A

PROJECT REPORT

ON

Library Management System

Submitted in Partial Fulfillment of the Requirements for the award of the degree of

BACHELOR OF COMPUTER APPLICATIONS
VI SEMESTER

Submitted By:
Mohd Anas Ali(222807420307) Mohd Arish(222807420308)

Project Guide:
Mr. Ankur Rohilla

BCA Dept., SRC

DEPARTMENT OF Computer Application,
SHRI RAM COLLEGE,
MUZAFFARNAGAR
(Affiliated to Ma Shakumbari University, Saharanpur)

SESSION 2022-25

DECLARATION

We Mohammad Anas Ali and Mohammad Arish Akhtar hereby declare that the project report title "**Library managementSystem"** is an original work carried out by me under the supervision of **Mr. Nishant Rathi and Mr. Ankur Rohilla** We further declare that this work has not been submitted to any other Institute/University for the award ofthe degree of Bachelor of Computer Applications.

Student Name:
Mohd Anas Ali
Roll No: 222807420307

Student Name:
MohdArish
Roll No: 222807420308

Date:

FORWARDING LETTER

This is to certify that the project entitled "Library Management System", which is being submitted for the partial fulfillment for the award of **Degree of Bachelor of Computer Applications** from Ma Shakumbari University Saharanpur is an authentic work carried out by **Mohd Anas Ali (University Roll No.222807420307) and Mohd Arish(222807420308) under the guidance of** Project Guide **Mr. Ankur Rohilla and Mr. Nishant Rathi**

The matter embodied in this project work has been submitted earlier for the award of degree.

We wish himall the best for the future.

Internal Guide

Mr. Ankur Rohilla

Head - BCA Department

Mr. Nishant Rathi

ACKNOWLEDGEMENT

We would like to acknowledge and give my warmest thanks to my teacher **Mr. Nishant Rathi and Mr. Ankur Rohilla who made this work possible for me. His guidance and advice carried me** through all the stages of working on my project.

We have received unfailing encouragement and inspiration of **Mr. Nishant Rathi** and **Mr. Ankur Rohilla** whose exceptional knowledge and unparalleled behavior is full of enthusiastic inspiration in it.
However, we can never adequate thank all those who have their assistance, guidance, cooperation contributed to the improvement of this report.

.

Since performance feedback is essential for effective communication, mistakes and creative feedback of the report may be strongly communicated to me, who will be as far as possible duly acknowledged and most welcome.

Finally, we would like to thank God, for letting me through all the difficulties. I have experienced your guidance day by day. You are the one who let me finish my Project. I will keep ontrusting you for my future.

Mohd Anas Ali
(222807420307)

MohdArish
(222807420308)

Preface

This project is aimed at developing a desktop based application named **" LIBRARY MANAGEMENT SYSTEM**" for managing the Book system of any organization. The Library MANAGEMENT SYSTEM (LMS) refers to the system and process to manage the Library of organization with the involvement of technology system. This System can be used to store the details of the Book, Library maintenance, update the Book based on the details, and generate daily and weekly based. This project is categorize individual aspects for the and Library management system. In this system we are solving different problem affecting to direct management. Library Management System is important to ensure quality control in Library that handle transactions resolving around consumer goods. It reduces the workload of management as most of the manual work done is reduced.

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CHAPTER.1 INTRODUCTION

Introduction

The project Library Management System is a complete desktop based application designed on java using Netbeans Software. The main aim of the project is to develop Library Management System Model software in which all the information regarding the book of the organization will be presented. It is an Intranet based desktop application which has admits component to manage the book and maintenance of the library system. This desktop application is based on the management of book of an organization. The application contains vendors details, the
remaining book that are presented in the organization. There is a provision of updating the book also. This application also provides the remaining balance of the book as well as the details of the balance of transaction. The new product can also be added here. In this project the calculator is also given to cross check the calculation, google is also in the additional services. Here the login page is created in order to protect the management of the library of organization in order to prevent it from the threads and misuse of the book.

Objectives

- **Primary objective:-**

The primary objectives of the project are to know the fundamentals of Java programming and SQL using Netbeans and MySQL.

- **Secondary objective:-**

The secondary objectives of this project are mentioned below:

► To develop an application that deals with the day to day requirement of any production organization to develop the easy management of the book.

► To handle the book details, and balance book details.

► To provide details information about the book balance.

► To make the book manageable and simplify the use of book in the organization.

Scope of the System

The scope of this document includes an overview of the LIBRARY MANAGEMENT SYSTEM project, detailed information about the requirements, including functional requirements, interface requirements, nonfunctional requirements and additional constraints of the system.

1. There is only one user of this system who is the admin.
2. Admin can add product in the book.
3. Admin can also modify the book of the product.
4. Student information is also accessible and can be modified.

1.2 Problem Statement

After analyzing many existing LMS we have now the obvious vision of the project to be developed. Before we started to build the application we had many challenges,

We defined problem statement as:

- To make desktop based application small organization.
- To make the system easily managed and can be secured.
- To cover different areas , product managing them...

1.3 Project Description

1.3.1 About Existing System:-

"Library Management System" is one can go into almost required solution regarding the book. This software package provides guidance for all the book management purpose, as a perfect guide, the current demand for such software became needful. This project will provide for computerization of a small enterprise whose main goal is to keep track on their book process and wants to change from paper based data to computerized data. In this System, on starting it the login page will be displayed, which can only be accessed by the admin. Eight options are provided.
services where notepad, calculator and google is given , at last but not the least is logout option.

For Library management processes, you need robust functionality for managing your logistics facilities. Support for library management helps you record and track materials on the basis of both quantity and value.

Library management functions cover internal warehouse movements and storage.

This software is user friendly and hence easy to use.

1.3.2 Implementation of Proposed System

A crucial phase in the system life cycle is the successful implementation of the new system design. Implementation includes all those activities that take place to convert from the old system to tee new one. The new system may be completely new, replacing an existing system. In either case, proper implementation becomes necessary so that a reliable system based on the requirements of the organization can be provided. Successful implementation may not guarantee improvement in the organization using the new system, but improper installation will prevent it. It has been observed that even the best system can't show good result if the analysts managing the implementation do not

attend to every important details. This is an area where the systems analysts need to work with utmost care. This system will be implemented using java Netbeans as front end and MYSQL as back end.

For the successful implementation of a system, the training of the users of the system plays an important role. Because even well designed system can succeed or fail because of the way they are operated and used. Therefore, the quality of the training received by the personnel involved with the system in various capacities helps or hinders and may even prevent the successful implementation of management information system. Those who are directly or indirectly related with the system development work must know in detail what their roles will be, how they can ace efficient use of the system and what the system will or will not do for them. Therefore both system operators and users need training.

1.4 Advantages and Limitations of project

Advantages

1. Avoidance of Book-outs and excess Book.
2. Helps save time and money.
3. Fast accessible.
4. Easy to maintain.

Limitations

1. This application is not suitable for those organization where there is large quantity.
2. Single admin panel is only made.
3. It is not suitable for large organization.

CHAPTER.2 PROJECT CATEGORY & ENVIRONEMENT

2.1 Project Category & Development

Today computer has become the backbone of nearly every occupation. In every industry or company or any institution, the several employees have to maintain a number of records in various part of the organization. In a library, there is a need to maintain record about employees, edibles, assets & many more.

To do this work manually requires a lot of manpower and consumes too much time. Moreover one is never sure about the efficiency & accuracy of work being done and records being maintained. A bad part of this style of working is that, if a person concerned for a particular job, say maintaining customer record, is on leave, some of the process gets standstill, which depends on the records kept by that employee. That is, where automation comes in to help and allows simple, smooth and most efficient, secure and easy to handle functionality.

This system will reduce the workload of the employee and time of processing of data from one unit to another.It also provides the facility to prevent the unauthorized data access of other persons by categorized the user as normal user and administrator. Only administrator can delete & even modify the records.

2.2 Front end

JAVA used as FRONT END

Java is used as front end programming language using Netbeans software.

2.3 Back end

SQL used as BACK END

SQL is used as front end language for handling the database using MySQL software.

2.4 Software and Hardware Requirements

Technologies Used : Java and SQL

Hardware Requirements:

Processor:- Pentium 4 or higher processor
Ram :- 1gb or higher
Keyboard :- 104 keys

Software Requirements:

Operating System	: Windows XP/2003 or Linux/Solaris
Programming Language	: Java(jdk 17)
Netbeans	: 12.5 Version
MySQL Workbench	: 8.0

CHAPTER.3 PROJECT DEVELOPMENT STAGES

3.1 RECOGNITION OF NEEDS

We all know the importance of computerization. The world is moving ahead at lightning speed and everyone is running short of time. One always wants to get the information and perform a task he/she/they desire(s) within a short period of time and too with amount of efficiency and accuracy. The application areas for the computerization have been selected on the basis of following factors:

1. Minimizing the manual records kept at different locations.
2. There will be more data integrity.
3. Facilitating desired information display, very quickly, by retrieving information from users.
4. Facilitating various statistical information which helps in decision-making?
5. To reduce manual efforts in activities that involved repetitive work.
6. Updating and deletion of such a huge amount of data will become easier.

3.2 FEASIBILITY STUDY

The concept of feasibility is to determine whether or not a project is worth doing.

The process followed in making this determination is called feasibility study.
Once it has been determined that a project is feasible, the system analyst can go ahead and prepare the project specification which finalizes project requirements.

Types of feasibility

1. Technical Feasibility
2. Operational Feasibility
3. Economic Feasibility

Here we describe only few of these in detail:-

3.2.1 TECHNICAL FEASIBILITY

This is concerned with specifying equipment and software that will successfully satisfy the user requirement. Technical needs of the system include:-

- Facility to produce output in a given time
- Response time under certain conditions
- Ability to process a certain volume of transactions at a particular period
- Facility to communicate data to distant location

In examining technical feasibility, configuration of the system is given more importance than the actual make of hardware .Configuration should give the complete picture about the system's requirements: how many workstations are required , how these units are interconnected so that they could operate and communicate smoothly. What speeds of input and output should be achieved at particular quality of printing.

The computers are easily available in almost all the places, even in villages. The hardware needed to carry out this project with 64 MB of RAM and 2 GB HDD.

The software needed to carry out this project include Visual Basic 6.0 as front end and oracle 8 as back end .So the technology required to carry out the project is easily available and affordable, hence this project is technically feasible

Due to all these reasons implementation of such system becomes not only feasible but reputed to the organization..

3.2.2 OPERATIONAL FEASIBILITY

This is mainly related to human organization and political aspects. The points to be considered are:-

- What changes will be brought with the system?
- What organizational structures are disturbed?
- What new skills will be required? Do the existing staff members have these skills? If not, they be trained in due course of time.

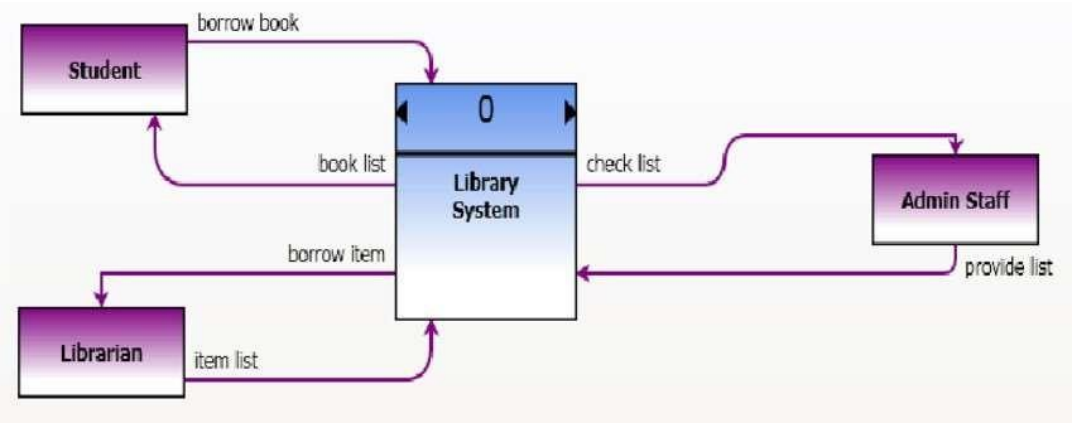
This feasibility study is carried out by a small group of people who are familiar with the information system techniques who understand the parts of business that are relevant to the project and are skilled in the system analysis and design process. This project is not developed just for fun. They are

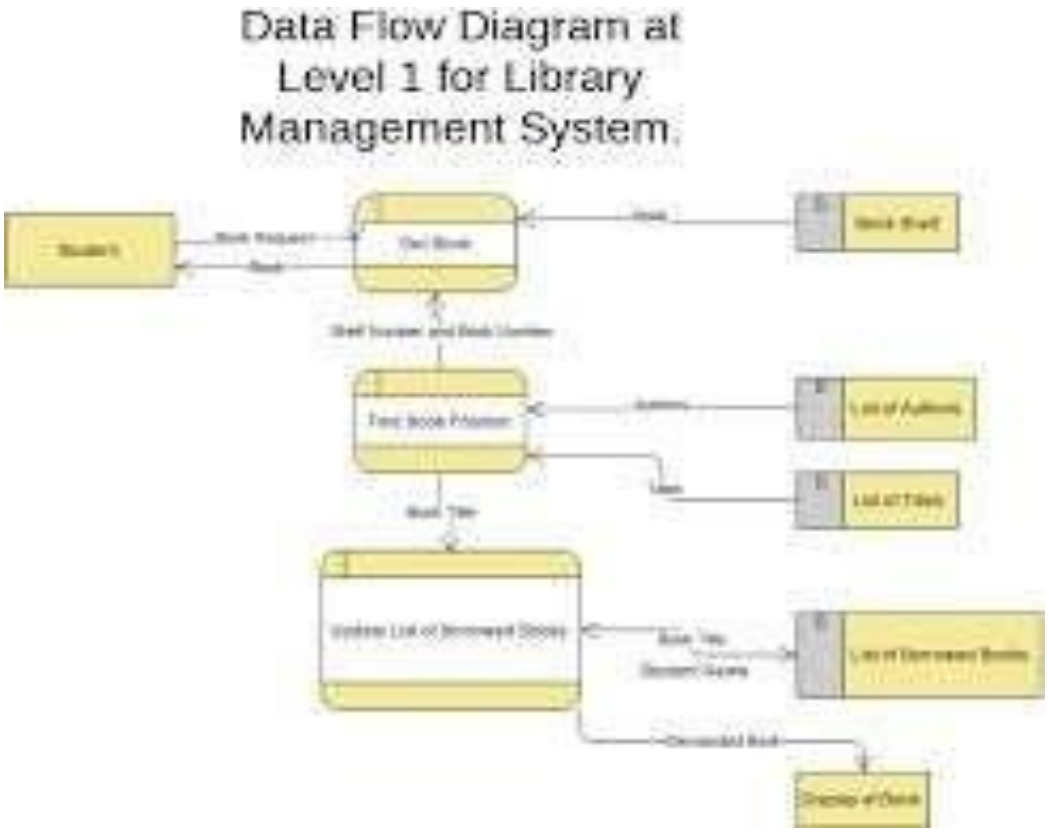
developed on demand of the organization for which the system is being developed. Therefore the chances of resistance from the company Staff is almost nil. Any disturbance to the organization if occurs will be advantageous to the organization. Also the time required to carry out a transaction will be required to a large extent, which will make the students and others happy and cheerful. The operators now will be able to service more students and staff members than before in same time period. There is no need to recruit new staff to corporate the system .The existing staff of the company can be trained to interact with the system, which is a GUI, based software and is easy to use. Hence the project is Operationally feasible.

