ADVANCED JAVA PRACTICALS SYCS :

**PRACTICAL NO 1:**

Aim: Develop the presentation layer of library Management software application with suitable menus.

**Library.java**

import java.awt.BorderLayout;

import java.awt.EventQueue;

import javax.swing.JFrame;

import javax.swing.JPanel;

import javax.swing.border.EmptyBorder;

import javax.swing.GroupLayout;

import javax.swing.GroupLayout.Alignment;

import javax.swing.JLabel;

import java.awt.Color;

import java.awt.Font;

import javax.swing.JButton;

import javax.swing.LayoutStyle.ComponentPlacement;

import java.awt.event.ActionListener;

import java.awt.event.ActionEvent;

public class Library extends JFrame {

 static Library frame;

 private JPanel contentPane;

 /\*\*

 \* Launch the application.

 \*/

 public static void main(String[] args) {

 EventQueue.invokeLater(new Runnable() {

 public void run() {

 try {

 frame= new Library();

 frame.setVisible(true);

 } catch (Exception e) {

 e.printStackTrace();

 }

 }

 });

 }

 /\*\*

 \* Create the frame.

 \*/

 public Library() {

 setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

 setBounds(100, 100, 450, 300);

 contentPane = new JPanel();

 contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

 setContentPane(contentPane);

 JLabel lblLibraryManagement = new JLabel("Library Management - JavaTpoint");

 lblLibraryManagement.setFont(new Font("Tahoma", Font.PLAIN, 18));

 lblLibraryManagement.setForeground(Color.GRAY);

 JButton btnAdminLogin = new JButton("Admin Login");

 btnAdminLogin.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent e) {

 AdminLogin.main(new String[]{});

 frame.dispose();

 }

 });

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

 JButton btnLibrarianLogin = new JButton("Librarian Login");

 btnLibrarianLogin.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent arg0) {

 LibrarianLogin.main(new String[]{});

 }

 });

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

 GroupLayout gl\_contentPane = new GroupLayout(contentPane);

 gl\_contentPane.setHorizontalGroup(

 gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addGap(64)

 .addComponent(lblLibraryManagement))

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addGap(140)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.TRAILING, false)

 .addComponent(btnLibrarianLogin, Alignment.LEADING, GroupLayout.DEFAULT\_SIZE, GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)

 .addComponent(btnAdminLogin, Alignment.LEADING, GroupLayout.DEFAULT\_SIZE, 135, Short.MAX\_VALUE))))

 .addContainerGap(95, Short.MAX\_VALUE))

 );

 gl\_contentPane.setVerticalGroup(

 gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addContainerGap()

 .addComponent(lblLibraryManagement)

 .addGap(32)

 .addComponent(btnAdminLogin, GroupLayout.PREFERRED\_SIZE, 52, GroupLayout.PREFERRED\_SIZE)

 .addPreferredGap(ComponentPlacement.UNRELATED)

 .addComponent(btnLibrarianLogin, GroupLayout.PREFERRED\_SIZE, 53, GroupLayout.PREFERRED\_SIZE)

 .addContainerGap(70, Short.MAX\_VALUE))

 );

 contentPane.setLayout(gl\_contentPane);

 }

}

**Output:**



**AdminLogin.java**

import java.awt.BorderLayout;

import java.awt.EventQueue;

import javax.swing.JFrame;

import javax.swing.JPanel;

import javax.swing.border.EmptyBorder;

import javax.swing.GroupLayout;

import javax.swing.GroupLayout.Alignment;

import javax.swing.JLabel;

import javax.swing.JOptionPane;

import java.awt.Font;

import java.awt.Color;

import javax.swing.JTextField;

import javax.swing.JButton;

import java.awt.event.ActionListener;

import java.awt.event.ActionEvent;

import javax.swing.JPasswordField;

public class AdminLogin extends JFrame {

 static AdminLogin frame;

 private JPanel contentPane;

 private JTextField textField;

 private JPasswordField passwordField;

 /\*\*

 \* Launch the application.

 \*/

 public static void main(String[] args) {

 EventQueue.invokeLater(new Runnable() {

 public void run() {

 try {

 frame = new AdminLogin();

 frame.setVisible(true);

 } catch (Exception e) {

 e.printStackTrace();

 }

 }

 });

 }

 /\*\*

 \* Create the frame.

