**COURSE CODE: DJS23ILH1401**   **DATE:07-03-25**

**COURSE NAME:** **Programing Laboratory 1 (Advanced Java) CLASS: S.Y B. Tech IT**

**EXPERIMENT NO. 8**

**CO/LO:**

**CO1**- Develop enterprise applications

**AIM / OBJECTIVE:**

For a given problem statement build an application with Java Beans and connect with JDBC.

**PROBLEM STATEMENTS:**

1. Write a Java program to create multiple frames containing personal information, educational information and extra-curricular achievements.

Provide an option to go back and forth from one frame to another frame.

Submit button on last frame should pop up a dialogue box showing successful message.

And perform the connectivity with MySQL database using JAR connector files.

Create 3 tables in MySQL database, for each field in Resume form created on Java Net-beans. And insert values into all the tables when Submit button is clicked on Java GUI form. Fetch the values from database and display when clicked in display button.

**Code:**

**Frame1.java**

/\*\*

\*

\* @author darsahan

\*/

public class frame1 extends javax.swing.JFrame {

/\*\*

\* Creates new form frame1

\*/

public frame1() {

setTitle("Personal Information");

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() {

buttonGroup1 = new javax.swing.ButtonGroup();

jLabel1 = new javax.swing.JLabel();

jLabel2 = new javax.swing.JLabel();

jLabel3 = new javax.swing.JLabel();

jLabel4 = new javax.swing.JLabel();

t1 = new javax.swing.JTextField();

t2 = new javax.swing.JTextField();

t3 = new javax.swing.JTextField();

jRadioButton1 = new javax.swing.JRadioButton();

jRadioButton2 = new javax.swing.JRadioButton();

jButton1 = new javax.swing.JButton();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

jLabel1.setText("First Name:");

jLabel2.setText("Last Name:");

jLabel3.setText("Gender:");

jLabel4.setText("Age:");

t3.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

t3ActionPerformed(evt);

}

});

buttonGroup1.add(jRadioButton1);

jRadioButton1.setText("Male");

buttonGroup1.add(jRadioButton2);

jRadioButton2.setText("Female");

jButton1.setText("Next");

jButton1.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton1ActionPerformed(evt);

}

});

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addGap(36, 36, 36)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

.addComponent(jLabel1, javax.swing.GroupLayout.DEFAULT\_SIZE, 74, Short.MAX\_VALUE)

.addComponent(jLabel2, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)

.addComponent(jLabel4, javax.swing.GroupLayout.Alignment.TRAILING, javax.swing.GroupLayout.PREFERRED\_SIZE, 37, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED\_SIZE, 58, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

.addComponent(t1, javax.swing.GroupLayout.DEFAULT\_SIZE, 98, Short.MAX\_VALUE)

.addComponent(t2)

.addComponent(t3, javax.swing.GroupLayout.PREFERRED\_SIZE, 40, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addGroup(layout.createSequentialGroup()

.addComponent(jRadioButton1)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jRadioButton2)))

.addContainerGap(162, Short.MAX\_VALUE))

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()

.addContainerGap(javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)

.addComponent(jButton1, javax.swing.GroupLayout.PREFERRED\_SIZE, 90, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addGap(27, 27, 27))

);

layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addGap(38, 38, 38)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)

.addGroup(layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED\_SIZE, 29, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(t1, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED\_SIZE, 29, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addComponent(t2, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED\_SIZE, 29, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(jRadioButton1)

.addComponent(jRadioButton2))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED\_SIZE, 29, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(t3, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 66, Short.MAX\_VALUE)

.addComponent(jButton1, javax.swing.GroupLayout.PREFERRED\_SIZE, 42, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addGap(20, 20, 20))

);

pack();

}// </editor-fold>

private void t3ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

}

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

String firstName = t1.getText();

String lastName = t2.getText();

String age = t3.getText();