3.2.3. ECONOMIC FEASIBILITY

Economic analysis is the most frequently used technique for evaluating the effectiveness of a proposed system. More commonly known as cost-benefit analysis; the procedure is to determine the benefits and savings that are expected from a proposed system and compare them with costs. If benefits outweigh costs, a decision is taken to design and implement the system.

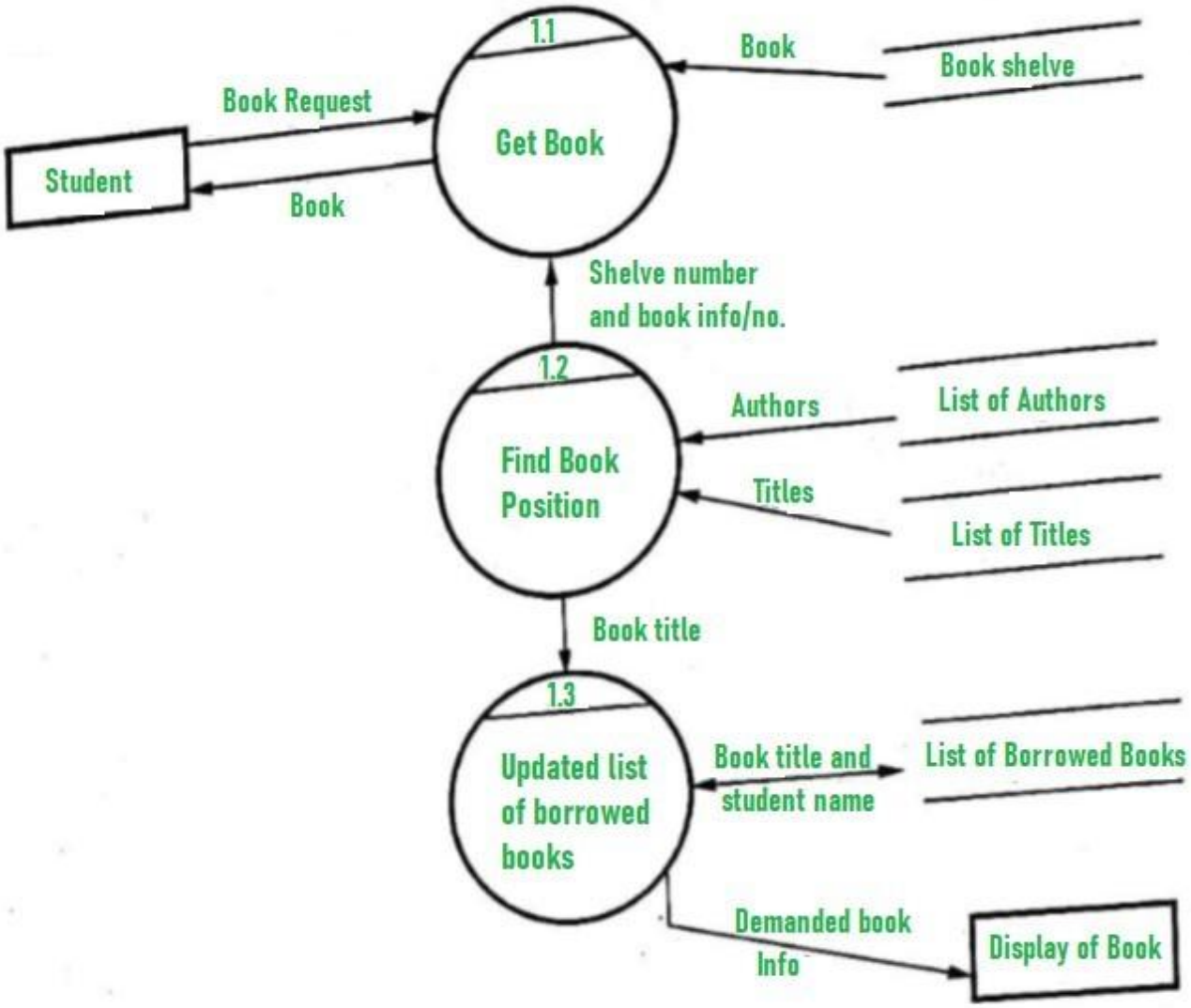
Data Flow Diagram





3.3 DFD

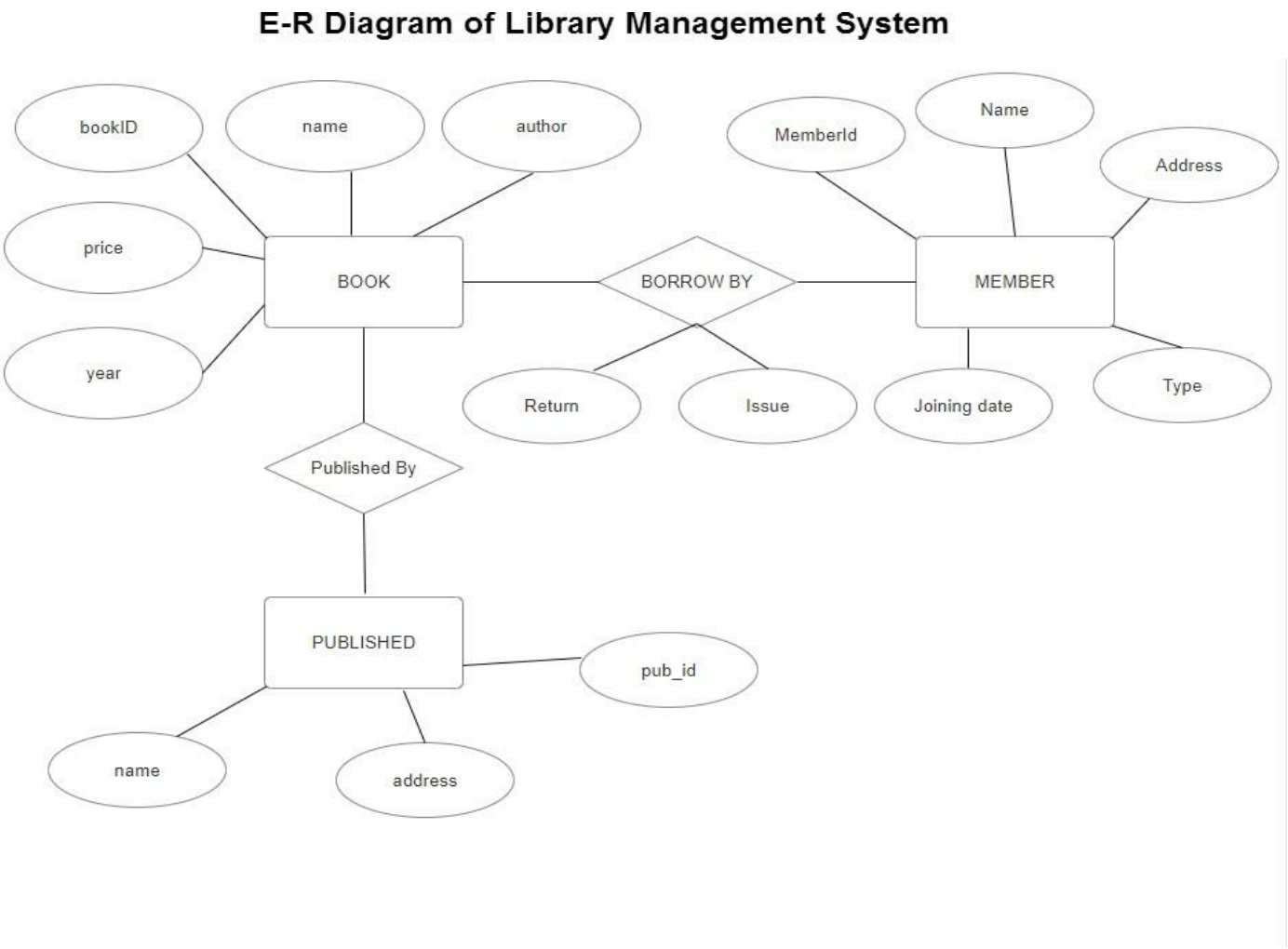
A data flow diagram is a graphical representation of the "flow"of data through an information system, modelling its process aspect.



Level 2 DFD

4.1

ER Diagram stands for Entity Relationship Diagram, also known as ERD is a diagram that displaysthe relationship of entity sets stored in a database.



CHAPTER.4 PROJECT FORMS

4.1 Database Tables :-

Admin Table

	id	adminusername	adminpassword
▶	1	Uvaish	Uvaish@03
*	NULL	NULL	NULL

Issue Book Table

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	bookID	studentID	issueDate	dueDate	returnBook
▶	1001	001	28-01-2024	31-01-2024	No
	1004	002	30-01-2024	31-01-2024	31-01-2024
	1003	003	30-01-2024	10-02-2024	yes

Book Table

bookID	name	publisher	price	publisherYear
1002	Head first Java	Katty seirra	1250	2013
1001	Java Core	Pata ni	800	2023
1003	Clean Code	Dave Thomas	2300	1999
1004	C++	Bud Tenny	300	2022
1005	Data Structure	Narshima Karumanchi	641	2015
1006	Let Us C	Yashwant Kanetkar	354	2018
1007	Machine Learning	Dyanand Shetti	556	2009
1008	Python Programming	Ramsey Hamilton	667	2011
1009	LangChain	Mehul Gupta	778	2013
1010	NetSuite	packt	889	2013

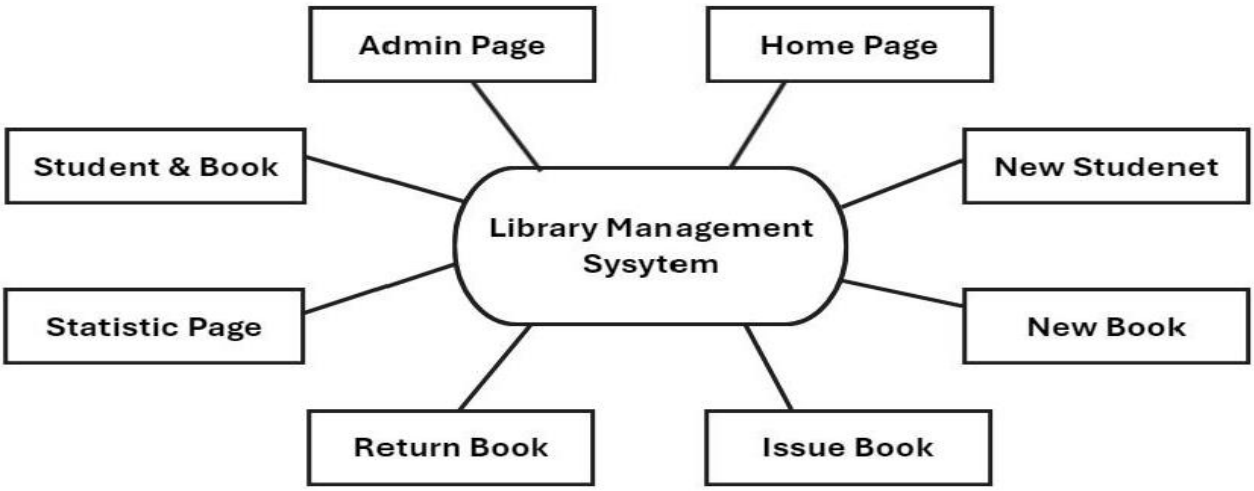
There are total 8 modules in this project as shown in diagram

Student Table

studentID	name	fatherName	courseName	branchName
001	Shahvez	Mohd Javed	BCA	Computer Application
002	Abdullah	Istakhar Ali	BCA	Computer Application
003	Fardeen	Arshad	BCA	Computer Application
004	Uvaish	Mukeem	BCA	Computer Application
005	MOHD NAVEZ	MOHD JAVED	BCA	Computer Application
006	Sarmad	Saleem	BCA	Computer Application
007	Rahman	Khuch_Hai	BCA	Computer Application
008	Iron Man	Marvel	BCA	Computer Application
009	Abhishek	Vijay	BCA	Computer Application
010	Ajay Kumar	Vishwas Kumar	MCA	Computer Application

