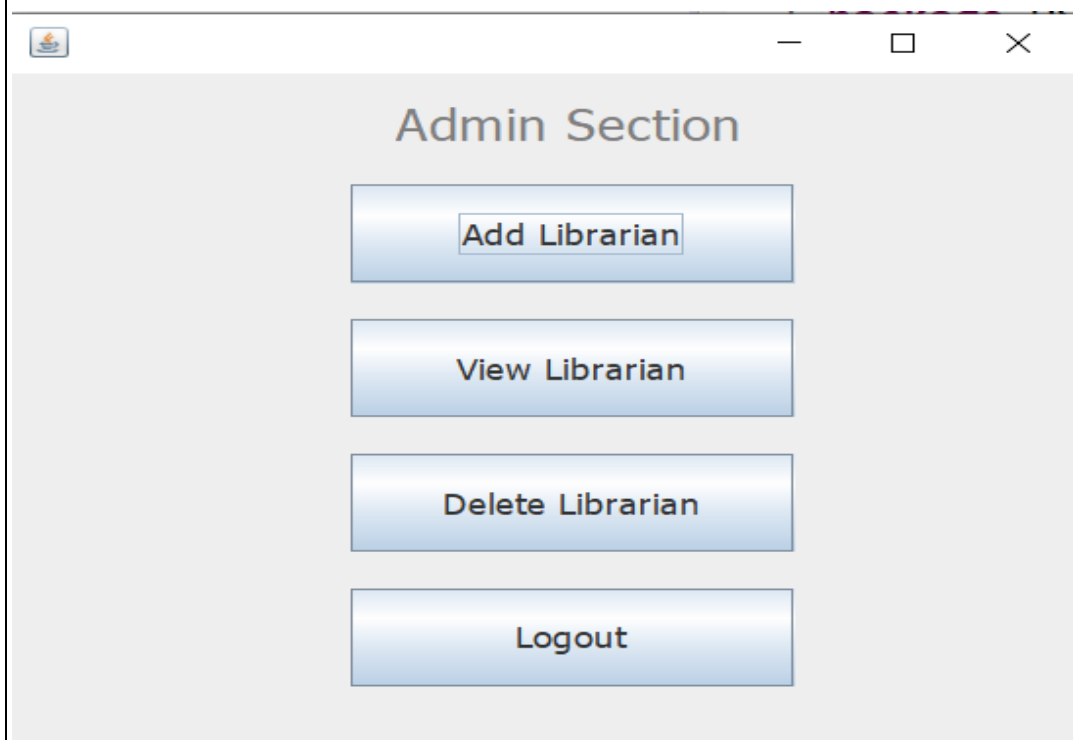
Figure 1: Library Management Form



The image shows a window titled "Admin Login Form". It has a standard Windows-style title bar with a minimize button, a maximize button, and a close button. The main content area is light gray and contains the following elements:

- A label "Enter Name:" followed by a text input field.
- A label "Enter Password:" followed by a text input field.
- A blue button with the text "Login" centered below the password field.