 \*/

 public AdminLogin() {

 setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

 setBounds(100, 100, 450, 300);

 contentPane = new JPanel();

 contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

 setContentPane(contentPane);

 JLabel lblAdminLoginForm = new JLabel("Admin Login Form");

 lblAdminLoginForm.setForeground(Color.GRAY);

 lblAdminLoginForm.setFont(new Font("Tahoma", Font.PLAIN, 18));

 JLabel lblEnterName = new JLabel("Enter Name:");

 JLabel lblEnterPassword = new JLabel("Enter Password:");

 textField = new JTextField();

 textField.setColumns(10);

 JButton btnLogin = new JButton("Login");

 btnLogin.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent e) {

 String name=textField.getText();

 String password=String.valueOf(passwordField.getPassword());

 if(name.equals("admin")&&password.equals("admin123")){

 AdminSuccess.main(new String[]{});

 frame.dispose();

 }else{

 JOptionPane.showMessageDialog(AdminLogin.this, "Sorry, Username or Password Error","Login Error!", JOptionPane.ERROR\_MESSAGE);

 textField.setText("");

 passwordField.setText("");

 }

 }

 });

 passwordField = new JPasswordField();

 GroupLayout gl\_contentPane = new GroupLayout(contentPane);

 gl\_contentPane.setHorizontalGroup(

 gl\_contentPane.createParallelGroup(Alignment.TRAILING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addGap(124)

 .addComponent(lblAdminLoginForm))

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addGap(19)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addComponent(lblEnterName)

 .addComponent(lblEnterPassword))

 .addGap(47)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.LEADING, false)

 .addComponent(passwordField)

 .addComponent(textField, GroupLayout.DEFAULT\_SIZE, 172, Short.MAX\_VALUE))))

 .addContainerGap(107, Short.MAX\_VALUE))

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addContainerGap(187, Short.MAX\_VALUE)

 .addComponent(btnLogin, GroupLayout.PREFERRED\_SIZE, 86, GroupLayout.PREFERRED\_SIZE)

 .addGap(151))

 );

 gl\_contentPane.setVerticalGroup(

 gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addComponent(lblAdminLoginForm)

 .addGap(26)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.BASELINE)

 .addComponent(lblEnterName)

 .addComponent(textField, GroupLayout.PREFERRED\_SIZE, GroupLayout.DEFAULT\_SIZE, GroupLayout.PREFERRED\_SIZE))

 .addGap(28)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.BASELINE)

 .addComponent(lblEnterPassword)

 .addComponent(passwordField, GroupLayout.PREFERRED\_SIZE, GroupLayout.DEFAULT\_SIZE, GroupLayout.PREFERRED\_SIZE))

 .addGap(18)

 .addComponent(btnLogin, GroupLayout.PREFERRED\_SIZE, 37, GroupLayout.PREFERRED\_SIZE)

 .addContainerGap(80, Short.MAX\_VALUE))

 );

 contentPane.setLayout(gl\_contentPane);

 }

}

**Output:**



**AdminSuccess.java**

import java.awt.BorderLayout;

import java.awt.EventQueue;

import javax.swing.JFrame;

import javax.swing.JPanel;

import javax.swing.border.EmptyBorder;

import javax.swing.GroupLayout;

import javax.swing.GroupLayout.Alignment;

import javax.swing.JLabel;

import java.awt.Color;

import java.awt.Font;

import javax.swing.JButton;

import java.awt.event.ActionListener;

import java.awt.event.ActionEvent;

import javax.swing.LayoutStyle.ComponentPlacement;

import java.sql.\*;

public class AdminSuccess extends JFrame {

 static AdminSuccess frame;

 private JPanel contentPane;

 /\*\*

 \* Launch the application.

 \*/

 public static void main(String[] args) {

 EventQueue.invokeLater(new Runnable() {

 public void run() {

 try {

 frame = new AdminSuccess();

 frame.setVisible(true);

 } catch (Exception e) {

 e.printStackTrace();

 }

 }

 });

 }

 /\*\*

 \* Create the frame.

 \*/

 public AdminSuccess() {

 setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

 setBounds(100, 100, 450, 371);

 contentPane = new JPanel();

 contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

 setContentPane(contentPane);

 JLabel lblAdminSection = new JLabel("Admin Section");

 lblAdminSection.setFont(new Font("Tahoma", Font.PLAIN, 22));

 lblAdminSection.setForeground(Color.GRAY);

 JButton btnNewButton = new JButton("Add Librarian");

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

 btnNewButton.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent e) {

 LibrarianForm.main(new String[]{});

 frame.dispose();

 }

 });

 JButton btnViewLibrarian = new JButton("View Librarian");

 btnViewLibrarian.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent arg0) {

 ViewLibrarian.main(new String[]{});

 }

 });

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

 JButton btnDeleteLibrarian = new JButton("Delete Librarian");

 btnDeleteLibrarian.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent e) {

 DeleteLibrarian.main(new String[]{});

 frame.dispose();

 }

 });

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

 JButton btnLogout = new JButton("Logout");

 btnLogout.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent arg0) {

 Library.main(new String[]{});

 frame.dispose();

 }

 });

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

 GroupLayout gl\_contentPane = new GroupLayout(contentPane);

 gl\_contentPane.setHorizontalGroup(

 gl\_contentPane.createParallelGroup(Alignment.TRAILING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addContainerGap(150, Short.MAX\_VALUE)