Modules and Coding

There are total 8 modules in this project as shown in diagram



ADMIN LOGIN PAGE –

```
import javax.swing.*;
import javax.swing.plaf.nimbus.State;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.beans.PropertyChangeEvent;
import java.beans.PropertyChangeListener;
import java.sql.*;

public class AdminLogin extends javax.swing.JFrame {

   Connection adminConnection;


   /**
    * Creates new form AdminLogin
    */
   public AdminLogin() {
      setTitle("Admin_Login");
      initComponents();
      databaseConnectivity();
   }

   public void databaseConnectivity() {
      // DataBase Connectivity Code:
      final String url = "jdbc:mysql://localhost:3306/librarymanagementsystem";
      final String username = "root";
      final String pass = "HelloWorld+1";

      try{
         Class.forName("com.mysql.cj.jdbc.Driver"); // Exception Name ClassNotFound:

      } catch (Exception e) {
         e.printStackTrace();
         System.out.println(e.getMessage());
      }
```

```
        try{
            adminConnection = DriverManager.getConnection(url, username, pass); //
Connection is a Interface:
//          Statement statement = connection.createStatement();
        } catch (SQLException e) {
            System.out.println(e.getMessage());
        }
        // DataBase Connectivity is Complete End ?
    }




    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        usernameLabel = new JLabel();
        passwordLabel = new JLabel();
        usernameTextF = new JTextField();
        passwordTextF = new JPasswordField();
        loginBtn = new JButton();
        closeBtn = new JButton();
        imgBgLabel = new JLabel();

        setDefaultCloseOperation(WindowConstants.EXIT_ON_CLOSE);
        getContentPane().setLayout(null);

        usernameLabel.setFont(new Font("Segoe UI", 3, 18)); // NOI18N
        usernameLabel.setForeground(new Color(153, 255, 255));
        usernameLabel.setText("Username");
        getContentPane().add(usernameLabel);
        usernameLabel.setBounds(280, 130, 109, 34);

        passwordLabel.setFont(new Font("Segoe UI", 3, 18)); // NOI18N
        passwordLabel.setForeground(new Color(153, 255, 255));
        passwordLabel.setText("Password");
```

```
getContentPane().add(passwordLabel);
passwordLabel.setBounds(280, 240, 109, 38);

usernameTextF.setBackground(new Color(0, 0, 0));
usernameTextF.setFont(new Font("Segoe UI", 3, 18)); // NOI18N
usernameTextF.setForeground(new Color(255, 255, 255));
getContentPane().add(usernameTextF);
usernameTextF.setBounds(430, 130, 290, 40);

passwordTextF.setBackground(new Color(0, 0, 0));
passwordTextF.setFont(new Font("Segoe UI", 3, 18)); // NOI18N
passwordTextF.setForeground(new Color(255, 255, 255));
passwordTextF.setEchoChar('*'); // Set any style to pass as a Character!
passwordTextF.addActionListener(new ActionListener() {
   public void actionPerformed(ActionEvent evt) {
      passwordTextFActionPerformed(evt);
   }
});
passwordTextF.addPropertyChangeListener(new PropertyChangeListener() {
   public void propertyChange(PropertyChangeEvent evt) {
      passwordTextFPropertyChange(evt);
   }
});
getContentPane().add(passwordTextF);
passwordTextF.setBounds(430, 240, 290, 40);

loginBtn.setBackground(new Color(255, 51, 51));
loginBtn.setFont(new Font("Segoe UI", 3, 18)); // NOI18N
loginBtn.setForeground(new Color(255, 255, 255));
loginBtn.setText("Login");
loginBtn.addActionListener(new ActionListener() {
   public void actionPerformed(ActionEvent evt) {
      loginBtnActionPerformed(evt);
   }
});
getContentPane().add(loginBtn);
loginBtn.setBounds(440, 340, 100, 32);

closeBtn.setBackground(new Color(255, 0, 51));
closeBtn.setFont(new Font("Segoe UI", 3, 18)); // NOI18N
closeBtn.setForeground(new Color(255, 255, 255));
closeBtn.setText("Close");
closeBtn.addActionListener(new ActionListener() {
   public void actionPerformed(ActionEvent evt) {
```

```
            closeBtnActionPerformed(evt);
        }
      });
      getContentPane().add(closeBtn);
      closeBtn.setBounds(610, 340, 110, 32);

      imgBgLabel.setIcon(new ImageIcon("C:\\Users\\mohds\\Downloads\\Library
management Project Img\\page1bg.jpeg")); // NOI18N
      getContentPane().add(imgBgLabel);
      imgBgLabel.setBounds(0, 0, 1100, 640);

      setBounds(0, 0, 1111, 647);
   }// </editor-fold>

   private void passwordTextFActionPerformed(java.awt.event.ActionEvent evt) {
      // TODO add your handling code here:
   }

   private void passwordTextFPropertyChange(java.beans.PropertyChangeEvent evt) {
      // TODO add your handling code here:
   }

   private void loginBtnActionPerformed(java.awt.event.ActionEvent evt) {
      // TODO add your handling code here:

      String currentEnterAdminname = usernameTextF.getText();
      String currentEnterPassword = passwordTextF.getText();
      System.out.println(currentEnterAdminname);
      System.out.println(currentEnterPassword);

      // SQL and Database Connectivity:
      try {
         String adminQuery = "SELECT * FROM libraryAdminLogin WHERE id = 1";
         PreparedStatement preparedStatement =
adminConnection.prepareStatement(adminQuery);
//          Statement statement = connection.createStatement();
         ResultSet resultSet = preparedStatement.executeQuery();
         while(resultSet.next()) {
            String TadminNameRetive = resultSet.getString("adminusername");
            String TadminpassRetive = resultSet.getString("adminpassword");
            if(currentEnterAdminname.equals(TadminNameRetive) &&
currentEnterPassword.equals(TadminpassRetive)) {
               JOptionPane.showMessageDialog(null, "Permission Granted! ");
               new ChoiceFrame().setVisible(true);
```

```
                usernameTextF.setText("");
                passwordTextF.setText("");
                dispose();

            } else {
                JOptionPane.showMessageDialog(null, "Username & Password Not Match!
");
                usernameTextF.setText("");
                passwordTextF.setText("");
            }
          }
          resultSet.close();
       } catch (SQLException e) {
          System.out.println(e.getMessage());
       }
    }

    private void closeBtnActionPerformed(java.awt.event.ActionEvent evt) {
       // TODO add your handling code here:
       dispose();
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
       /* Set the Nimbus look and feel */
       //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code
(optional) ">
       /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look
and feel.
        * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
        */
       try {
          for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
             if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
             }
          }
       } catch (ClassNotFoundException ex) {
```

```
java.util.logging.Logger.getLogger(AdminLogin.class.getName()).log(java.util.logging.Le
vel.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(AdminLogin.class.getName()).log(java.util.logging.Le
vel.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(AdminLogin.class.getName()).log(java.util.logging.Le
vel.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(AdminLogin.class.getName()).log(java.util.logging.Le
vel.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new AdminLogin().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton closeBtn;
    private javax.swing.JLabel imgBgLabel;
    private javax.swing.JButton loginBtn;
    private javax.swing.JLabel passwordLabel;
    private javax.swing.JPasswordField passwordTextF;
    private javax.swing.JLabel usernameLabel;
    private javax.swing.JTextField usernameTextF;
    // End of variables declaration
}
```

Home Page –

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to
change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this
template
 */

import java.awt.event.ActionEvent;

/**
 *
 * @author mohds
 */
public class ChoiceFrame extends javax.swing.JFrame {

    /**
     * Creates new form ChoiceFrame
     */
    public ChoiceFrame() {
        initComponents();
    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        addStudentBtn = new javax.swing.JButton();
        addBookBtn = new javax.swing.JButton();
        statisticsBtn = new javax.swing.JButton();
        issueBtn = new javax.swing.JButton();
        returnBookBtn = new javax.swing.JButton();
        jButton6 = new javax.swing.JButton();
        imgBgLabel = new javax.swing.JLabel();
        studentInfo = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
```

```
        getContentPane().setLayout(null);


// My Code btn start
        studentInfo.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
        studentInfo.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\member-add-on-300x300.png")); // NOI18N
        studentInfo.setText("LMS INFO");
        studentInfo.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                studentInfoActionPerformed(evt);
            }
        });
        getContentPane().add(studentInfo);
        studentInfo.setBounds(773, 330, 170, 57);

// my code btn end
        addStudentBtn.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
        addStudentBtn.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\member-add-on-300x300.png")); // NOI18N
        addStudentBtn.setText("New Student");
        addStudentBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                addStudentBtnActionPerformed(evt);
            }
        });
        getContentPane().add(addStudentBtn);
        addStudentBtn.setBounds(154, 120, 191, 57);

        addBookBtn.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
        addBookBtn.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\New book.png")); // NOI18N
        addBookBtn.setText("New Book");
        addBookBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                addBookBtnActionPerformed(evt);
            }
        });
        getContentPane().add(addBookBtn);
        addBookBtn.setBounds(465, 120, 188, 57);
```

```
        statisticsBtn.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
        statisticsBtn.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\Statics.png")); // NOI18N
        statisticsBtn.setText("Statistics");
        statisticsBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                statisticsBtnActionPerformed(evt);
            }
        });
        getContentPane().add(statisticsBtn);
        statisticsBtn.setBounds(773, 120, 161, 57);

        issueBtn.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
        issueBtn.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\issue.png")); // NOI18N
        issueBtn.setText("Issue  Book");
        issueBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                issueBtnActionPerformed(evt);
            }
        });
        getContentPane().add(issueBtn);
        issueBtn.setBounds(154, 330, 191, 57);

        returnBookBtn.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
        returnBookBtn.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\return-book-1-560407.png")); // NOI18N
        returnBookBtn.setText("Return Book");
        returnBookBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                returnBookBtnActionPerformed(evt);
            }
        });
        getContentPane().add(returnBookBtn);
        returnBookBtn.setBounds(465, 330, 188, 57);

        jButton6.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
        jButton6.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\exit.png")); // NOI18N
        jButton6.setText("Logout");
```

```
        jButton6.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                jButton6ActionPerformed(evt);
            }
        });
        getContentPane().add(jButton6);
        jButton6.setBounds(30, 10, 145, 38);

        imgBgLabel.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\Library_Book_532388_1366x768.jpg")); // NOI18N
        getContentPane().add(imgBgLabel);
        imgBgLabel.setBounds(-20, -10, 1230, 620);

        setSize(new java.awt.Dimension(1231, 611));
        setLocationRelativeTo(null);
    }// </editor-fold>


    // Student Info Btn:
    private void studentInfoActionPerformed(ActionEvent evt) {
        new StudentAndBookInfo().setVisible(true);
        dispose();
    }

    private void addStudentBtnActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        new AddStudent().setVisible(true);
        dispose();

    }

    private void addBookBtnActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        new NewBook().setVisible(true);
        dispose();

    }

    private void statisticsBtnActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        new Statistics().setVisible(true);
        dispose();
    }
```

```
    private void issueBtnActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        new IssueBook().setVisible(true);
        dispose();

    }

    private void returnBookBtnActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        new ReturnBook().setVisible(true);
        dispose();

    }


    // Logout Btn:
    private void jButton6ActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        dispose();
        new AdminLogin().setVisible(true);
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code
(optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look
and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {
```

```
java.util.logging.Logger.getLogger(ChoiceFrame.class.getName()).log(java.util.logging.L
evel.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(ChoiceFrame.class.getName()).log(java.util.logging.L
evel.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(ChoiceFrame.class.getName()).log(java.util.logging.L
evel.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(ChoiceFrame.class.getName()).log(java.util.logging.L
evel.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new ChoiceFrame().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton addBookBtn;
    private javax.swing.JButton addStudentBtn;
    private javax.swing.JLabel imgBgLabel;
    private javax.swing.JButton issueBtn;
    private javax.swing.JButton jButton6;
    private javax.swing.JButton returnBookBtn;
    private javax.swing.JButton statisticsBtn;