String gender="";

if(jRadioButton1.isSelected())

gender="Male";

else

gender="Female";

frame2 f2 = new frame2(firstName, lastName, age, gender);

f2.setVisible(true);

setVisible(false);

// TODO add your handling code here:

}

/\*\*

\* @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(frame1.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(frame1.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(frame1.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(frame1.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 frame1().setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.ButtonGroup buttonGroup1;

private javax.swing.JButton jButton1;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel2;

private javax.swing.JLabel jLabel3;

private javax.swing.JLabel jLabel4;

private javax.swing.JRadioButton jRadioButton1;

private javax.swing.JRadioButton jRadioButton2;

private javax.swing.JTextField t1;

private javax.swing.JTextField t2;

private javax.swing.JTextField t3;

// End of variables declaration

}

**Frame2.java**

/\*\*

\*

\* @author darsahan

\*/

public class frame2 extends javax.swing.JFrame {

private String firstName, lastName, age, gender;

private String degree, cgpa, skills = "";

/\*\*

\* Creates new form frame2

\*/

public frame2(String firstName, String lastName, String age, String gender) {

this.firstName = firstName;

this.lastName = lastName;

this.age = age;

this.gender = gender;

setTitle("Educational Information");

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() {

jButton1 = new javax.swing.JButton();

jButton2 = new javax.swing.JButton();

jLabel1 = new javax.swing.JLabel();

jCheckBox1 = new javax.swing.JCheckBox();

jCheckBox2 = new javax.swing.JCheckBox();

jCheckBox3 = new javax.swing.JCheckBox();

jLabel2 = new javax.swing.JLabel();

jLabel3 = new javax.swing.JLabel();

jTextField1 = new javax.swing.JTextField();

jComboBox1 = new javax.swing.JComboBox<>();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

jButton1.setText("Next");

jButton1.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton1ActionPerformed(evt);

}

});

jButton2.setText("Previous");

jButton2.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton2ActionPerformed(evt);

}

});

jLabel1.setText("Skills:");

jCheckBox1.setText("C/C++");

jCheckBox1.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jCheckBox1ActionPerformed(evt);

}

});

jCheckBox2.setText("JAVA");

jCheckBox3.setText("PYTHON");

jCheckBox3.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jCheckBox3ActionPerformed(evt);

}

});

jLabel2.setText("Highest Degree:");

jLabel3.setText("SEM IV CGPA:");

jTextField1.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jTextField1ActionPerformed(evt);

}

});

jComboBox1.setModel(new javax.swing.DefaultComboBoxModel<>(new String[] { "Post-Grad", "Under-Grad", "H.S.C", "S.S.C" }));

jComboBox1.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jComboBox1ActionPerformed(evt);

}

});

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addGap(31, 31, 31)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addComponent(jButton2, javax.swing.GroupLayout.PREFERRED\_SIZE, 90, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)

.addComponent(jButton1, javax.swing.GroupLayout.PREFERRED\_SIZE, 90, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addGap(30, 30, 30))

.addGroup(layout.createSequentialGroup()

.addGap(31, 31, 31)

.addComponent(jLabel1)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addComponent(jCheckBox1)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jCheckBox2)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addComponent(jCheckBox3)

.addContainerGap(96, Short.MAX\_VALUE))))

.addGroup(layout.createSequentialGroup()

.addContainerGap()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)

.addComponent(jLabel2)

.addComponent(jLabel3))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jTextField1, javax.swing.GroupLayout.PREFERRED\_SIZE, 59, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(jComboBox1, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addGap(0, 0, Short.MAX\_VALUE))

);

layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()

.addGap(29, 29, 29)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED\_SIZE, 36, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(jComboBox1, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addGap(18, 18, 18)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED\_SIZE, 36, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(jTextField1, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 17, Short.MAX\_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED\_SIZE, 36, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(jCheckBox1)

.addComponent(jCheckBox2)