 .addComponent(lblAdminSection, GroupLayout.PREFERRED\_SIZE, 151, GroupLayout.PREFERRED\_SIZE)

 .addGap(123))

 .addGroup(Alignment.LEADING, gl\_contentPane.createSequentialGroup()

 .addGap(134)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addComponent(btnLogout, GroupLayout.PREFERRED\_SIZE, 181, GroupLayout.PREFERRED\_SIZE)

 .addComponent(btnDeleteLibrarian, GroupLayout.PREFERRED\_SIZE, 181, GroupLayout.PREFERRED\_SIZE)

 .addComponent(btnViewLibrarian, GroupLayout.PREFERRED\_SIZE, 181, GroupLayout.PREFERRED\_SIZE)

 .addComponent(btnNewButton, GroupLayout.PREFERRED\_SIZE, 181, GroupLayout.PREFERRED\_SIZE))

 .addContainerGap(109, Short.MAX\_VALUE))

 );

 gl\_contentPane.setVerticalGroup(

 gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addComponent(lblAdminSection, GroupLayout.PREFERRED\_SIZE, 40, GroupLayout.PREFERRED\_SIZE)

 .addGap(11)

 .addComponent(btnNewButton, GroupLayout.PREFERRED\_SIZE, 49, GroupLayout.PREFERRED\_SIZE)

 .addGap(18)

 .addComponent(btnViewLibrarian, GroupLayout.PREFERRED\_SIZE, 49, GroupLayout.PREFERRED\_SIZE)

 .addGap(18)

 .addComponent(btnDeleteLibrarian, GroupLayout.PREFERRED\_SIZE, 49, GroupLayout.PREFERRED\_SIZE)

 .addGap(18)

 .addComponent(btnLogout, GroupLayout.PREFERRED\_SIZE, 49, GroupLayout.PREFERRED\_SIZE)

 .addContainerGap(21, Short.MAX\_VALUE))

 );

 contentPane.setLayout(gl\_contentPane);

 }

}

**Output:**



**LibrarianLogin.java**

import java.awt.BorderLayout;

import java.awt.EventQueue;

import javax.swing.JFrame;

import javax.swing.JPanel;

import javax.swing.border.EmptyBorder;

import javax.swing.GroupLayout;

import javax.swing.GroupLayout.Alignment;

import javax.swing.JLabel;

import javax.swing.JOptionPane;

import java.awt.Font;

import java.awt.Color;

import javax.swing.JTextField;

import javax.swing.JButton;

import java.awt.event.ActionListener;

import java.awt.event.ActionEvent;

import javax.swing.JPasswordField;

public class LibrarianLogin extends JFrame {

 static LibrarianLogin frame;

 private JPanel contentPane;

 private JTextField textField;

 private JPasswordField passwordField;

 /\*\*

 \* Launch the application.

 \*/

 public static void main(String[] args) {

 EventQueue.invokeLater(new Runnable() {

 public void run() {

 try {

 frame = new LibrarianLogin();

 frame.setVisible(true);

 } catch (Exception e) {

 e.printStackTrace();

 }

 }

 });

 }

 /\*\*

 \* Create the frame.

 \*/

 public LibrarianLogin() {

 setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

 setBounds(100, 100, 450, 300);

 contentPane = new JPanel();

 contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

 setContentPane(contentPane);

 JLabel lblAdminLoginForm = new JLabel("Librarian Login Form");

 lblAdminLoginForm.setForeground(Color.GRAY);

 lblAdminLoginForm.setFont(new Font("Tahoma", Font.PLAIN, 18));

 JLabel lblEnterName = new JLabel("Enter Name:");

 JLabel lblEnterPassword = new JLabel("Enter Password:");

 textField = new JTextField();

 textField.setColumns(10);

 JButton btnLogin = new JButton("Login");

 btnLogin.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent e) {

 String name=textField.getText();

 String password=String.valueOf(passwordField.getPassword());

 //System.out.println(name+" "+password);

 if(LibrarianDao.validate(name, password)){

 LibrarianSuccess.main(new String[]{});

 frame.dispose();

 }else{

 JOptionPane.showMessageDialog(LibrarianLogin.this, "Sorry, Username or Password Error","Login Error!", JOptionPane.ERROR\_MESSAGE);

 textField.setText("");

 passwordField.setText("");

 }

 }

 });

 passwordField = new JPasswordField();

 GroupLayout gl\_contentPane = new GroupLayout(contentPane);

 gl\_contentPane.setHorizontalGroup(

 gl\_contentPane.createParallelGroup(Alignment.TRAILING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addGap(124)

 .addComponent(lblAdminLoginForm))

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addGap(19)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addComponent(lblEnterName)