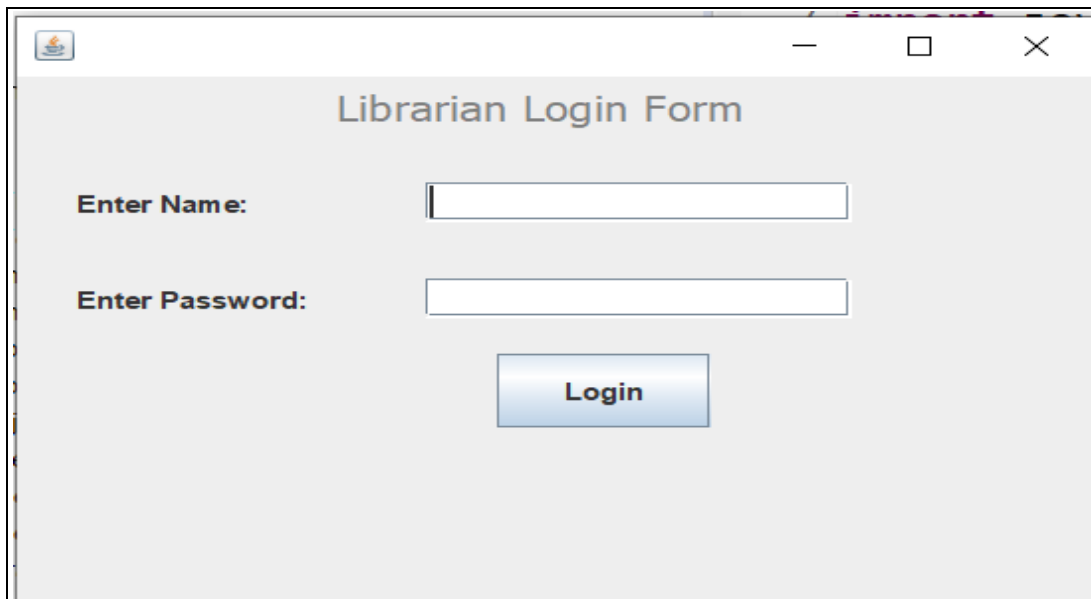
Figure 2: Admin login Form



The image shows a window titled "Admin Section". It has a standard Windows-style title bar with a minimize button, a maximize button, and a close button. The main content area is light gray and contains four blue buttons arranged vertically:

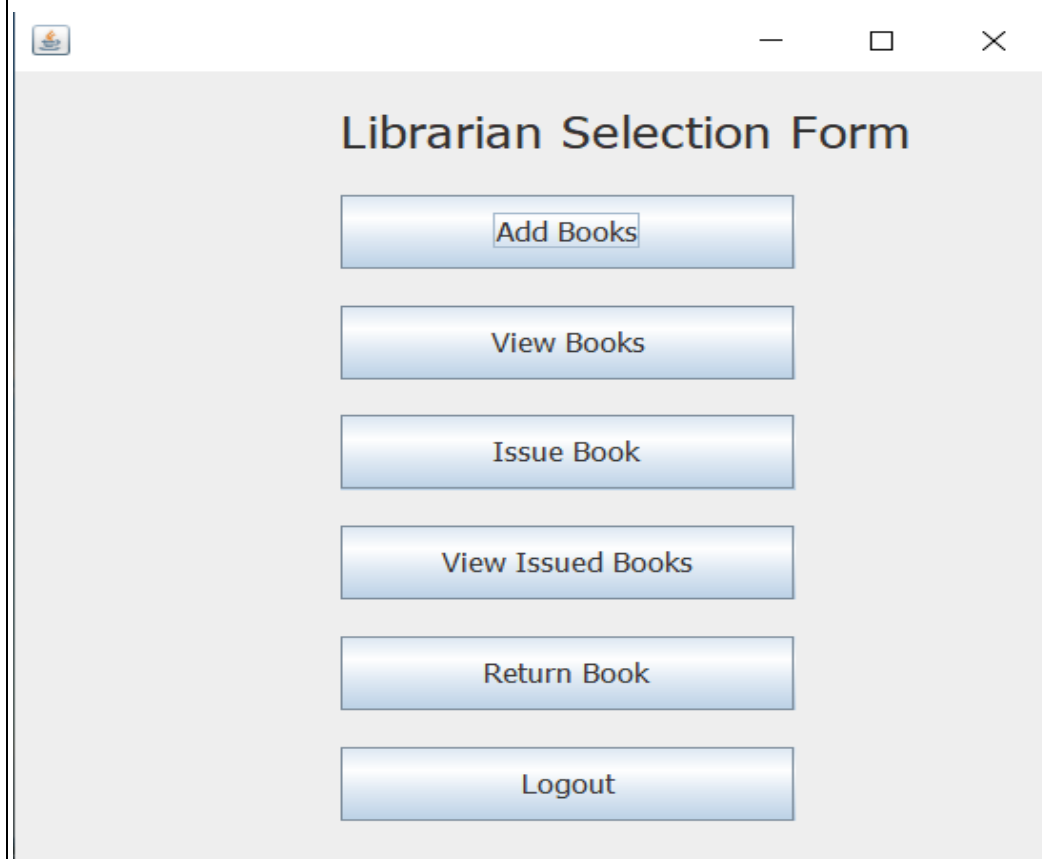
- "Add Librarian"
- "View Librarian"
- "Delete Librarian"
- "Logout"