    private javax.swing.JButton studentInfo;
    // End of variables declaration
}
```

NEW STUDENT PAGE –

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template
 */
import javax.swing.*;
import javax.swing.plaf.nimbus.State;
import java.sql.*;
import java.util.regex.Matcher;
import java.util.regex.Pattern;

/**
 *
 * @author mohds
 */
public class AddStudent extends javax.swing.JFrame {

    Connection connection;
    static String studentID; // Global Default Variable!

    /**
     * Creates new form AddStudent
     */
    public AddStudent() {
        initComponents();
        databaseConnectivity();
    }

    public void databaseConnectivity() {
        // DataBase Connectivity Code:
        final String url = "jdbc:mysql://localhost:3306/librarymanagementsystem";
        final String username = "root";
        final String pass = "HelloWorld+1";

        try{
```

```
            Class.forName("com.mysql.cj.jdbc.Driver"); // Exception Name ClassNotFound:

        } catch (Exception e) {
            e.printStackTrace();
            System.out.println(e.getMessage());
        }

        try{
            connection = DriverManager.getConnection(url, username, pass); //
Connection is a Interface:
//          Statement statement = connection.createStatement();
            autosetStudentID(); // Function Call to AutoSet Student ID!
        } catch (SQLException e) {
            System.out.println(e.getMessage());
        }
        // DataBase Connectivity is Complete End ?
    }


    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        studentIDLabel = new javax.swing.JLabel();
        nameLabel = new javax.swing.JLabel();
        fNameLabel = new javax.swing.JLabel();
        CnameLabel = new javax.swing.JLabel();
        BnameLabel = new javax.swing.JLabel();
        studentIdTextF = new javax.swing.JTextField();
        nameTextF = new javax.swing.JTextField();
        fNameTextF = new javax.swing.JTextField();
        closeBtn = new javax.swing.JButton();
        saveBtn = new javax.swing.JButton();
```

```
CchoiceCheckbox = new javax.swing.JComboBox<>();
BchoiceCheckbox = new javax.swing.JComboBox<>();
jLabel1 = new javax.swing.JLabel();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
getContentPane().setLayout(null);

studentIDLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
studentIDLabel.setForeground(new java.awt.Color(102, 255, 102));
studentIDLabel.setText("Student ID");
getContentPane().add(studentIDLabel);
studentIDLabel.setBounds(220, 110, 91, 25);

nameLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
nameLabel.setForeground(new java.awt.Color(102, 255, 102));
nameLabel.setText("Name");
getContentPane().add(nameLabel);
nameLabel.setBounds(220, 160, 90, 25);

fNameLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
fNameLabel.setForeground(new java.awt.Color(102, 255, 102));
fNameLabel.setText("Father Name");
getContentPane().add(fNameLabel);
fNameLabel.setBounds(210, 210, 120, 25);

CnameLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
CnameLabel.setForeground(new java.awt.Color(102, 255, 102));
CnameLabel.setText("Course Name");
getContentPane().add(CnameLabel);
CnameLabel.setBounds(210, 260, 120, 25);

BnameLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
BnameLabel.setForeground(new java.awt.Color(102, 255, 102));
BnameLabel.setText("Brance Name");
getContentPane().add(BnameLabel);
BnameLabel.setBounds(210, 310, 120, 28);

studentIdTextF.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
```

```
        studentIdTextF.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                studentIdTextFActionPerformed(evt);
            }
        });
        getContentPane().add(studentIdTextF);
        studentIdTextF.setBounds(360, 100, 240, 35);

        nameTextF.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
        nameTextF.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                nameTextFActionPerformed(evt);
            }
        });
        getContentPane().add(nameTextF);
        nameTextF.setBounds(360, 150, 240, 35);

        fNameTextF.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
        getContentPane().add(fNameTextF);
        fNameTextF.setBounds(360, 200, 240, 33);

        closeBtn.setFont(new java.awt.Font("Segoe UI", 1, 18)); // NOI18N
        closeBtn.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\red-x-mark-transparent-background-3.png")); // NOI18N
        closeBtn.setText("Close");
        closeBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                closeBtnActionPerformed(evt);
            }
        });
        getContentPane().add(closeBtn);
        closeBtn.setBounds(210, 380, 110, 32);

        saveBtn.setFont(new java.awt.Font("Segoe UI", 1, 18)); // NOI18N
        saveBtn.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\save-icon--1.png")); // NOI18N
        saveBtn.setText("Save");
```

```
        saveBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                saveBtnActionPerformed(evt);
            }
        });
        getContentPane().add(saveBtn);
        saveBtn.setBounds(500, 380, 100, 32);

        CchoiceCheckbox.setFont(new java.awt.Font("Segoe UI", 1, 18)); // NOI18N
        CchoiceCheckbox.setModel(new javax.swing.DefaultComboBoxModel<>(new
String[] { "BCA", "MCA", "B.Tech", "M.Tech", "Bsc IT" }));
        getContentPane().add(CchoiceCheckbox);
        CchoiceCheckbox.setBounds(360, 250, 240, 35);

        BchoiceCheckbox.setFont(new java.awt.Font("Segoe UI", 1, 18)); // NOI18N
        BchoiceCheckbox.setModel(new javax.swing.DefaultComboBoxModel<>(new
String[] { "Computer Application", "CSE" }));
        BchoiceCheckbox.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                BchoiceCheckboxActionPerformed(evt);
            }
        });
        getContentPane().add(BchoiceCheckbox);
        BchoiceCheckbox.setBounds(360, 310, 240, 34);

        jLabel1.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\school_board.jpg")); // NOI18N
        getContentPane().add(jLabel1);
        jLabel1.setBounds(30, 0, 840, 600);

        setSize(new java.awt.Dimension(897, 645));
        setLocationRelativeTo(null);
    }// </editor-fold>

    private void nameTextFActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }
```

```
    private void BchoiceCheckboxActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    private void studentIdTextFActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    private void closeBtnActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        dispose();
        new ChoiceFrame().setVisible(true);
    }

    private void saveBtnActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        InsertDataTODatabase();
        autosetStudentID();
        nameTextF.setText("");
        fNameTextF.setText("");

    }

    // To Add Student in DataBase!
    public void InsertDataTODatabase() {
        String name = nameTextF.getText();
        String fName = fNameTextF.getText();
        String cName = (String)CchoiceCheckbox.getSelectedItem();
        String bName = (String)BchoiceCheckbox.getSelectedItem();

        if (check_Name_and_Father_Name(name)) {
            if(check_Name_and_Father_Name(fName)) {

                try {
                    String query = "INSERT INTO student
(studentID,name,fatherName,courseName,branchName) VALUES (?,?,?,?,?)";
                    PreparedStatement preparedStatement =
connection.prepareStatement(query);
                    preparedStatement.setString(1, studentID);
```

```
                preparedStatement.setString(2, name);
                preparedStatement.setString(3, fName);
                preparedStatement.setString(4, cName);
                preparedStatement.setString(5, bName);
                int rowAffected = preparedStatement.executeUpdate();
                if (rowAffected > 0) {
                    JOptionPane.showMessageDialog(null, "Data Inserted Successfully! ");
                } else {
                    JOptionPane.showMessageDialog(null, "Data Not Inserted! ");
                }
            } catch (SQLException e) {
                JOptionPane.showMessageDialog(null, "Student is Already Present!");
                JOptionPane.showMessageDialog(null, e.getMessage());
            }
            // complete try Block!

            // second if-else Block!
        } else {
            JOptionPane.showMessageDialog(null,"NUmber & Special Character Not
ALlowed!");
        }
        // First If-else Block!
    } else {
        JOptionPane.showMessageDialog(null,"Numbers & Special Character Not
Allowed! ");
    }

  }


  // Student ID Retrive From Database Automatically Generate!

  public void autosetStudentID() {
    try{

        String queryID = "select studentID from student ORDER BY studentID DESC";
        Statement statement = connection.createStatement();
        ResultSet resultSet = statement.executeQuery(queryID);
        if(resultSet.next()) {
```

```
            studentIdTextF.setEditable(false);
            String id = resultSet.getString("studentID");
            int studentIDCon = Integer.parseInt(id);
            studentIDCon += 1;
            studentID = Integer.toString(studentIDCon);
            studentID="0"+studentID;
            studentIdTextF.setText(studentID);

        }
    } catch (SQLException e) {
        System.out.println(e.getMessage());
    }
}

// Check Name or Father name is Not a Number and Special Character!
public boolean check_Name_and_Father_Name(String checkStringSahi_hai) {


    if (CheckNumber(checkStringSahi_hai)) {
        if (CheckSpecialChar(checkStringSahi_hai)) {
            return false;
        }
    } else {
        return true;
    }
    return false;
}
// Check Number Function!
private static boolean CheckNumber(String str) {
    Pattern pattern = Pattern.compile(".*\\d.*");
    Matcher matcher = pattern.matcher(str);
    return matcher.matches();
}

// Check Special Charater!
private static boolean CheckSpecialChar(String str) {
    Pattern pattern = Pattern.compile(".*[^a-zA-Z0-9 ].*");
    Matcher matcher = pattern.matcher(str);
```

```
        return matcher.matches();
    }



    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code
(optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look
and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(AddStudent.class.getName()).log(java.util.logging.L
evel.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(AddStudent.class.getName()).log(java.util.logging.L
evel.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(AddStudent.class.getName()).log(java.util.logging.L
evel.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(AddStudent.class.getName()).log(java.util.logging.L
```

```
evel.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new AddStudent().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JComboBox<String> BchoiceCheckbox;
    private javax.swing.JLabel BnameLabel;
    private javax.swing.JComboBox<String> CchoiceCheckbox;
    private javax.swing.JLabel CnameLabel;
    private javax.swing.JButton closeBtn;
    private javax.swing.JLabel fNameLabel;
    private javax.swing.JTextField fNameTextF;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel nameLabel;
    private javax.swing.JTextField nameTextF;
    private javax.swing.JButton saveBtn;
    private javax.swing.JLabel studentIDLabel;
    private javax.swing.JTextField studentIdTextF;
    // End of variables declaration
}
```

New Book Page –

```
import javax.swing.*;
import javax.swing.plaf.nimbus.State;
import java.sql.*;
import java.util.regex.Matcher;
import java.util.regex.Pattern;
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to
change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this
template
 */

/**
 *
 * @author mohds
 */
public class NewBook extends javax.swing.JFrame {
   // Declare Variable
   Connection connection;
   String bookID;


   /**
    * Creates new form NewBook
    */
   public NewBook() {
      initComponents();
      databaseConnectivity();
   }


   // Database COnnectivity!
   public void databaseConnectivity() {
      // DataBase Connectivity Code:
      final String url = "jdbc:mysql://localhost:3306/librarymanagementsystem";
      final String username = "root";
      final String pass = "HelloWorld+1";

      try{
         Class.forName("com.mysql.cj.jdbc.Driver"); // Exception Name ClassNotFound:

      } catch (Exception e) {
```

```
            e.printStackTrace();
            System.out.println(e.getMessage());
        }

        try{
            connection = DriverManager.getConnection(url, username, pass); // Connection
is a Interface:
//          Statement statement = connection.createStatement();
            autosetbookID();
        } catch (SQLException e) {
            System.out.println(e.getMessage());
        }
        // DataBase Connectivity is Complete End ?
    }

    // Book Id AutoGenerate Function!


    public void autosetbookID() {
        try{

            String queryID = "select bookID from book ORDER BY bookID DESC";
            Statement statement = connection.createStatement();
            ResultSet resultSet = statement.executeQuery(queryID);
            if(resultSet.next()) {
                bookIdTextF.setEditable(false);
                String id = resultSet.getString("bookID");
                int bookIDCon = Integer.parseInt(id);
                bookID = Integer.toString(bookIDCon+1);
//                bookID = "0" + bookID;
                bookIdTextF.setText(bookID);
            }
        } catch (SQLException e) {
            System.out.println(e.getMessage());
        }
    }




    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
```

```
 */
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    bookIdLabel = new javax.swing.JLabel();
    nameLabel = new javax.swing.JLabel();
    publisherLabel = new javax.swing.JLabel();
    priceLabel = new javax.swing.JLabel();
    publisherYearLabel = new javax.swing.JLabel();
    bookIdTextF = new javax.swing.JTextField();
    nameTextF = new javax.swing.JTextField();
    publisherTextF = new javax.swing.JTextField();
    priceTextF = new javax.swing.JTextField();
    PublisherYearTextF = new javax.swing.JTextField();
    closeBtn = new javax.swing.JButton();
    saveBtn = new javax.swing.JButton();
    imgBgLabel = new javax.swing.JLabel();

    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
    getContentPane().setLayout(null);

    bookIdLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
    bookIdLabel.setForeground(new java.awt.Color(102, 255, 102));
    bookIdLabel.setText("Book ID");
    getContentPane().add(bookIdLabel);
    bookIdLabel.setBounds(160, 110, 108, 26);

    nameLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
    nameLabel.setForeground(new java.awt.Color(102, 255, 102));
    nameLabel.setText("Name");
    getContentPane().add(nameLabel);
    nameLabel.setBounds(160, 170, 70, 25);

    publisherLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
    publisherLabel.setForeground(new java.awt.Color(102, 255, 102));
    publisherLabel.setText("Publisher");
    getContentPane().add(publisherLabel);
    publisherLabel.setBounds(160, 230, 80, 25);

    priceLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
    priceLabel.setForeground(new java.awt.Color(102, 255, 102));
    priceLabel.setText("Price");
    getContentPane().add(priceLabel);
```

```
priceLabel.setBounds(160, 290, 70, 25);

publisherYearLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
publisherYearLabel.setForeground(new java.awt.Color(102, 255, 102));
publisherYearLabel.setText("Publisher Year");
getContentPane().add(publisherYearLabel);
publisherYearLabel.setBounds(150, 350, 134, 25);

bookIdTextF.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
getContentPane().add(bookIdTextF);
bookIdTextF.setBounds(310, 110, 200, 36);

nameTextF.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
nameTextF.addActionListener(new java.awt.event.ActionListener() {
   public void actionPerformed(java.awt.event.ActionEvent evt) {
      nameTextFActionPerformed(evt);
   }
});
getContentPane().add(nameTextF);
nameTextF.setBounds(310, 170, 200, 36);

publisherTextF.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
publisherTextF.addActionListener(new java.awt.event.ActionListener() {
   public void actionPerformed(java.awt.event.ActionEvent evt) {
      publisherTextFActionPerformed(evt);
   }
});
getContentPane().add(publisherTextF);
publisherTextF.setBounds(310, 230, 200, 35);

priceTextF.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
getContentPane().add(priceTextF);
priceTextF.setBounds(310, 290, 200, 35);

PublisherYearTextF.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
PublisherYearTextF.addActionListener(new java.awt.event.ActionListener() {
   public void actionPerformed(java.awt.event.ActionEvent evt) {
      PublisherYearTextFActionPerformed(evt);
   }
});
getContentPane().add(PublisherYearTextF);
PublisherYearTextF.setBounds(310, 350, 200, 35);

closeBtn.setFont(new java.awt.Font("Segoe UI", 1, 18)); // NOI18N
```

```
        closeBtn.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\red-x-mark-transparent-background-3.png")); // NOI18N
        closeBtn.setText("Close");
        closeBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                closeBtnActionPerformed(evt);
            }
        });
        getContentPane().add(closeBtn);
        closeBtn.setBounds(600, 280, 110, 32);

        saveBtn.setFont(new java.awt.Font("Segoe UI", 1, 18)); // NOI18N
        saveBtn.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\save-icon--1.png")); // NOI18N
        saveBtn.setText("Save");
        saveBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                saveBtnActionPerformed(evt);
            }
        });
        getContentPane().add(saveBtn);
        saveBtn.setBounds(600, 200, 110, 32);

        imgBgLabel.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\school_board.jpg")); // NOI18N
        getContentPane().add(imgBgLabel);
        imgBgLabel.setBounds(0, 0, 840, 610);

        setSize(new java.awt.Dimension(867, 648));
        setLocationRelativeTo(null);
    }// </editor-fold>

    private void nameTextFActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    private void PublisherYearTextFActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    private void publisherTextFActionPerformed(java.awt.event.ActionEvent evt) {
```

```
        // TODO add your handling code here:
    }

    private void saveBtnActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:

        InsertDataTODatabase();
        autosetbookID();
        nameTextF.setText("");
        publisherTextF.setText("");
        priceTextF.setText("");
        PublisherYearTextF.setText("");

    }

    private void closeBtnActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        dispose();
        new ChoiceFrame().setVisible(true);
    }


    // To Add Student in DataBase!
    public void InsertDataTODatabase() {

        String name = nameTextF.getText();
        String publisher = publisherTextF.getText();
        String price = priceTextF.getText();
        String publisherYear = PublisherYearTextF.getText();

        // Check Students Already Present or Not!

        if(check_Name_Publisher(name)) {
            if(check_Name_Publisher(publisher)) {
                if(Check_Price_PublishYear_is_Not_Alphabatic(price)) {
                    if(Check_Price_PublishYear_is_Not_Alphabatic(publisherYear))  {

                        try {
                            String query = "INSERT INTO book
(bookID,name,publisher,price,publisherYear) VALUES (?,?,?,?,?)";
                            PreparedStatement preparedStatement =
connection.prepareStatement(query);
                            preparedStatement.setString(1, bookID);
                            preparedStatement.setString(2, name);
```

```
                    preparedStatement.setString(3, publisher);
                    preparedStatement.setString(4, price);
                    preparedStatement.setString(5, publisherYear);
                    int rowAffected = preparedStatement.executeUpdate();
                    if (rowAffected > 0) {
                       JOptionPane.showMessageDialog(null, "Book Inserted Successfully!
");
                    } else {
                       JOptionPane.showMessageDialog(null, "Book Not Inserted! ");
                    }
                 } catch (SQLException e) {
                    JOptionPane.showMessageDialog(null, "Book is Already Present!");
                    JOptionPane.showMessageDialog(null, e.getMessage());
                 }
                 // Try Block Compelete!
              } // Start if Fourth Else end!
              else {
                 JOptionPane.showMessageDialog(null,"Enter Valid PublishYear!");
              }
              // Start if third Else end!
           } else {
              JOptionPane.showMessageDialog(null,"Enter Valid Price!");
           }
           // Start if second Else end!
        } else{
           JOptionPane.showMessageDialog(null,"Special Character & Number Not
Allowed!");
        }
        // Start if first Else end!
     } else {
        JOptionPane.showMessageDialog(null,"Special Character & Number Not
Allowed!");
     }

  }


  // Check name,publisher, Number & Special Charater!
  public boolean check_Name_Publisher(String checkStringSahi_hai) {


     if (CheckNumber(checkStringSahi_hai)) {
        if (CheckSpecialChar(checkStringSahi_hai)) {
           return false;
```

```
            }
        } else {
            return true;
        }
        return false;
    }

    // Check Price is not a String or Character Value!
    public boolean Check_Price_PublishYear_is_Not_Alphabatic(String
checkStringSahi_hai) {
        if(CheckSpecialChar(checkStringSahi_hai)) {
            return  false;
        } else {
            return  true;
        }
    }

    // Check Number Function!
    private static boolean CheckNumber(String str) {
        Pattern pattern = Pattern.compile(".*\\d.*");
        Matcher matcher = pattern.matcher(str);
        return matcher.matches();
    }

    // Check Special Charater!
    private static boolean CheckSpecialChar(String str) {
        Pattern pattern = Pattern.compile(".*[^a-zA-Z0-9 ].*");
        Matcher matcher = pattern.matcher(str);
        return matcher.matches();
    }




    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code
(optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look
and feel.
```

```
        * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
        */
       try {
          for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
             if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
             }
          }
       } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(NewBook.class.getName()).log(java.util.logging.Level
.SEVERE, null, ex);
       } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(NewBook.class.getName()).log(java.util.logging.Level
.SEVERE, null, ex);
       } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(NewBook.class.getName()).log(java.util.logging.Level
.SEVERE, null, ex);
       } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(NewBook.class.getName()).log(java.util.logging.Level
.SEVERE, null, ex);
       }
       //</editor-fold>

       /* Create and display the form */
       java.awt.EventQueue.invokeLater(new Runnable() {
          public void run() {
             new NewBook().setVisible(true);
          }
       });
    }

    // Variables declaration - do not modify
    private javax.swing.JTextField PublisherYearTextF;
    private javax.swing.JLabel bookIdLabel;
    private javax.swing.JTextField bookIdTextF;
    private javax.swing.JButton closeBtn;
    private javax.swing.JLabel imgBgLabel;
```

```
    private javax.swing.JLabel nameLabel;
    private javax.swing.JTextField nameTextF;
    private javax.swing.JLabel priceLabel;
    private javax.swing.JTextField priceTextF;
    private javax.swing.JLabel publisherLabel;
    private  javax.swing.JTextField  publisherTextF;
    private javax.swing.JLabel publisherYearLabel;
    private javax.swing.JButton saveBtn;
    // End of variables declaration
}
```