 .addComponent(lblEnterPassword))

 .addGap(47)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.LEADING, false)

 .addComponent(passwordField)

 .addComponent(textField, GroupLayout.DEFAULT\_SIZE, 172, Short.MAX\_VALUE))))

 .addContainerGap(107, Short.MAX\_VALUE))

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addContainerGap(187, Short.MAX\_VALUE)

 .addComponent(btnLogin, GroupLayout.PREFERRED\_SIZE, 86, GroupLayout.PREFERRED\_SIZE)

 .addGap(151))

 );

 gl\_contentPane.setVerticalGroup(

 gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addComponent(lblAdminLoginForm)

 .addGap(26)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.BASELINE)

 .addComponent(lblEnterName)

 .addComponent(textField, GroupLayout.PREFERRED\_SIZE, GroupLayout.DEFAULT\_SIZE, GroupLayout.PREFERRED\_SIZE))

 .addGap(28)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.BASELINE)

 .addComponent(lblEnterPassword)

 .addComponent(passwordField, GroupLayout.PREFERRED\_SIZE, GroupLayout.DEFAULT\_SIZE, GroupLayout.PREFERRED\_SIZE))

 .addGap(18)

 .addComponent(btnLogin, GroupLayout.PREFERRED\_SIZE, 37, GroupLayout.PREFERRED\_SIZE)

 .addContainerGap(80, Short.MAX\_VALUE))

 );

 contentPane.setLayout(gl\_contentPane);

 }

}

**Output:**



**LibrarySuccess.java**

import java.awt.BorderLayout;

import java.awt.EventQueue;

import javax.swing.JFrame;

import javax.swing.JPanel;

import javax.swing.border.EmptyBorder;

import javax.swing.GroupLayout;

import javax.swing.GroupLayout.Alignment;

import javax.swing.JLabel;

import java.awt.Font;

import java.awt.Color;

import javax.swing.JButton;

import java.awt.event.ActionListener;

import java.awt.event.ActionEvent;

public class LibrarianSuccess extends JFrame {

 static LibrarianSuccess frame;

 private JPanel contentPane;

 /\*\*

 \* Launch the application.

 \*/

 public static void main(String[] args) {

 EventQueue.invokeLater(new Runnable() {

 public void run() {

 try {

 frame = new LibrarianSuccess();

 frame.setVisible(true);

 } catch (Exception e) {

 e.printStackTrace();

 }

 }

 });

 }

 /\*\*

 \* Create the frame.

 \*/

 public LibrarianSuccess() {

 setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

 setBounds(100, 100, 450, 433);

 contentPane = new JPanel();

 contentPane.setForeground(Color.GRAY);

 contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

 setContentPane(contentPane);

 JLabel lblLibrarianSection = new JLabel("Librarian Section - JavaTpoint");

 lblLibrarianSection.setFont(new Font("Tahoma", Font.PLAIN, 22));

 JButton btnNewButton = new JButton("Add Books");

 btnNewButton.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent e) {

 BooksForm.main(new String[]{});

 frame.dispose();

 }

 });

 btnNewButton.setFont(new Font("Tahoma", Font.PLAIN, 13));

 JButton btnViewBooks = new JButton("View Books");

 btnViewBooks.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent arg0) {

 ViewBooks.main(new String[]{});

 }

 });

 btnViewBooks.setFont(new Font("Tahoma", Font.PLAIN, 13));

 JButton btnIssueBook = new JButton("Issue Book");

 btnIssueBook.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent e) {

 IssueBookForm.main(new String[]{});

 frame.dispose();

 }

 });

 btnIssueBook.setFont(new Font("Tahoma", Font.PLAIN, 13));

 JButton btnViewIssuedBooks = new JButton("View Issued Books");

 btnViewIssuedBooks.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent e) {

 ViewIssuedBooks.main(new String[]{});

 }

 });

 btnViewIssuedBooks.setFont(new Font("Tahoma", Font.PLAIN, 13));

 JButton btnReturnBook = new JButton("Return Book");

 btnReturnBook.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent e) {

 ReturnBook.main(new String[]{});

 frame.dispose();

 }

 });

 btnReturnBook.setFont(new Font("Tahoma", Font.PLAIN, 13));

 JButton btnLogout = new JButton("Logout");

 btnLogout.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent e) {

 Library.main(new String[]{});

 frame.dispose();

 }

 });

 btnLogout.setFont(new Font("Tahoma", Font.PLAIN, 13));

 GroupLayout gl\_contentPane = new GroupLayout(contentPane);

 gl\_contentPane.setHorizontalGroup(

 gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addGroup(Alignment.TRAILING, gl\_contentPane.createSequentialGroup()

 .addContainerGap(81, Short.MAX\_VALUE)

 .addComponent(lblLibrarianSection)

 .addGap(54))