.addComponent(jCheckBox3))

.addGap(58, 58, 58)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jButton1, javax.swing.GroupLayout.PREFERRED\_SIZE, 42, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(jButton2, javax.swing.GroupLayout.PREFERRED\_SIZE, 42, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addGap(28, 28, 28))

);

pack();

}// </editor-fold>

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

degree = jComboBox1.getSelectedItem().toString();

cgpa = jTextField1.getText();

if (jCheckBox1.isSelected()) skills += "C/C++, ";

if (jCheckBox2.isSelected()) skills += "Java, ";

if (jCheckBox3.isSelected()) skills += "Python";

frame3 f3 = new frame3(firstName, lastName, age, gender, degree, cgpa, skills);

f3.setVisible(true);

setVisible(false);

// TODO add your handling code here:

}

private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {

frame1 f1 = new frame1();

f1.setVisible(true);

setVisible(false);

}

private void jCheckBox1ActionPerformed(java.awt.event.ActionEvent evt) {

int a;

// TODO add your handling code here:

}

private void jCheckBox3ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

}

private void jTextField1ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

}

private void jComboBox1ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

}

/\*\*

\* @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(frame2.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(frame2.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(frame2.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(frame2.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 frame2("", "", "", "").setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.JButton jButton1;

private javax.swing.JButton jButton2;

private javax.swing.JCheckBox jCheckBox1;

private javax.swing.JCheckBox jCheckBox2;

private javax.swing.JCheckBox jCheckBox3;

private javax.swing.JComboBox<String> jComboBox1;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel2;

private javax.swing.JLabel jLabel3;

private javax.swing.JTextField jTextField1;

// End of variables declaration

}

**Frame3.java**

package exp8;

import javax.swing.\*;

import java.sql.\*;

/\*

\* 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 darsahan

\*/

public class frame3 extends javax.swing.JFrame {

private String firstName, lastName, age, gender, degree, cgpa, skills;

private String hobbies, achievements;

private Connection connection;

/\*\*

\* Creates new form frame3

\*/

public frame3(String firstName, String lastName, String age, String gender, String degree, String cgpa, String skills) {

setTitle("Extra-Curricular Achievements");

this.firstName = firstName;

this.lastName = lastName;

this.age = age;

this.gender = gender;

this.degree = degree;

this.cgpa = cgpa;

this.skills = skills;

initComponents();

}

private void connectToDatabase() {

try {

String url = "jdbc:mysql://localhost:3306/Darshan";

String user = "root";

String password = "Mysql@123";

connection = DriverManager.getConnection(url, user, password);

JOptionPane.showMessageDialog(this, "Database connection successful!", "success", JOptionPane.ERROR\_MESSAGE);

} catch (SQLException e) {

e.printStackTrace();

JOptionPane.showMessageDialog(this, "Database connection failed!", "Error", JOptionPane.ERROR\_MESSAGE);

}

}

/\*\*

\* 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() {

jScrollBar1 = new javax.swing.JScrollBar();

jButton1 = new javax.swing.JButton();

jButton2 = new javax.swing.JButton();

jLabel1 = new javax.swing.JLabel();

jLabel2 = new javax.swing.JLabel();

jScrollPane2 = new javax.swing.JScrollPane();

d2 = new javax.swing.JList<>();

jScrollPane3 = new javax.swing.JScrollPane();

d1 = new javax.swing.JTextArea();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

jButton1.setText("Submit");

jButton1.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton1ActionPerformed(evt);

}

});

jButton2.setText("Previous");

jButton2.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton2ActionPerformed(evt);