Figure 3: Admin selection



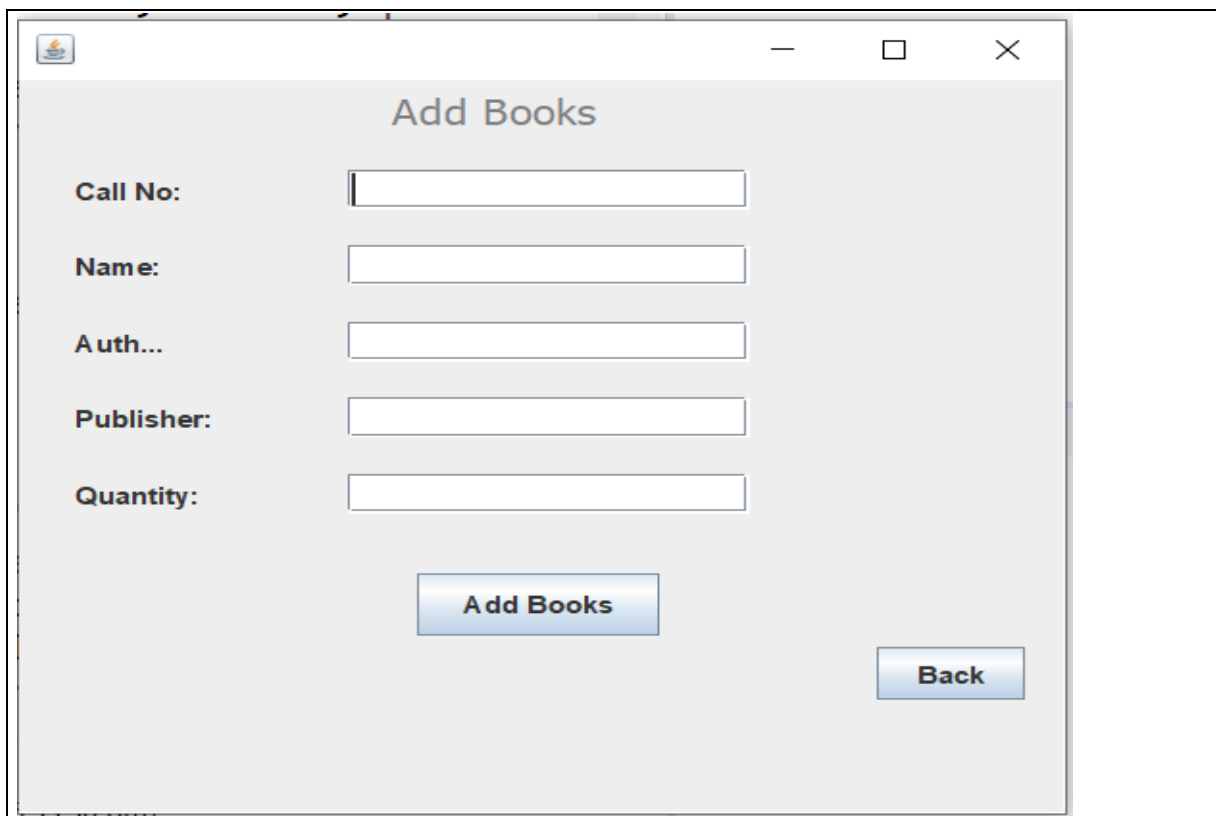
The screenshot shows a window titled "Librarian Login Form". It features a light gray background. At the top left is a small icon of a book on a stand. The title "Librarian Login Form" is centered at the top. Below the title, there are two input fields. The first is labeled "Enter Name:" and the second is labeled "Enter Password:". Both labels are in bold black text. Below the password field is a blue button with the text "Login" in white. The window has standard Windows-style window controls (minimize, maximize, close) in the top right corner.