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addGap(132)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addComponent(btnLogout, GroupLayout.PREFERRED\_SIZE, 191, GroupLayout.PREFERRED\_SIZE)

 .addComponent(btnReturnBook, GroupLayout.PREFERRED\_SIZE, 191, GroupLayout.PREFERRED\_SIZE)

 .addComponent(btnViewIssuedBooks, GroupLayout.PREFERRED\_SIZE, 191, GroupLayout.PREFERRED\_SIZE)

 .addComponent(btnIssueBook, GroupLayout.PREFERRED\_SIZE, 191, GroupLayout.PREFERRED\_SIZE)

 .addComponent(btnViewBooks, GroupLayout.PREFERRED\_SIZE, 191, GroupLayout.PREFERRED\_SIZE)

 .addComponent(btnNewButton, GroupLayout.PREFERRED\_SIZE, 191, GroupLayout.PREFERRED\_SIZE))

 .addContainerGap(101, Short.MAX\_VALUE))

 );

 gl\_contentPane.setVerticalGroup(

 gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addContainerGap()

 .addComponent(lblLibrarianSection)

 .addGap(18)

 .addComponent(btnNewButton, GroupLayout.PREFERRED\_SIZE, 37, GroupLayout.PREFERRED\_SIZE)

 .addGap(18)

 .addComponent(btnViewBooks, GroupLayout.PREFERRED\_SIZE, 37, GroupLayout.PREFERRED\_SIZE)

 .addGap(18)

 .addComponent(btnIssueBook, GroupLayout.PREFERRED\_SIZE, 37, GroupLayout.PREFERRED\_SIZE)

 .addGap(18)

 .addComponent(btnViewIssuedBooks, GroupLayout.PREFERRED\_SIZE, 37, GroupLayout.PREFERRED\_SIZE)

 .addGap(18)

 .addComponent(btnReturnBook, GroupLayout.PREFERRED\_SIZE, 37, GroupLayout.PREFERRED\_SIZE)

 .addGap(18)

 .addComponent(btnLogout, GroupLayout.PREFERRED\_SIZE, 37, GroupLayout.PREFERRED\_SIZE)

 .addContainerGap(16, Short.MAX\_VALUE))

 );

 contentPane.setLayout(gl\_contentPane);

 }

}

**Output:**



PRACTICAL NO 2

Aim: Design suitable database for Library Management System.

**LibCreate.java**

import java.sql.\*;

public class LibCreate {

 //JDBC driver name and database URL

static final String JDBC\_DRIVER="com.mysql.jdbc.Driver";

static final String DB\_URL="jdbc:mysql://LOCALHOST:3306/students";

//Database credentials

//static final String USER="root";

//static final String PASS="1234";

public static void main(String[] args){

 Connection conn = null;

 Statement stmt = null;

 try{

 Class.forName("com.mysql.jdbc.Driver");

 System.out.println("Connecting to a selected database...");

 conn = DriverManager.getConnection("jdbc:mysql://LOCALHOST:3306/students","root","12345");

 System.out.println("Connected database successsfully...");

 System.out.println("Creating table in given database...");

 stmt = conn.createStatement();

 String sql = "CREATE TABLE Librarian " +

 "(name VARCHAR(255)," +

 "password VARCHAR(255)," +

 "email VARCHAR(255)," +

 "address VARCHAR(255)," +

 "city VARCHAR(255)," +

 "contact VARCHAR(255))";

 stmt.executeUpdate(sql);

 System.out.println("Created table in given database...");

 }catch(SQLException se){

 se.printStackTrace();

 }catch(Exception e){

 e.printStackTrace();

 }finally{

 try{

 if(stmt!=null)

 conn.close();

 }catch(SQLException se){

 se.printStackTrace();

 }//end finally try

 }//end try

 System.out.println("Goodbye!");

 }//end main

}//end LibCreate

****

**PRACTICAL NO: 3**

**Aim: Develop business logic layer for Library Management System.**

**LibrarianDao.java**

import java.sql.\*;

public class LibrarianDao {

 public static int save(String name,String password,String email,String address,String city,String contact){

 int status=0;

 try{

 Connection con=DB.getConnection();

 PreparedStatement ps=con.prepareStatement("insert into librarian(name,password,email,address,city,contact) values(?,?,?,?,?,?)");

 ps.setString(1,name);

 ps.setString(2,password);

 ps.setString(3,email);

 ps.setString(4,address);

 ps.setString(5,city);

 ps.setString(6,contact);

 status=ps.executeUpdate();

 con.close();

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

 return status;

 }

 public static int delete(int id){

 int status=0;

 try{

 Connection con=DB.getConnection();

 PreparedStatement ps=con.prepareStatement("delete from librarian where id=?");

 ps.setInt(1,id);

 status=ps.executeUpdate();

 con.close();

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

 return status;