Issue Book Page –

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template
 */

import javax.swing.*;
import java.sql.*;
import java.text.SimpleDateFormat;
import java.util.Date;

/**
 *
 * @author mohds
 */
public class IssueBook extends javax.swing.JFrame {

   // Declare Somem Variable!
   Connection connection;

   /**
    * Creates new form IssueBook
    */
   public IssueBook() {
      initComponents();
      databaseConnectivity();
   }

   // Database Connectivity!


   public void databaseConnectivity() {
      // DataBase Connectivity Code:
      final String url = "jdbc:mysql://localhost:3306/librarymanagementsystem";
      final String username = "root";
      final String pass = "HelloWorld+1";

      try{
         Class.forName("com.mysql.cj.jdbc.Driver"); // Exception Name ClassNotFound:

      } catch (Exception e) {
```

```
            e.printStackTrace();
            System.out.println(e.getMessage());
        }

        try{
            connection = DriverManager.getConnection(url, username, pass); // Connection
is a Interface:
//          Statement statement = connection.createStatement();
        } catch (SQLException e) {
            System.out.println(e.getMessage());
        }
        // DataBase Connectivity is Complete End ?
    }


    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        BookIDLabel = new javax.swing.JLabel();
        studentIDLabel = new javax.swing.JLabel();
        IssueDateLabel = new javax.swing.JLabel();
        DueDateLabel = new javax.swing.JLabel();
        bookIdTextF = new javax.swing.JTextField();
        studentIdTextF = new javax.swing.JTextField();
        issuedateF = new com.toedter.calendar.JDateChooser();
        duedateF = new com.toedter.calendar.JDateChooser();
        closeBtn = new javax.swing.JButton();
        issueBtn = new javax.swing.JButton();
        imgBgLabel = new javax.swing.JLabel();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        getContentPane().setLayout(null);

        BookIDLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
        BookIDLabel.setForeground(new java.awt.Color(102, 255, 102));
        BookIDLabel.setText("Book ID");
        getContentPane().add(BookIDLabel);
        BookIDLabel.setBounds(262, 114, 100, 33);
```

```
        studentIDLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
        studentIDLabel.setForeground(new java.awt.Color(102, 255, 102));
        studentIDLabel.setText("Student ID");
        getContentPane().add(studentIDLabel);
        studentIDLabel.setBounds(260, 160, 100, 33);

        IssueDateLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
        IssueDateLabel.setForeground(new java.awt.Color(102, 255, 102));
        IssueDateLabel.setText("Issue Date");
        getContentPane().add(IssueDateLabel);
        IssueDateLabel.setBounds(262, 218, 99, 33);

        DueDateLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
        DueDateLabel.setForeground(new java.awt.Color(102, 255, 102));
        DueDateLabel.setText("Due Date");
        getContentPane().add(DueDateLabel);
        DueDateLabel.setBounds(262, 270, 100, 33);

        bookIdTextF.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
        getContentPane().add(bookIdTextF);
        bookIdTextF.setBounds(419, 113, 139, 34);

        studentIdTextF.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        studentIdTextF.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                studentIdTextFActionPerformed(evt);
            }
        });
        getContentPane().add(studentIdTextF);
        studentIdTextF.setBounds(419, 166, 139, 34);

        issuedateF.setBorder(new javax.swing.border.LineBorder(new java.awt.Color(0, 0,
0), 1, true));
        getContentPane().add(issuedateF);
        issuedateF.setBounds(419, 218, 140, 34);

        duedateF.setBorder(new javax.swing.border.LineBorder(new java.awt.Color(0, 0,
0), 1, true));
        getContentPane().add(duedateF);
        duedateF.setBounds(419, 270, 140, 34);

        closeBtn.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
        closeBtn.setIcon(new
```

```
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\red-x-mark-transparent-background-3.png")); // NOI18N
        closeBtn.setText("Close");
        closeBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                closeBtnActionPerformed(evt);
            }
        });
        getContentPane().add(closeBtn);
        closeBtn.setBounds(250, 340, 90, 30);

        issueBtn.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
        issueBtn.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\issue book.png")); // NOI18N
        issueBtn.setText("Issue");
        issueBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                issueBtnActionPerformed(evt);
            }
        });
        getContentPane().add(issueBtn);
        issueBtn.setBounds(470, 340, 90, 30);

        imgBgLabel.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\school_board.jpg")); // NOI18N
        getContentPane().add(imgBgLabel);
        imgBgLabel.setBounds(0, 0, 850, 610);

        setSize(new java.awt.Dimension(880, 643));
        setLocationRelativeTo(null);
    }// </editor-fold>

    private void studentIdTextFActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
    }

    private void issueBtnActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        InsertDataTODatabase();
        bookIdTextF.setText("");
        studentIdTextF.setText("");
//        SimpleDateFormat dFormat = new SimpleDateFormat("dd-MM-yyyy"); //
```

```
Convert Date to String value!
      issuedateF.setDate(null); // to set data empty
      duedateF.setDate(null); // to set date empty
   }

   private void closeBtnActionPerformed(java.awt.event.ActionEvent evt) {
      // TODO add your handling code here:
      dispose();
      new ChoiceFrame().setVisible(true);
   }

   // Connectivity!


   // To Add Student in DataBase!
   public void InsertDataTODatabase() {
      SimpleDateFormat dFormat = new SimpleDateFormat("dd-MM-yyyy"); // Convert
Date to String value!

      String bookID = bookIdTextF.getText();
      String studentID = studentIdTextF.getText();
      String issueDate = dFormat.format(issuedateF.getDate());
      String dueDate = dFormat.format(duedateF.getDate());
      String returnBook = "No";
      System.out.println(issueDate);
      System.out.println(dueDate);
      System.out.println(studentID);

      try{
         String bookIDquery = "select * from book where bookID = ?";
         PreparedStatement preparedStatement =
connection.prepareStatement(bookIDquery);
         preparedStatement.setString(1,bookID);
         ResultSet resultSet = preparedStatement.executeQuery();
         // first If Block Start!
         if(resultSet.next()) {
            String studentIDquery = "select * from student where studentID = ?";
            PreparedStatement findStudentID =
connection.prepareStatement(studentIDquery);
            findStudentID.setString(1,studentID);
            ResultSet resultSet1 = findStudentID.executeQuery();
            if(resultSet1.next()) {
               String issueInfoQuery = "INSERT INTO issueBook
(bookID,studentID,issueDate,dueDate,returnBook)VALUES(?,?,?,?,?)";
```

```
                PreparedStatement InsertValue =
connection.prepareStatement(issueInfoQuery);
                InsertValue.setString(1,bookID);
                InsertValue.setString(2,studentID);
                InsertValue.setString(3,issueDate);
                InsertValue.setString(4,dueDate);
                InsertValue.setString(5,returnBook);

                int rowAffected = InsertValue.executeUpdate();
                // Check Manipute data is Successfull or not :
                if(rowAffected > 0) {
                   JOptionPane.showMessageDialog(null,"Book Issue Successfully!");
                } else{
                   JOptionPane.showMessageDialog(null,"Book Not Issue Due to Failure!
Something");
                }
                // Check Complete
             } else {
                JOptionPane.showMessageDialog(null,"Student ID is Incorrect!");
             }

          } else { // First if else block!
             JOptionPane.showMessageDialog(null,"Book ID is Incorrect!");
          }
       } catch(SQLException e) {
          JOptionPane.showMessageDialog(null, e.getMessage());
       }
    }




    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
       /* Set the Nimbus look and feel */
       //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code
(optional) ">
       /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look
and feel.
        * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
        */
```

```
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(IssueBook.class.getName()).log(java.util.logging.Leve
l.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(IssueBook.class.getName()).log(java.util.logging.Leve
l.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(IssueBook.class.getName()).log(java.util.logging.Leve
l.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(IssueBook.class.getName()).log(java.util.logging.Leve
l.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new IssueBook().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JLabel BookIDLabel;
    private javax.swing.JLabel DueDateLabel;
    private javax.swing.JLabel IssueDateLabel;
    private javax.swing.JTextField bookIdTextF;
    private javax.swing.JButton closeBtn;
    private com.toedter.calendar.JDateChooser duedateF;
    private javax.swing.JLabel imgBgLabel;
    private javax.swing.JButton issueBtn;
```