Figure 4: Librarian Login Form



The screenshot shows a window titled "Librarian Selection Form". It features a light gray background. At the top left is a small icon of a book on a stand. The title "Librarian Selection Form" is centered at the top. Below the title, there are six blue buttons arranged vertically. The buttons are labeled: "Add Books", "View Books", "Issue Book", "View Issued Books", "Return Book", and "Logout". Each button has white text. The window has standard Windows-style window controls (minimize, maximize, close) in the top right corner.

Figure 5: Librarian Selection Form

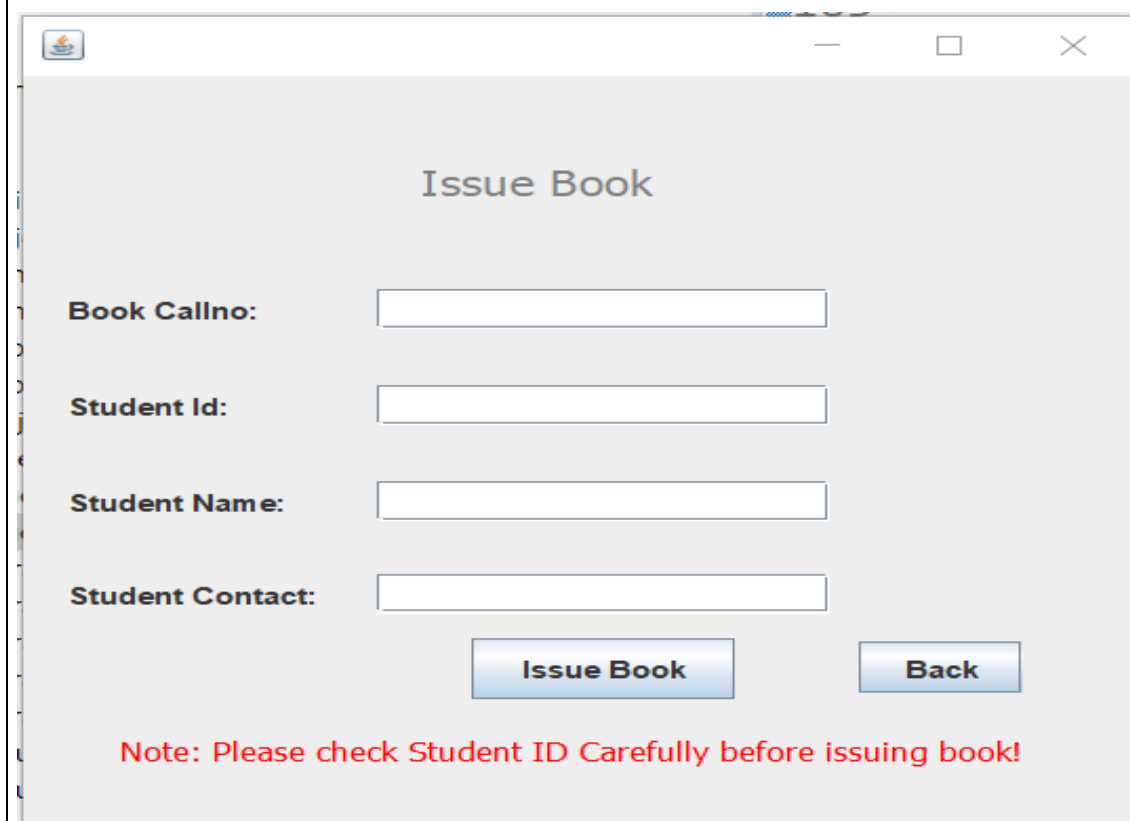


The screenshot shows a window titled "Add Books" with a standard Windows-style title bar (minimize, maximize, close buttons). The form contains five input fields, each with a label to its left: "Call No:", "Name:", "Auth...", "Publisher:", and "Quantity:". Below these fields are two buttons: "Add Books" and "Back".