 }

 public static boolean validate(String name,String password){

 boolean status=false;

 try{

 Connection con=DB.getConnection();

 PreparedStatement ps=con.prepareStatement("select \* from librarian where name=? and password=?");

 ps.setString(1,name);

 ps.setString(2,password);

 ResultSet rs=ps.executeQuery();

 status=rs.next();

 con.close();

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

 return status;

 }

}

**LibrarianForm.java**

import java.awt.BorderLayout;

import java.awt.EventQueue;

import javax.swing.JFrame;

import javax.swing.JPanel;

import javax.swing.border.EmptyBorder;

import javax.swing.GroupLayout;

import javax.swing.GroupLayout.Alignment;

import javax.swing.JLabel;

import javax.swing.JOptionPane;

import java.awt.Font;

import java.awt.Color;

import javax.swing.JTextField;

import javax.swing.JPasswordField;

import javax.swing.LayoutStyle.ComponentPlacement;

import javax.swing.JButton;

import java.awt.event.ActionListener;

import java.awt.event.ActionEvent;

public class LibrarianForm extends JFrame {

 static LibrarianForm frame;

 private JPanel contentPane;

 private JTextField textField;

 private JTextField textField\_1;

 private JTextField textField\_2;

 private JTextField textField\_3;

 private JTextField textField\_4;

 private JPasswordField passwordField;

 /\*\*

 \* Launch the application.

 \*/

 public static void main(String[] args) {

 EventQueue.invokeLater(new Runnable() {

 public void run() {

 try {

 frame = new LibrarianForm();

 frame.setVisible(true);

 } catch (Exception e) {

 e.printStackTrace();

 }

 }

 });

 }

 /\*\*

 \* Create the frame.

 \*/

 public LibrarianForm() {

 setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

 setBounds(100, 100, 450, 450);

 contentPane = new JPanel();

 contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

 setContentPane(contentPane);

 JLabel lblAddLibrarian = new JLabel("Add Librarian");

 lblAddLibrarian.setForeground(Color.DARK\_GRAY);

 lblAddLibrarian.setFont(new Font("Tahoma", Font.PLAIN, 22));

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

 JLabel lblPassword = new JLabel("Password:");

 JLabel lblEmail = new JLabel("Email:");

 JLabel lblAddress = new JLabel("Address:");

 JLabel lblCity = new JLabel("City:");

 JLabel lblContactNo = new JLabel("Contact No:");

 //JLabel lblid=new JLabel("ID");

 textField = new JTextField();

 textField.setColumns(10);

 textField = new JTextField();

 textField.setColumns(10);

 textField\_1 = new JTextField();

 textField\_1.setColumns(10);

 textField\_2 = new JTextField();

 textField\_2.setColumns(10);

 textField\_3 = new JTextField();

 textField\_3.setColumns(10);

 textField\_4 = new JTextField();

 textField\_4.setColumns(10);

 passwordField = new JPasswordField();

 JButton btnNewButton = new JButton("Add Librarian");

 btnNewButton.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent e) {

 String id=textField.getText();

 String name=textField.getText();

 String password=String.valueOf(passwordField.getPassword());

 String email=textField\_1.getText();

 String address=textField\_2.getText();

 String city=textField\_3.getText();

 String contact=textField\_4.getText();

 int i=LibrarianDao.save(name, password, email, address, city, contact);

 if(i>0){

 JOptionPane.showMessageDialog(LibrarianForm.this,"Librarian added successfully!");

 AdminSuccess.main(new String[]{});

 frame.dispose();

 }else{

 JOptionPane.showMessageDialog(LibrarianForm.this,"Sorry, unable to save!");

 }

 }

 });

 btnNewButton.setForeground(Color.DARK\_GRAY);

 JButton btnBack = new JButton("Back");

 btnBack.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent e) {

 AdminSuccess.main(new String[]{});

 frame.dispose();

 }

 });

 GroupLayout gl\_contentPane = new GroupLayout(contentPane);

 gl\_contentPane.setHorizontalGroup(

 gl\_contentPane.createParallelGroup(Alignment.TRAILING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addGap(20)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.LEADING, false)

 .addComponent(lblPassword, GroupLayout.DEFAULT\_SIZE, 62, Short.MAX\_VALUE)

 .addComponent(lblName)

 .addComponent(lblEmail, GroupLayout.PREFERRED\_SIZE, 31, GroupLayout.PREFERRED\_SIZE)

 .addComponent(lblAddress, GroupLayout.DEFAULT\_SIZE, GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)

 .addComponent(lblCity, GroupLayout.PREFERRED\_SIZE, 31, GroupLayout.PREFERRED\_SIZE)

 .addComponent(lblContactNo, GroupLayout.DEFAULT\_SIZE, GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE))

 .addGap(58)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.LEADING, false)