}

});

jLabel1.setText("Hobbies:");

jLabel2.setText("Achievements:");

jScrollPane2.setHorizontalScrollBarPolicy(javax.swing.ScrollPaneConstants.HORIZONTAL\_SCROLLBAR\_NEVER);

d2.setModel(new javax.swing.AbstractListModel<String>() {

String[] strings = { "Sports", "Music", "Reading", "Coding"};

public int getSize() { return strings.length; }

public String getElementAt(int i) { return strings[i]; }

});

d2.setSelectionMode(javax.swing.ListSelectionModel.SINGLE\_SELECTION);

d2.addListSelectionListener(new javax.swing.event.ListSelectionListener() {

public void valueChanged(javax.swing.event.ListSelectionEvent evt) {

d2ValueChanged(evt);

}

});

jScrollPane2.setViewportView(d2);

d1.setColumns(20);

d1.setRows(5);

jScrollPane3.setViewportView(d1);

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addGap(26, 26, 26)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)

.addComponent(jButton2, javax.swing.GroupLayout.DEFAULT\_SIZE, 90, Short.MAX\_VALUE)

.addComponent(jLabel2, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE)

.addComponent(jLabel1, javax.swing.GroupLayout.Alignment.TRAILING))

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)

.addGroup(layout.createSequentialGroup()

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jScrollPane2, javax.swing.GroupLayout.PREFERRED\_SIZE, 104, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(jScrollPane3, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addContainerGap(javax.swing.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE))

.addGroup(layout.createSequentialGroup()

.addGap(26, 168, Short.MAX\_VALUE)

.addComponent(jButton1, javax.swing.GroupLayout.PREFERRED\_SIZE, 90, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addGap(26, 26, 26))))

);

layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()

.addContainerGap(19, Short.MAX\_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()

.addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED\_SIZE, 41, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addGap(50, 50, 50))

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()

.addComponent(jScrollPane3, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addGap(18, 18, 18)))

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED\_SIZE, 41, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(jScrollPane2, javax.swing.GroupLayout.PREFERRED\_SIZE, 76, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addGap(68, 68, 68)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)

.addComponent(jButton1, javax.swing.GroupLayout.PREFERRED\_SIZE, 42, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(jButton2, javax.swing.GroupLayout.PREFERRED\_SIZE, 42, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addGap(27, 27, 27))

);

pack();

}// </editor-fold>

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

achievements=d1.getText();

hobbies=d2.getSelectedValue();

setVisible(false);

connectToDatabase();

try {

String query1 = "INSERT INTO Personal\_Info (firstname, lastname, gender, age) VALUES (?, ?, ?, ?)";

PreparedStatement pst1 = connection.prepareStatement(query1);

pst1.setString(1, firstName);

pst1.setString(2, lastName);

pst1.setString(3, gender);

pst1.setString(4, age);

pst1.executeUpdate();

String query2 = "INSERT INTO Educational\_Information (highestdegree, sem4, skills) VALUES (?, ?, ?)";

PreparedStatement pst2 = connection.prepareStatement(query2);

pst2.setString(1, degree);

pst2.setString(2, cgpa);

pst2.setString(3, skills);

pst2.executeUpdate();

String query3 = "INSERT INTO ExtraCurricular\_Achievements (achievements, hobbies) VALUES (?, ?)";

PreparedStatement pst3 = connection.prepareStatement(query3);

pst3.setString(1, achievements);

pst3.setString(2, hobbies);

pst3.executeUpdate();

JOptionPane.showMessageDialog(this, "Data inserted successfully!", "Success", JOptionPane.INFORMATION\_MESSAGE);

} catch (SQLException e) {

e.printStackTrace();

JOptionPane.showMessageDialog(this, "Error inserting data", "Error", JOptionPane.ERROR\_MESSAGE);

} // TODO add your handling code here:

}

private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {

frame2 f2 = new frame2(firstName, lastName, age, gender);

f2.setVisible(true);

setVisible(false); // TODO add your handling code here:

}

private void d2ValueChanged(javax.swing.event.ListSelectionEvent evt) {

// TODO add your handling code here:

}

/\*\*

\* @param args the command line arguments

\*/

public static void main(String args[]) {

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(frame3.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(frame3.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(frame3.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(frame3.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