Field Label	Input Type
Call No:	Text
Name:	Text
Auth...	Text
Publisher:	Text
Quantity:	Text

Buttons: Add Books, Back

Figure 6: Add Books Form



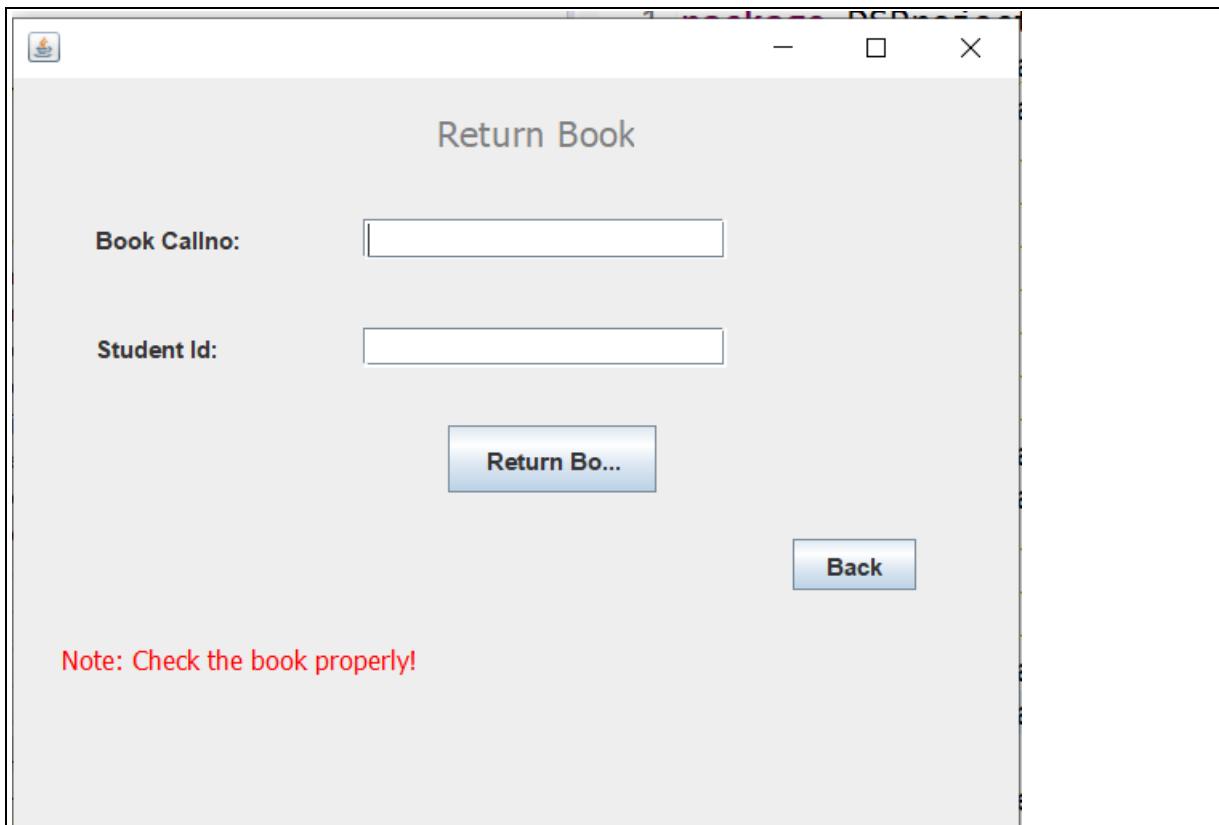
The screenshot shows a window titled "Issue Book" with a standard Windows-style title bar. The form contains four input fields, each with a label to its left: "Book Callno:", "Student Id:", "Student Name:", and "Student Contact:". Below these fields are two buttons: "Issue Book" and "Back". At the bottom of the form, there is a red text note: "Note: Please check Student ID Carefully before issuing book!".

Field Label	Input Type
Book Callno:	Text
Student Id:	Text
Student Name:	Text
Student Contact:	Text

Buttons: Issue Book, Back

Note: Please check Student ID Carefully before issuing book!