 .addComponent(textField\_4, GroupLayout.DEFAULT\_SIZE, 177, Short.MAX\_VALUE)

 .addComponent(textField\_3, GroupLayout.DEFAULT\_SIZE, 177, Short.MAX\_VALUE)

 .addComponent(textField\_2, GroupLayout.DEFAULT\_SIZE, 177, Short.MAX\_VALUE)

 .addComponent(textField\_1, GroupLayout.DEFAULT\_SIZE, 177, Short.MAX\_VALUE)

 .addComponent(textField, GroupLayout.DEFAULT\_SIZE, 177, Short.MAX\_VALUE)

 .addComponent(passwordField))

 .addContainerGap(107, Short.MAX\_VALUE))

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addContainerGap(151, Short.MAX\_VALUE)

 .addComponent(lblAddLibrarian)

 .addGap(144))

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addContainerGap(160, Short.MAX\_VALUE)

 .addComponent(btnNewButton, GroupLayout.PREFERRED\_SIZE, 131, GroupLayout.PREFERRED\_SIZE)

 .addGap(133))

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addContainerGap(200, Short.MAX\_VALUE)

 .addComponent(btnBack)

 .addGap(169))

 );

 gl\_contentPane.setVerticalGroup(

 gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addComponent(lblAddLibrarian)

 .addGap(18)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addComponent(lblName)

 .addGap(18)

 .addComponent(lblPassword))

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addComponent(textField, GroupLayout.PREFERRED\_SIZE, GroupLayout.DEFAULT\_SIZE, GroupLayout.PREFERRED\_SIZE)

 .addPreferredGap(ComponentPlacement.UNRELATED)

 .addComponent(passwordField, GroupLayout.PREFERRED\_SIZE, GroupLayout.DEFAULT\_SIZE, GroupLayout.PREFERRED\_SIZE)))

 .addGap(18)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.BASELINE)

 .addComponent(lblEmail)

 .addComponent(textField\_1, GroupLayout.PREFERRED\_SIZE, GroupLayout.DEFAULT\_SIZE, GroupLayout.PREFERRED\_SIZE))

 .addGap(18)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.BASELINE)

 .addComponent(lblAddress)

 .addComponent(textField\_2, GroupLayout.PREFERRED\_SIZE, GroupLayout.DEFAULT\_SIZE, GroupLayout.PREFERRED\_SIZE))

 .addGap(18)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.BASELINE)

 .addComponent(lblCity)

 .addComponent(textField\_3, GroupLayout.PREFERRED\_SIZE, GroupLayout.DEFAULT\_SIZE, GroupLayout.PREFERRED\_SIZE))

 .addGap(18)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.BASELINE)

 .addComponent(lblContactNo)

 .addComponent(textField\_4, GroupLayout.PREFERRED\_SIZE, GroupLayout.DEFAULT\_SIZE, GroupLayout.PREFERRED\_SIZE))

 .addGap(18)

 .addComponent(btnNewButton, GroupLayout.PREFERRED\_SIZE, 36, GroupLayout.PREFERRED\_SIZE)

 .addPreferredGap(ComponentPlacement.RELATED, 57, Short.MAX\_VALUE)

 .addComponent(btnBack)

 .addGap(19))

 );

 contentPane.setLayout(gl\_contentPane);

 }

}





**ViewLibrarian.java**

import java.awt.BorderLayout;

import java.awt.EventQueue;

import java.sql.Connection;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.sql.ResultSetMetaData;

import javax.swing.JFrame;

import javax.swing.JPanel;

import javax.swing.JScrollPane;

import javax.swing.border.EmptyBorder;

import javax.swing.JTable;

public class ViewLibrarian extends JFrame {

 private JPanel contentPane;

 private JTable table;

 public static void main(String[] args) {

 EventQueue.invokeLater(new Runnable() {

 public void run() {

 try {

 ViewLibrarian frame = new ViewLibrarian();

 frame.setVisible(true);

 } catch (Exception e) {

 e.printStackTrace();

 }

 }

 });

 }

 /\*\*

 \* Create the frame.

 \*/

 public ViewLibrarian() {

 setDefaultCloseOperation(JFrame.HIDE\_ON\_CLOSE);

 setBounds(100, 100, 450, 300);

 contentPane = new JPanel();

 contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

 contentPane.setLayout(new BorderLayout(0, 0));

 setContentPane(contentPane);

 String data[][]=null;

 String column[]=null;

 try{

 Connection con=DB.getConnection();

 PreparedStatement ps=con.prepareStatement("select \* from librarian",ResultSet.TYPE\_SCROLL\_SENSITIVE,ResultSet.CONCUR\_UPDATABLE);

 ResultSet rs=ps.executeQuery();