}

/\* 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(frame3.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(frame3.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(frame3.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(frame3.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 frame3("","","","","","","").setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.JTextArea d1;

public javax.swing.JList<String> d2;

private javax.swing.JButton jButton1;

private javax.swing.JButton jButton2;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel2;

private javax.swing.JScrollBar jScrollBar1;

private javax.swing.JScrollPane jScrollPane2;

private javax.swing.JScrollPane jScrollPane3;

// End of variables declaration

}

**Mysql Code:**

create database Darshan;

use Darshan;

Create Table Personal\_Info(

firstname varchar(20) ,

lastname varchar(20),

gender varchar(6),

age varchar(3)

);

Create Table Educational\_Information(

highestdegree varchar(20) ,

sem4 varchar(20),

skills varchar(60)

);

Create Table ExtraCurricular\_Achievements(

achievements varchar(120) ,

Hobbies varchar(200)

);

select \* from Personal\_Info;

select \* from Educational\_information;

select \* from ExtraCurricular\_Achievements;

**Output:**

**A screenshot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.**

**A screen shot of a computer

AI-generated content may be incorrect.A screen shot of a computer

AI-generated content may be incorrect.A screenshot of a computer

AI-generated content may be incorrect.**

**Mysql Output:**

**A screenshot of a computer

AI-generated content may be incorrect.**

**A screenshot of a phone

AI-generated content may be incorrect.**

**A black and white text

AI-generated content may be incorrect.**

**OBSERVATION:**

Describe the steps and necessary commands in JDBC connectivity?

## **Introduction**

JDBC (Java Database Connectivity) is an API that allows Java applications to connect to and interact with relational databases. It provides methods for querying and updating data in a database. The following steps outline how to establish a JDBC connection in Java along with the necessary commands.

## **Steps in JDBC Connectivity**

### **1. Load the JDBC Driver**

Before connecting to the database, the JDBC driver must be loaded into memory. This step allows Java to recognize the database driver.

### **2. Establish a Database Connection**

Once the driver is loaded, a connection to the database must be established using DriverManager.getConnection().

**Command:**

String url = "jdbc:mysql://localhost:3306/your\_database";

String user = "root";

String password = "your\_password";

Connection conn = DriverManager.getConnection(url, user, password);

### **3. Create a Statement Object**

After establishing a connection, a Statement or Prepared-Statement object is created to execute SQL queries.

#### ****Using**** Statement ****(for simple queries)****

Statement stmt = conn.createStatement();

#### ****Using**** PreparedStatement ****(for dynamic queries)****

String query = "INSERT INTO students (id, name) VALUES (?, ?)";

PreparedStatement pstmt = conn.prepareStatement(query);

### **4. Execute SQL Queries**

Once the statement is created, SQL queries can be executed using different methods.

#### ****A. Executing**** SELECT ****Query****

ResultSet rs = stmt.executeQuery("SELECT \* FROM students");

while (rs.next()) {

System.out.println("ID: " + rs.getInt("id") + ", Name: " + rs.getString("name"));

}

#### ****B. Executing**** INSERT****,**** UPDATE****,**** DELETE ****Queries****

String insertQuery = "INSERT INTO students (id, name) VALUES (1, 'Darshan')";

stmt.executeUpdate(insertQuery);

#### ****C. Using**** PreparedStatement ****to Insert Data****

pstmt.setInt(1, 2);

pstmt.setString(2, "John Doe");

pstmt.executeUpdate();

Use executeQuery() for SELECT statements and executeUpdate() for INSERT, UPDATE, and DELETE statements.

**CONCLUSION:**

The experiment successfully established JDBC connectivity, enabling secure and efficient database interactions. The results confirmed proper execution of queries using **PreparedStatements**, ensuring data integrity and preventing SQL injection. Effective resource management improved performance and reliability.