```
    private com.toedter.calendar.JDateChooser issuedateF;
    private javax.swing.JLabel studentIDLabel;
    private javax.swing.JTextField studentIdTextF;
    // End of variables declaration
}
```

Return Book Page –

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to
change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this
template
 */
import javax.swing.*;
import java.awt.*;
import java.sql.*;

/**
 *
 * @author mohds
 */
public class ReturnBook extends javax.swing.JFrame {
    // Declare Some Variable:
    Connection connection;

    /**
     * Creates new form ReturnBook
     */
    public ReturnBook() {
        initComponents();
        // To Stop Write Something or anything in issueDate Text Field  & dueDate TextF
        issueDateTextF.setEditable(false);
        dueDateTextF.setEditable(false);
        // database Function Call:
        databaseConnectivity();

    }


    public void databaseConnectivity() {
        // DataBase Connectivity Code:
        final String url = "jdbc:mysql://localhost:3306/librarymanagementsystem";
        final String username = "root";
        final String pass = "HelloWorld+1";

        try{
            Class.forName("com.mysql.cj.jdbc.Driver"); // Exception Name ClassNotFound:

        } catch (Exception e) {
```

```
            e.printStackTrace();
            System.out.println(e.getMessage());
        }

        try{
            connection = DriverManager.getConnection(url, username, pass); // Connection
is a Interface:
//          Statement statement = connection.createStatement();
        } catch (SQLException e) {
            System.out.println(e.getMessage());
        }
        // DataBase Connectivity is Complete End ?
    }



    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        bookIdLabel = new javax.swing.JLabel();
        studentIdLabel = new javax.swing.JLabel();
        IssueDateLabel = new javax.swing.JLabel();
        dueDateLabel = new javax.swing.JLabel();
        bookIDTextF = new javax.swing.JTextField();
        studentIDTextF = new javax.swing.JTextField();
        issueDateTextF = new javax.swing.JTextField();
        dueDateTextF = new javax.swing.JTextField();
        closeBtn = new javax.swing.JButton();
        ReturnBtn = new javax.swing.JButton();
        searchBtn = new javax.swing.JButton();
        jLabel1 = new javax.swing.JLabel();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        getContentPane().setLayout(null);

        bookIdLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
        bookIdLabel.setForeground(new java.awt.Color(102, 255, 102));
        bookIdLabel.setText("Book ID");
```

```
getContentPane().add(bookIdLabel);
bookIdLabel.setBounds(152, 130, 67, 25);

studentIdLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
studentIdLabel.setForeground(new java.awt.Color(102, 255, 102));
studentIdLabel.setText("Student ID");
getContentPane().add(studentIdLabel);
studentIdLabel.setBounds(152, 197, 89, 25);

IssueDateLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
IssueDateLabel.setForeground(new java.awt.Color(102, 255, 102));
IssueDateLabel.setText("Issue Date");
getContentPane().add(IssueDateLabel);
IssueDateLabel.setBounds(152, 265, 87, 25);

dueDateLabel.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
dueDateLabel.setForeground(new java.awt.Color(102, 255, 102));
dueDateLabel.setText("Due Date");
getContentPane().add(dueDateLabel);
dueDateLabel.setBounds(152, 330, 78, 25);

bookIDTextF.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
getContentPane().add(bookIDTextF);
bookIDTextF.setBounds(365, 131, 201, 26);

studentIDTextF.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
getContentPane().add(studentIDTextF);
studentIDTextF.setBounds(365, 198, 201, 26);

issueDateTextF.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
issueDateTextF.addActionListener(new java.awt.event.ActionListener() {
   public void actionPerformed(java.awt.event.ActionEvent evt) {
      issueDateTextFActionPerformed(evt);
   }
});
getContentPane().add(issueDateTextF);
issueDateTextF.setBounds(365, 266, 201, 26);

dueDateTextF.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
getContentPane().add(dueDateTextF);
dueDateTextF.setBounds(365, 331, 201, 26);

closeBtn.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
closeBtn.setIcon(new
```

```
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\red-x-mark-transparent-background-3.png")); // NOI18N
        closeBtn.setText("Close");
        closeBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                closeBtnActionPerformed(evt);
            }
        });
        getContentPane().add(closeBtn);
        closeBtn.setBounds(152, 424, 89, 27);

        ReturnBtn.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
        ReturnBtn.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\return book png.png")); // NOI18N
        ReturnBtn.setText("Book Return");
        ReturnBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                ReturnBtnActionPerformed(evt);
            }
        });
        getContentPane().add(ReturnBtn);
        ReturnBtn.setBounds(429, 415, 137, 27);

        searchBtn.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
        searchBtn.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\search.png")); // NOI18N
        searchBtn.setText("Search");
        searchBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                searchBtnActionPerformed(evt);
            }
        });
        getContentPane().add(searchBtn);
        searchBtn.setBounds(664, 131, 97, 27);

        jLabel1.setForeground(new java.awt.Color(102, 255, 102));
        jLabel1.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\school_board.jpg")); // NOI18N
        getContentPane().add(jLabel1);
        jLabel1.setBounds(0, -10, 860, 630);
```

```
    setSize(new java.awt.Dimension(887, 643));
    setLocationRelativeTo(null);
}// </editor-fold>

private void issueDateTextFActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
}

private void closeBtnActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    dispose();
    new ChoiceFrame().setVisible(true);
}

private void ReturnBtnActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    returnBookFunc(); // Book Return Function Call by Return Btn!
    bookIDTextF.setText("");
    studentIDTextF.setText("");
    issueDateTextF.setText("");
    dueDateTextF.setText("");
}

private void searchBtnActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    recordSearchBtnFunc(); // Function Call to Search Student Record!
}

public void recordSearchBtnFunc() {
    String bookID = bookIDTextF.getText();
    String studentID = studentIDTextF.getText();
    try{
      String query = "SELECT * FROM issueBook WHERE bookID = ? and studentID = ?";
      PreparedStatement preparedStatement = connection.prepareStatement(query);
      preparedStatement.setString(1,bookID);
      preparedStatement.setString(2,studentID);
      ResultSet resultSet = preparedStatement.executeQuery();
      if(resultSet.next()) {
        issueDateTextF.setText(resultSet.getString("issueDate"));
        dueDateTextF.setText(resultSet.getString("dueDate"));
      } else {
         JOptionPane.showMessageDialog(null, "Book is not issued to This Student! ");
      }
```

```
        } catch(SQLException e) {
            JOptionPane.showMessageDialog(null, e.getMessage());
        }
    }

    // Return Book Update Table Function TO Action of Return Button!

    public void returnBookFunc() {
        String bookID = bookIDTextF.getText();
        String studentID = studentIDTextF.getText();
        try{
            String query = "UPDATE issueBook SET returnBook = ? WHERE bookID = ? and
studentID = ?";
            PreparedStatement updateValue = connection.prepareStatement(query);
            updateValue.setString(1,"yes");
            updateValue.setString(2,bookID);
            updateValue.setString(3,studentID);
            int rowAffected = updateValue.executeUpdate();
            if(rowAffected > 0) {
                JOptionPane.showMessageDialog(null, "Book Return Successfully! ");
            } else {
                JOptionPane.showMessageDialog(null, "Book Not Return Due TO Technical
Issue! ");
            }

        } catch(SQLException e) {
            JOptionPane.showMessageDialog(null, e.getMessage());
        }


    }




    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code
(optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look
and feel.
```

```
        * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
        */
       try {
          for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
             if ("Nimbus".equals(info.getName())) {
                javax.swing.UIManager.setLookAndFeel(info.getClassName());
                break;
             }
          }
       } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(ReturnBook.class.getName()).log(java.util.logging.Le
vel.SEVERE, null, ex);
       } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(ReturnBook.class.getName()).log(java.util.logging.Le
vel.SEVERE, null, ex);
       } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(ReturnBook.class.getName()).log(java.util.logging.Le
vel.SEVERE, null, ex);
       } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(ReturnBook.class.getName()).log(java.util.logging.Le
vel.SEVERE, null, ex);
       }
       //</editor-fold>

       /* Create and display the form */
       java.awt.EventQueue.invokeLater(new Runnable() {
          public void run() {
             new ReturnBook().setVisible(true);
          }
       });
    }

    // Variables declaration - do not modify
    private javax.swing.JLabel IssueDateLabel;
    private javax.swing.JButton ReturnBtn;
    private javax.swing.JTextField bookIDTextF;
    private javax.swing.JLabel bookIdLabel;
    private javax.swing.JButton closeBtn;
```

```
    private javax.swing.JLabel dueDateLabel;
    private javax.swing.JTextField dueDateTextF;
    private javax.swing.JTextField issueDateTextF;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JButton searchBtn;
    private javax.swing.JTextField studentIDTextF;
    private javax.swing.JLabel studentIdLabel;
    // End of variables declaration
}
```

Statistics Page –

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template
 */

import net.proteanit.sql.DbUtils;

import javax.swing.*;
import java.sql.*;

/**
 *
 * @author mohds
 */
public class Statistics extends javax.swing.JFrame {
    Connection connection;

    /**
     * Creates new form Statistics
     */
    public Statistics() {
        initComponents();
        databaseConnectivity();
    }



    public void databaseConnectivity() {
        // DataBase Connectivity Code:
        final String url = "jdbc:mysql://localhost:3306/librarymanagementsystem";
        final String username = "root";
        final String pass = "HelloWorld+1";

        try{
            Class.forName("com.mysql.cj.jdbc.Driver"); // Exception Name ClassNotFound:

        } catch (Exception e) {
            e.printStackTrace();
            System.out.println(e.getMessage());
        }
```

```
        try{
            connection = DriverManager.getConnection(url, username, pass); // Connection
is a Interface:
//          Statement statement = connection.createStatement();
        } catch (SQLException e) {
            System.out.println(e.getMessage());
        }
        // DataBase Connectivity is Complete End ?
    }
    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        issueHeading = new javax.swing.JLabel();
        returnHeading = new javax.swing.JLabel();
        closebtn = new javax.swing.JButton();
        jScrollPane1 = new javax.swing.JScrollPane();
        issueTable = new javax.swing.JTable();
        jScrollPane2 = new javax.swing.JScrollPane();
        returnTable = new javax.swing.JTable();
        imgBgLabel = new javax.swing.JLabel();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        addComponentListener(new java.awt.event.ComponentAdapter() {
            public void componentShown(java.awt.event.ComponentEvent evt) {
                formComponentShown(evt);
            }
        });
        getContentPane().setLayout(null);

        issueHeading.setFont(new java.awt.Font("Segoe UI", 1, 18)); // NOI18N
        issueHeading.setForeground(new java.awt.Color(255, 255, 0));
        issueHeading.setText("Issue Details");
        getContentPane().add(issueHeading);
        issueHeading.setBounds(470, 40, 180, 34);

        returnHeading.setFont(new java.awt.Font("Segoe UI", 1, 18)); // NOI18N
        returnHeading.setForeground(new java.awt.Color(255, 0, 51));
```

```
        returnHeading.setText("Return Details");
        getContentPane().add(returnHeading);
        returnHeading.setBounds(470, 290, 150, 25);

        closebtn.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
        closebtn.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\red-x-mark-transparent-background-3.png")); // NOI18N
        closebtn.setText("Close");
        closebtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                closebtnActionPerformed(evt);
            }
        });
        getContentPane().add(closebtn);
        closebtn.setBounds(780, 570, 90, 30);

        issueTable.setBackground(new java.awt.Color(255, 255, 153));
        issueTable.setModel(new javax.swing.table.DefaultTableModel(
            new Object [][] {
                {null, null, null, null, null, null},
                {null, null, null, null, null, null},
                {null, null, null, null, null, null},
                {null, null, null, null, null, null}
            },
            new String [] {
                "Student_ID", "Name", "Book_ID", "Book_Name", "Issue_Date",
"Due_Date"
            }
        ));
        issueTable.addComponentListener(new java.awt.event.ComponentAdapter() {
            public void componentShown(java.awt.event.ComponentEvent evt) {
                issueTableComponentShown(evt);
            }
        });
        jScrollPane1.setViewportView(issueTable);

        getContentPane().add(jScrollPane1);
        jScrollPane1.setBounds(142, 80, 810, 160);

        returnTable.setBackground(new java.awt.Color(255, 102, 102));
        returnTable.setModel(new javax.swing.table.DefaultTableModel(
            new Object [][] {
                {null, null, null, null, null, null},
```

```
                {null, null, null, null, null, null},
                {null, null, null, null, null, null},
                {null, null, null, null, null, null}
            },
            new String [] {
                "Student_ID", "Name", "Book_ID", "Book_Name", "Issue_Date",
"Due_Date"
            }
        ));
        jScrollPane2.setViewportView(returnTable);

        getContentPane().add(jScrollPane2);
        jScrollPane2.setBounds(140, 330, 810, 170);

        imgBgLabel.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\admingb.jpg")); // NOI18N
        getContentPane().add(imgBgLabel);
        imgBgLabel.setBounds(-120, -90, 1140, 830);

        setSize(new java.awt.Dimension(1168, 725));
        setLocationRelativeTo(null);
    }// </editor-fold>

    private void closebtnActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        new ChoiceFrame().setVisible(true);
        dispose();
    }

    private void issueTableComponentShown(java.awt.event.ComponentEvent evt) {
        // TODO add your handling code here:

    }

    private void formComponentShown(java.awt.event.ComponentEvent evt) {
        // TODO add your handling code here:

        try {

            Statement st = connection.createStatement();
            ResultSet rs = st.executeQuery("select\n" +
                "issueBook.studentID,\n" +
                "student.name,\n" +
```

```
                "issueBook.bookID,\n" +
                "book.name,\n" +
                "issueBook.issueDate,\n" +
                "issueBook.dueDate\n" +
                "from student inner join book inner join issueBook\n" +
                "where book.bookID=issueBook.bookID and\n" +
                " student.studentID=issueBook.studentID and\n" +
                "issueBook.returnBook='No'");
//          issuetable.setModel(DbUtils.resultSetToTableModel(rs));
            issueTable.setModel(DbUtils.resultSetToTableModel(rs));


            // Return Table Code!
            ResultSet rs1 = st.executeQuery("select\n" +
                "issueBook.studentID,\n" +
                "student.name,\n" +
                "issueBook.bookID,\n" +
                "book.name,\n" +
                "issueBook.issueDate,\n" +
                "issueBook.dueDate\n" +
                "from student inner join book inner join issueBook\n" +
                "where book.bookID=issueBook.bookID and\n" +
                " student.studentID=issueBook.studentID and\n" +
                "issueBook.returnBook='Yes'");
            returnTable.setModel(DbUtils.resultSetToTableModel(rs1));

        } catch (SQLException e){
            JOptionPane.showMessageDialog(null,e.getMessage());
        }
//        JOptionPane.showMessageDialog(null,"Run to hua hai kHuch karo kosis");
    }


    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code
(optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look
and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
```

```
        */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(Statistics.class.getName()).log(java.util.logging.Level.
SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(Statistics.class.getName()).log(java.util.logging.Level.
SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(Statistics.class.getName()).log(java.util.logging.Level.
SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(Statistics.class.getName()).log(java.util.logging.Level.
SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new Statistics().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JButton closebtn;
    private javax.swing.JLabel imgBgLabel;
    private javax.swing.JLabel issueHeading;
    private javax.swing.JTable issueTable;
    private javax.swing.JScrollPane jScrollPane1;
    private javax.swing.JScrollPane jScrollPane2;
    private javax.swing.JLabel returnHeading;
```

```
    private javax.swing.JTable returnTable;
    // End of variables declaration
}
```

Student and Book Record Page –

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template
 */

import net.proteanit.sql.DbUtils;

import javax.swing.plaf.nimbus.State;
import javax.swing.table.DefaultTableModel;
import java.awt.*;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.SQLException;
import  java.sql.*;
/**
 *
 * @author mohds
 */
public class StudentAndBookInfo extends javax.swing.JFrame {
   Connection connection;

   /**
    * Creates new form StudentAndBookInfo
    */
   public StudentAndBookInfo() {
      setTitle("Student And Book List");
      initComponents();
      databaseConnectivity();
   }
```

```
    public void databaseConnectivity() {
        // DataBase Connectivity Code:
        final String url = "jdbc:mysql://localhost:3306/librarymanagementsystem";
        final String username = "root";
        final String pass = "HelloWorld+1";

        try{
            Class.forName("com.mysql.cj.jdbc.Driver"); // Exception Name ClassNotFound:

        } catch (Exception e) {
            e.printStackTrace();
            System.out.println(e.getMessage());
        }

        try{
            connection = DriverManager.getConnection(url, username, pass); //
Connection is a Interface:
        } catch (SQLException e) {
            System.out.println(e.getMessage());
        }
        // DataBase Connectivity is Complete End ?
    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        StudInfoLabel = new javax.swing.JLabel();
        BookInfoLabel = new javax.swing.JLabel();
        jScrollPane1 = new javax.swing.JScrollPane();
        studentInfoTable = new javax.swing.JTable();
        jScrollPane2 = new javax.swing.JScrollPane();
        bookInfoTable = new javax.swing.JTable();
```

```
closeBtn = new javax.swing.JButton();
bgimg = new javax.swing.JLabel();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
addComponentListener(new java.awt.event.ComponentAdapter() {
   public void componentShown(java.awt.event.ComponentEvent evt) {
      formComponentShown(evt);
   }
});
getContentPane().setLayout(null);

StudInfoLabel.setFont(new java.awt.Font("Segoe UI", 1, 18)); // NOI18N
StudInfoLabel.setText("Students_List");
getContentPane().add(StudInfoLabel);
StudInfoLabel.setBounds(430, 30, 130, 25);

BookInfoLabel.setFont(new java.awt.Font("Segoe UI", 1, 18)); // NOI18N
BookInfoLabel.setText("Books_List");
getContentPane().add(BookInfoLabel);
BookInfoLabel.setBounds(430, 300, 110, 25);

studentInfoTable.setForeground(new java.awt.Color(0,0,0));
studentInfoTable.setModel(new javax.swing.table.DefaultTableModel(
      new Object [][] {
            {null, null, null, null, null},
            {null, null, null, null, null},
            {null, null, null, null, null},
            {null, null, null, null, null}
      },
      new String [] {
            "StudentID", "Name", "F_Name", "C_Name", "B_Name"
      }
));
jScrollPane1.setViewportView(studentInfoTable);

getContentPane().add(jScrollPane1);
jScrollPane1.setBounds(101, 67, 780, 203);
```

```
        bookInfoTable.setForeground(new java.awt.Color(0,0,0));
        bookInfoTable.setModel(new javax.swing.table.DefaultTableModel(
            new Object [][] {
                {null, null, null, null, null},
                {null, null, null, null, null},
                {null, null, null, null, null},
                {null, null, null, null, null}
            },
            new String [] {
                "BookID", "Name", "Publisher", "Price", "PublisherYear"
            }
        ));
        jScrollPane2.setViewportView(bookInfoTable);

        getContentPane().add(jScrollPane2);
        jScrollPane2.setBounds(101, 344, 780, 201);

        closeBtn.setFont(new java.awt.Font("Segoe UI", 1, 14)); // NOI18N
        closeBtn.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\red-x-mark-transparent-background-3.png")); // NOI18N
        closeBtn.setText("Close");
        closeBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                closeBtnActionPerformed(evt);
            }
        });
        getContentPane().add(closeBtn);
        closeBtn.setBounds(780, 577, 100, 27);

        bgimg.setIcon(new
javax.swing.ImageIcon("C:\\Users\\mohds\\Downloads\\Library management Project
Img\\Icons\\ADMIN PANEL.jpg")); // NOI18N
        getContentPane().add(bgimg);
        bgimg.setBounds(0, 0, 1110, 730);

        setSize(new java.awt.Dimension(993, 701));
        setLocationRelativeTo(null);
    }// </editor-fold>
```

```
    private void formComponentShown(java.awt.event.ComponentEvent evt) {
        // TODO add your handling code here:


        try{


            Statement st = connection.createStatement();
            String query = "SELECT * FROM student";
            ResultSet rs = st.executeQuery(query);
//              issuetable.setModel(DbUtils.resultSetToTableModel(rs));
            studentInfoTable.setModel(DbUtils.resultSetToTableModel(rs));

        } catch(SQLException e) {
            System.out.println(e.getMessage());
        }


        // Book Info Table:

        try{
////

            Statement st = connection.createStatement();
            String query = "SELECT * FROM book";
            ResultSet rs = st.executeQuery(query);
//              issuetable.setModel(DbUtils.resultSetToTableModel(rs));
            bookInfoTable.setModel(DbUtils.resultSetToTableModel(rs));

        } catch(SQLException e) {
            System.out.println(e.getMessage());
        }

    }

    private void closeBtnActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
```