 ResultSetMetaData rsmd=rs.getMetaData();

 int cols=rsmd.getColumnCount();

 column=new String[cols];

 for(int i=1;i<=cols;i++){

 column[i-1]=rsmd.getColumnName(i);

 }

 rs.last();

 int rows=rs.getRow();

 rs.beforeFirst();

 data=new String[rows][cols];

 int count=0;

 while(rs.next()){

 for(int i=1;i<=cols;i++){

 data[count][i-1]=rs.getString(i);

 }

 count++;

 }

 con.close();

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

 table = new JTable(data,column);

 JScrollPane sp=new JScrollPane(table);

 contentPane.add(sp, BorderLayout.CENTER);

 }

}



import java.awt.BorderLayout;

import java.awt.EventQueue;

import javax.swing.JFrame;

import javax.swing.JPanel;

import javax.swing.border.EmptyBorder;

import javax.swing.GroupLayout;

import javax.swing.GroupLayout.Alignment;

import javax.swing.JLabel;

import javax.swing.JOptionPane;

import javax.swing.JTextField;

import javax.swing.JButton;

import java.awt.Font;

import java.awt.event.ActionListener;

import java.awt.event.ActionEvent;

public class DeleteLibrarian extends JFrame {

 static DeleteLibrarian frame;

 private JPanel contentPane;

 private JTextField textField;

 /\*\*

 \* Launch the application.

 \*/

 public static void main(String[] args) {

 EventQueue.invokeLater(new Runnable() {

 public void run() {

 try {

 frame = new DeleteLibrarian();

 frame.setVisible(true);

 } catch (Exception e) {

 e.printStackTrace();

 }

 }

 });

 }

 /\*\*

 \* Create the frame.

 \*/

 public DeleteLibrarian() {

 setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

 setBounds(100, 100, 450, 300);

 contentPane = new JPanel();

 contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

 setContentPane(contentPane);

 JLabel lblEnterId = new JLabel("Enter Id:");

 textField = new JTextField();

 textField.setColumns(10);

 JButton btnDelete = new JButton("Delete");

 btnDelete.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent e) {

 String sid=textField.getText();

 if(sid==null||sid.trim().equals("")){

 JOptionPane.showMessageDialog(DeleteLibrarian.this,"Id can't be blank");

 }else{

 int id=Integer.parseInt(sid);

 int i=LibrarianDao.delete(id);

 if(i>0){

 JOptionPane.showMessageDialog(DeleteLibrarian.this,"Record deleted successfully!");

 }else{

 JOptionPane.showMessageDialog(DeleteLibrarian.this,"Unable to delete given id!");

 }

 }

 }

 });

 btnDelete.setFont(new Font("Tahoma", Font.PLAIN, 13));

 JButton btnNewButton = new JButton("Back");

 btnNewButton.addActionListener(new ActionListener() {

 public void actionPerformed(ActionEvent e) {

 AdminSuccess.main(new String[]{});

 frame.dispose();

 }

 });

 btnNewButton.setFont(new Font("Tahoma", Font.PLAIN, 13));

 GroupLayout gl\_contentPane = new GroupLayout(contentPane);

 gl\_contentPane.setHorizontalGroup(

 gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addGap(39)

 .addComponent(lblEnterId)

 .addGap(57)

 .addComponent(textField, GroupLayout.PREFERRED\_SIZE, 178, GroupLayout.PREFERRED\_SIZE)

 .addContainerGap(107, Short.MAX\_VALUE))

 .addGroup(Alignment.TRAILING, gl\_contentPane.createSequentialGroup()

 .addContainerGap(175, Short.MAX\_VALUE)

 .addComponent(btnDelete, GroupLayout.PREFERRED\_SIZE, 109, GroupLayout.PREFERRED\_SIZE)

 .addGap(140))

 .addGroup(Alignment.TRAILING, gl\_contentPane.createSequentialGroup()

 .addContainerGap(322, Short.MAX\_VALUE)

 .addComponent(btnNewButton, GroupLayout.PREFERRED\_SIZE, 92, GroupLayout.PREFERRED\_SIZE)

 .addContainerGap())

 );

 gl\_contentPane.setVerticalGroup(

 gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addGroup(gl\_contentPane.createSequentialGroup()

 .addGap(19)

 .addGroup(gl\_contentPane.createParallelGroup(Alignment.LEADING)

 .addComponent(textField, GroupLayout.PREFERRED\_SIZE, GroupLayout.DEFAULT\_SIZE, GroupLayout.PREFERRED\_SIZE)

 .addComponent(lblEnterId))

 .addGap(33)

 .addComponent(btnDelete, GroupLayout.PREFERRED\_SIZE, 33, GroupLayout.PREFERRED\_SIZE)

 .addGap(43)

 .addComponent(btnNewButton)

 .addContainerGap(78, Short.MAX\_VALUE))

 );

 contentPane.setLayout(gl\_contentPane);

 }

}