Figure 7: Issued Book Form



A screenshot of a software window titled "Return Book". The window has a standard Windows-style title bar with a minimize button, a maximize button, and a close button. The main content area is light gray. At the top center, the title "Return Book" is displayed in a dark gray font. Below the title, there are two input fields. The first is labeled "Book Callno:" and the second is labeled "Student Id:". Both labels are in a bold, dark gray font. Below the input fields, there are two buttons. The first button is labeled "Return Bo..." and the second button is labeled "Back". Both buttons are blue with a gradient and a shadow effect. At the bottom left of the window, there is a red text label that says "Note: Check the book properly!".

Return Book

Book Callno:

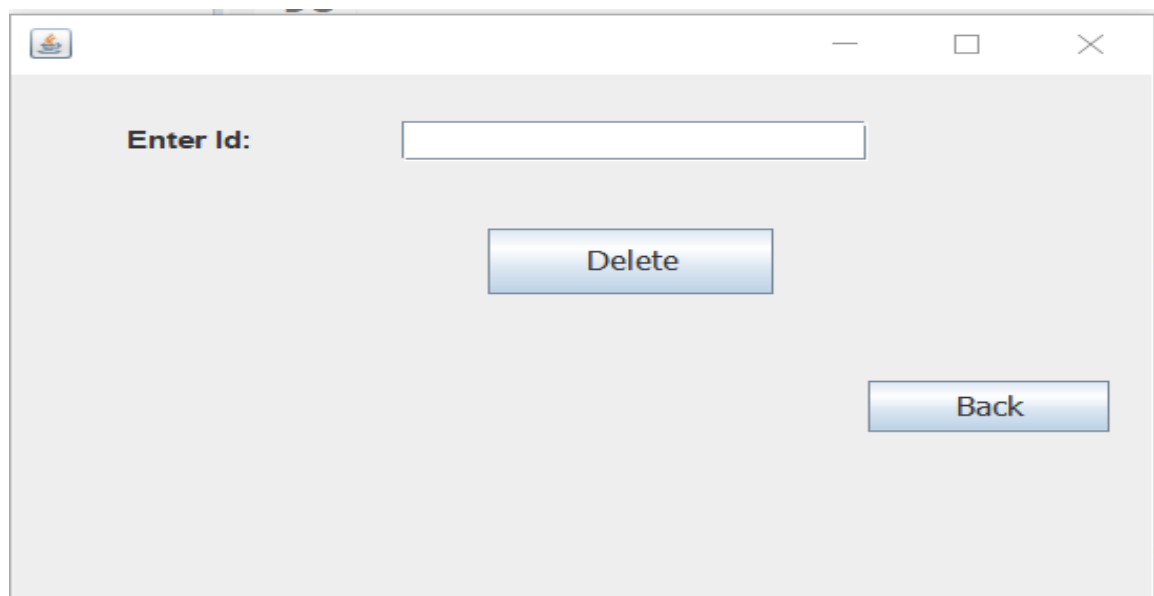
Student Id:

Return Bo...

Back

Note: Check the book properly!

Figure 8: Return Book Form



A screenshot of a software window titled "Delete Librarian". The window has a standard Windows-style title bar with a minimize button, a maximize button, and a close button. The main content area is light gray. At the top left, there is a label "Enter Id:" in a bold, dark gray font. To the right of the label is a text input field. Below the input field, there are two buttons. The first button is labeled "Delete" and the second button is labeled "Back". Both buttons are blue with a gradient and a shadow effect.

Enter Id:

Delete

Back

Figure 9: Delete Librarian Form

7. CONCLUSION

This Library Book Circulation System has been computed successfully and was also tested successfully by taking “test cases”. It is user friendly, and has required options, which can be utilized by the user to perform the desired operations. The software is developed using php as front end and mysal as back end in Windows environment. The goals that are achieved by the software are :-

1. Optimum utilization of resources.
2. Efficient management of records.
3. Simplification of the operations.
4. Less processing of time and getting required information.

The library provides research facilities to the researchers. It is a fact that library is situated in far from villager area but the owners of the library provide residential facilities to the researchers. They keep them as their honourable guests & fully entertain them wholeheartedly. Researches do their research work in full peace and calm. Library is promoting research culture in the country.