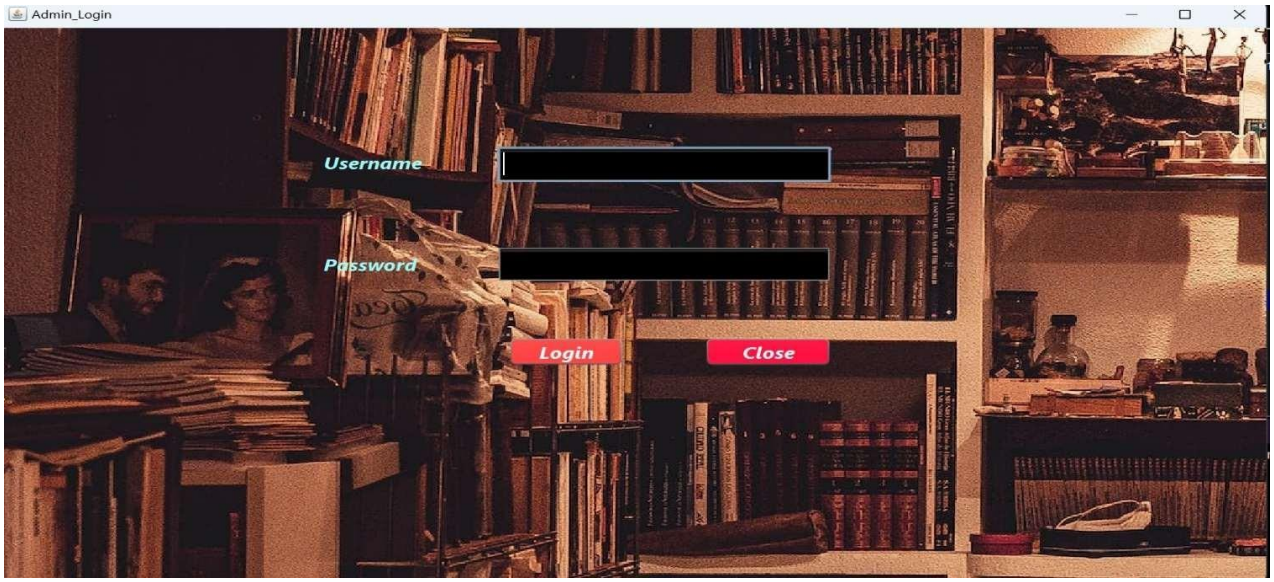
```
        new ChoiceFrame().setVisible(true);
        dispose();
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code
(optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the default look
and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(StudentAndBookInfo.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(StudentAndBookInfo.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(StudentAndBookInfo.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(StudentAndBookInfo.class.getName()).log(java.util.l
ogging.Level.SEVERE, null, ex);
```

```
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new StudentAndBookInfo().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JLabel BookInfoLabel;
    private javax.swing.JLabel StudInfoLabel;
    private javax.swing.JLabel bgimg;
    private javax.swing.JTable bookInfoTable;
    private javax.swing.JButton closeBtn;
    private javax.swing.JScrollPane jScrollPane1;
    private javax.swing.JScrollPane jScrollPane2;
    private javax.swing.JTable studentInfoTable;
    // End of variables declaration
}
```

