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))

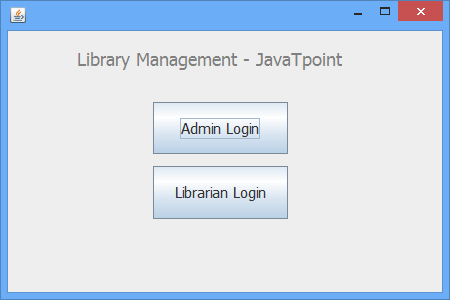
);

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))

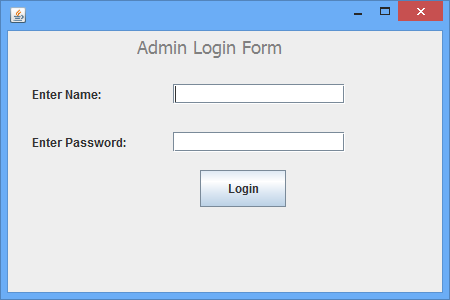
);

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))

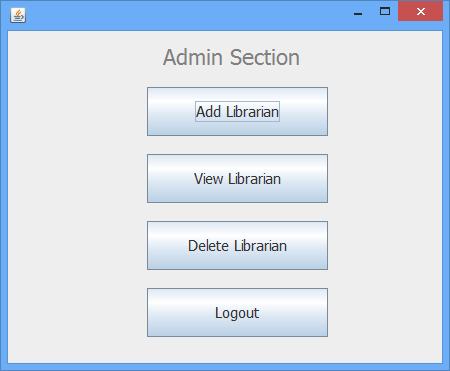
);

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))

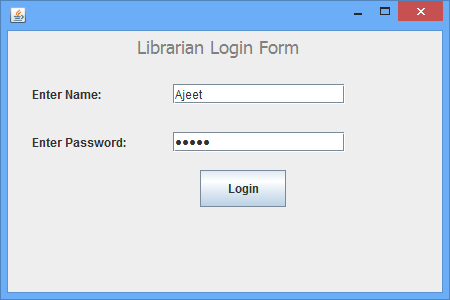
);

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))

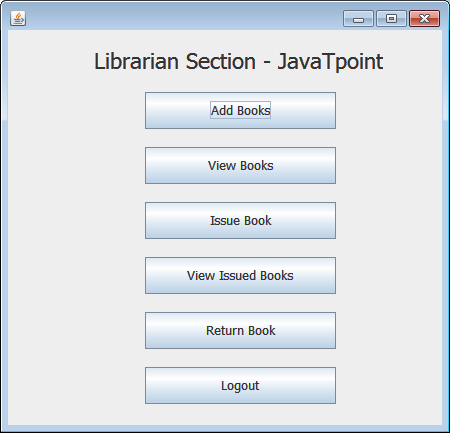
);

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();

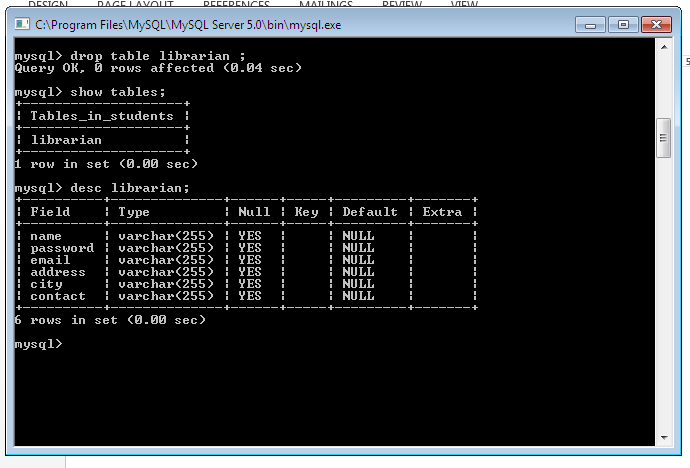
}//end finally try

}//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)

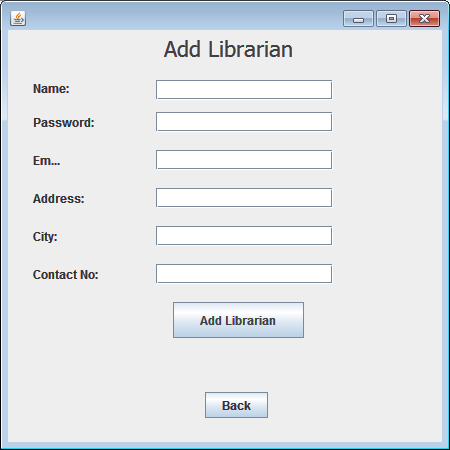
.addGap(19))

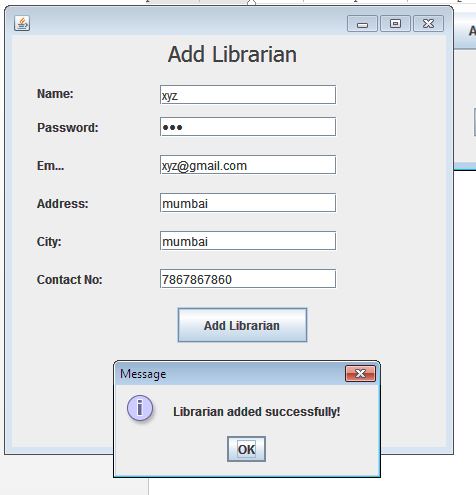
);

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);}

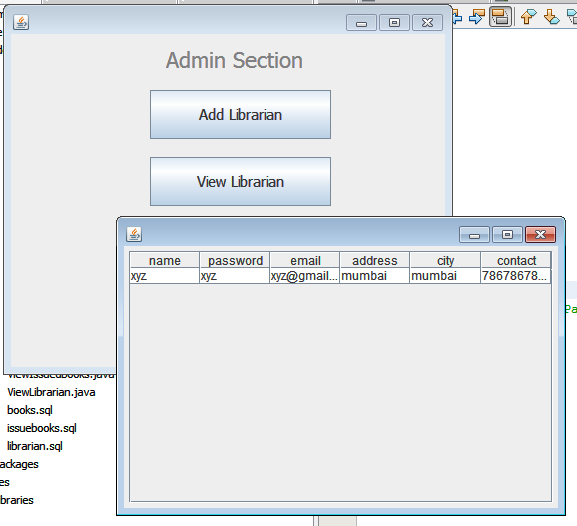
table = new JTable(data,column);

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);

}

}