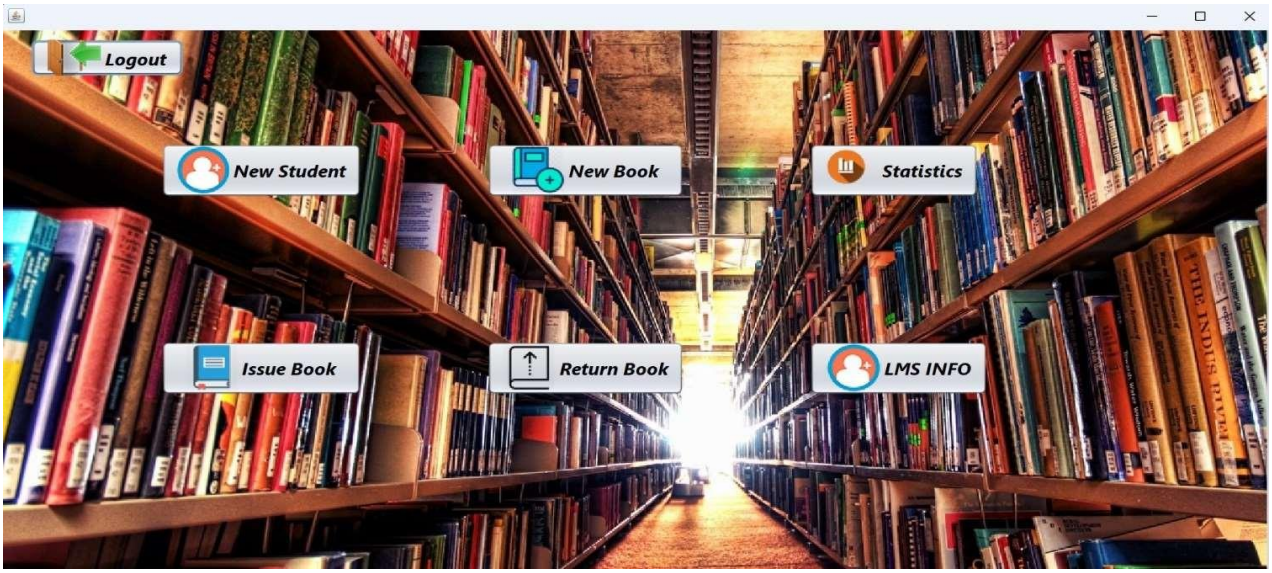
Output Screens

Outputs of all modules are given below sequencially :-

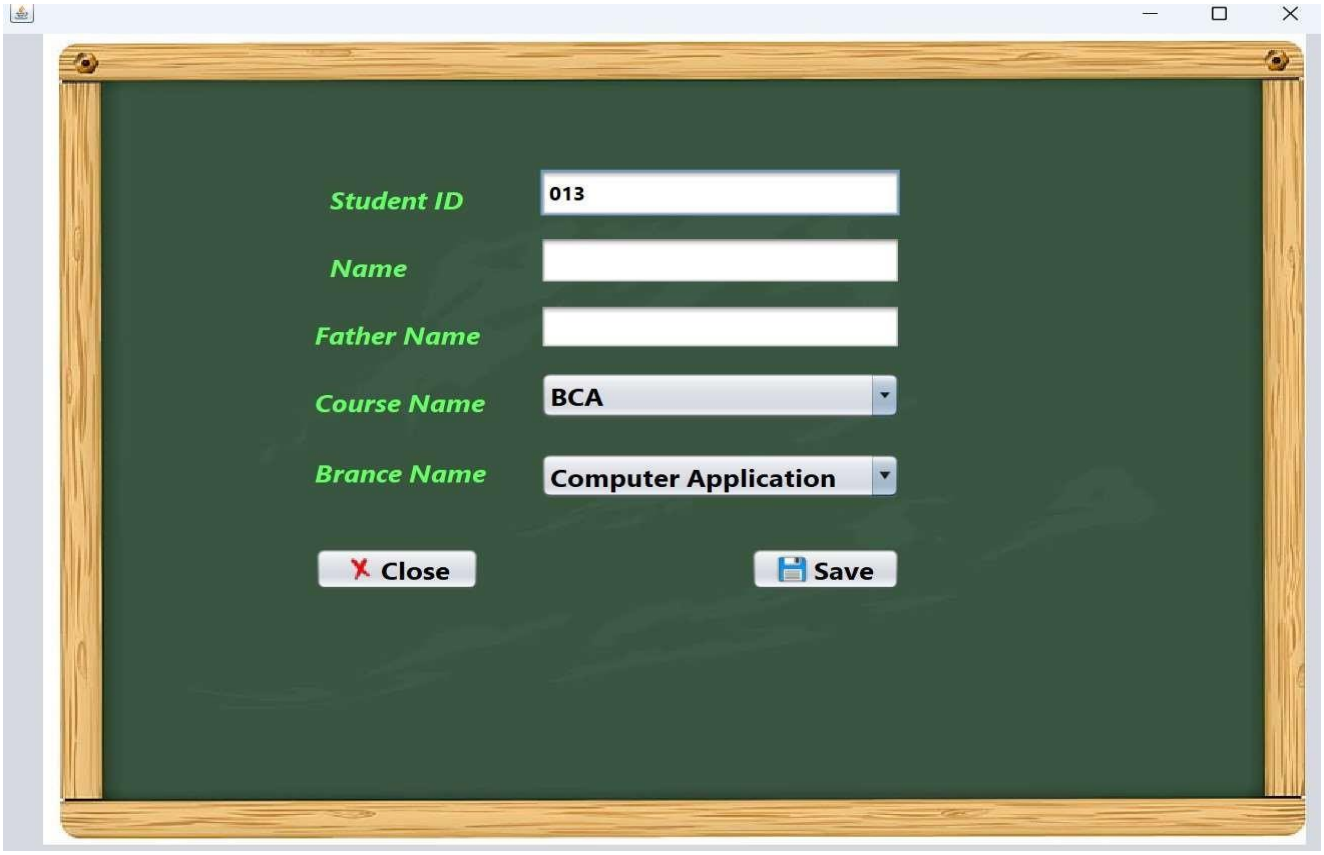
1. Login



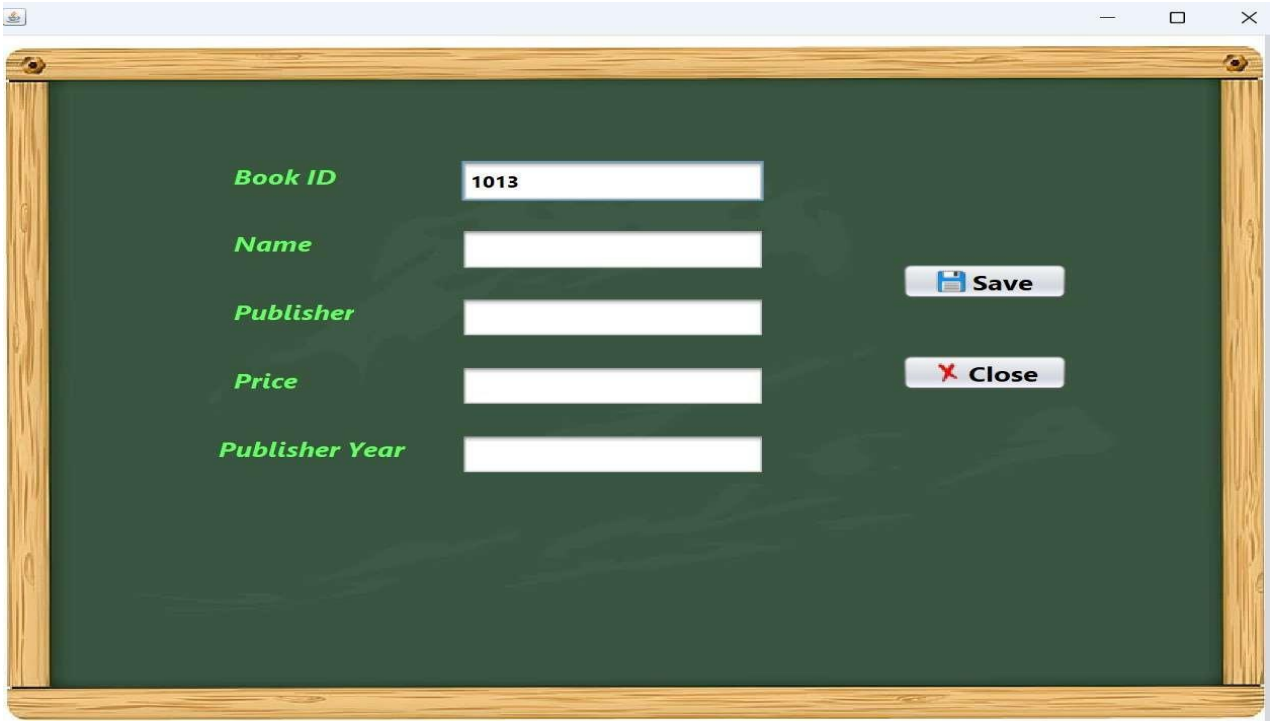
2. Home



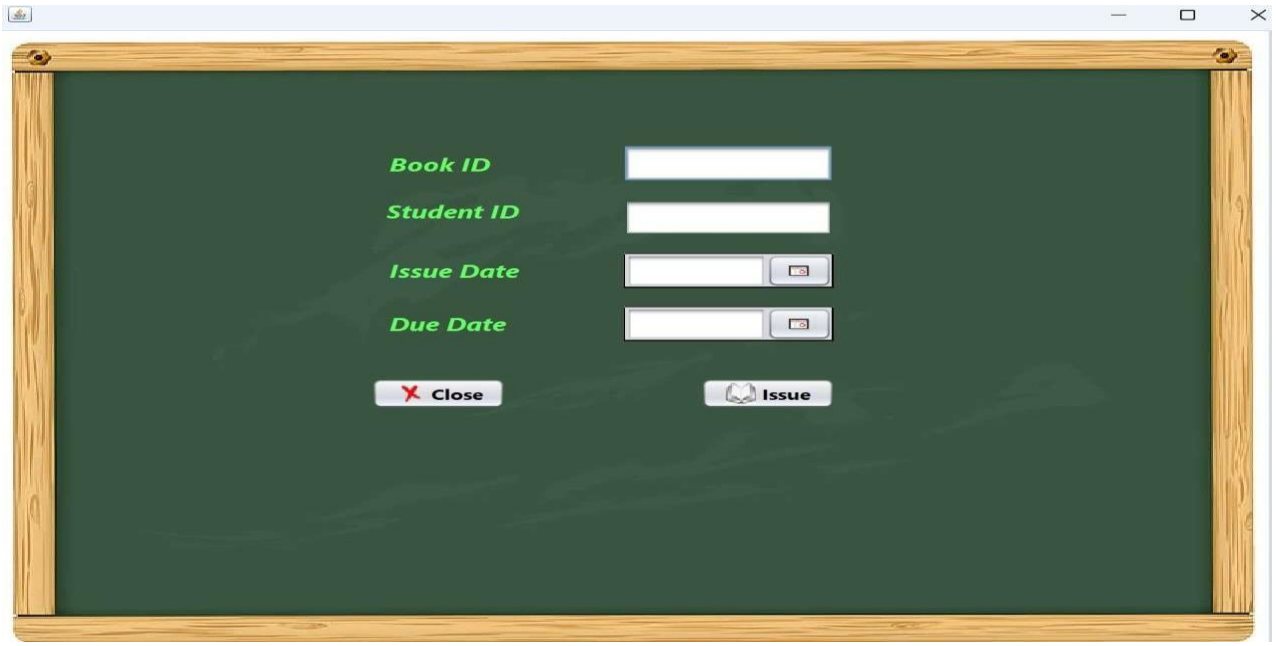
3. New Student



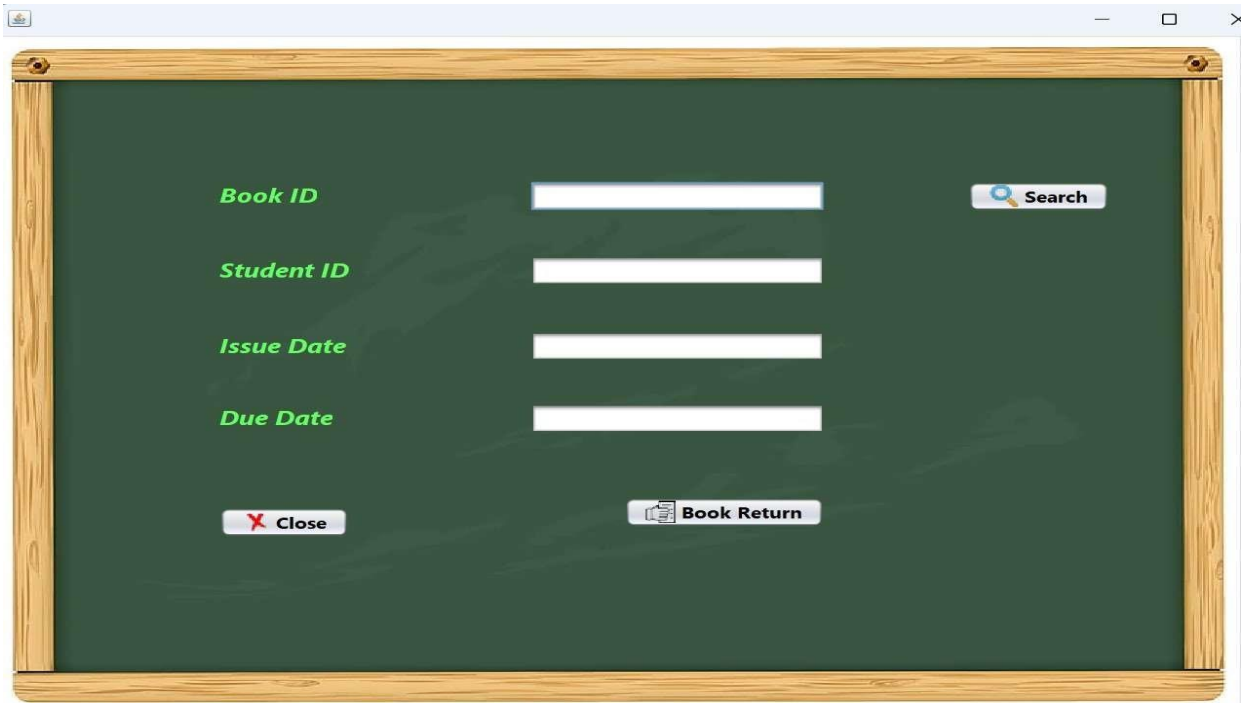
4. New Book



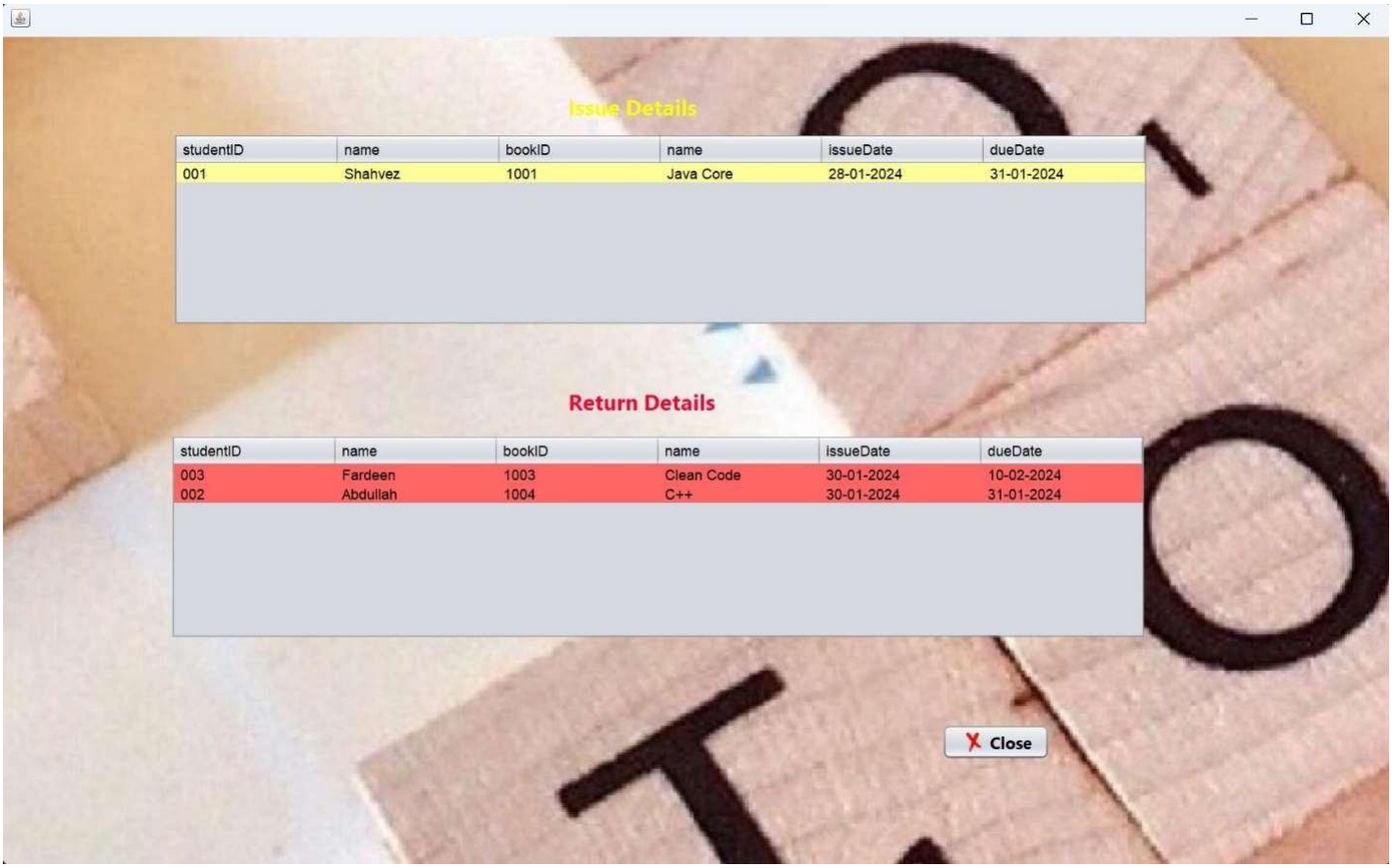
5. Issue Book



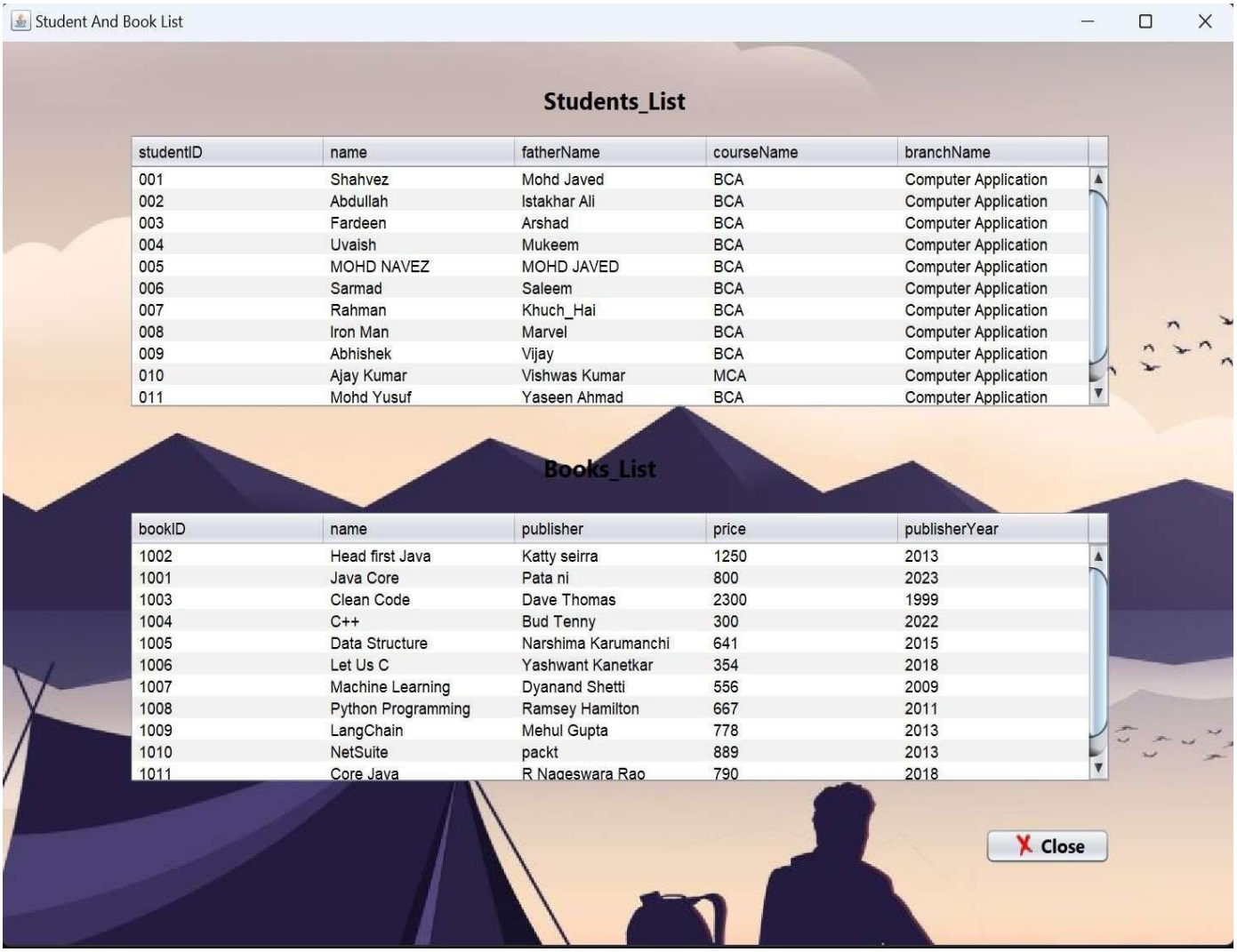
6. Return Book



7. Statistics



8. Student And Book Info



CHAPTER.5 CONCLUSION

To conclude,

1. Library Management System is a simple desktop based application basically suitable for small organization.

2. It has every basic items which are used for the small organization.

3. Here, we can update, insert and delete the item as per the requirement.

4. Through it has some limitations, we strongly believes that the implementation of this system will surely benefit the organization.

Bibliography

Following books and eBook are used to complete this project reports.

I. Mastering JAVA Neat Beans
   a. Author Tata McGraw-Hill's
   b. Publisher Black Book Publication

II. Oracle The Complete Reference
   a. Author Robert Koch
   b. Publication Tata McGraw-Hill

III. SQL, PL/SQL The Programming Language of Oracle
   a. Author Ivan Bayross
   b. Publication BPB Publication

IV. Software Engineering Apractitioner's Approach
   a. Author Roger S. Pressman
   b. Publication Tata McGraw-Hill

V. Fundamentals of Software Engineering
   a. Author Carlo Ghezzi, Mehdi Jazayeri, DinoMandrioli
   b. Publisher Prentice Hall of India