**Laporan Praktikum**

**Bahasa Pemrograman 1**

**Dosen pengampu : (*Dede Husen, M.Kom.*)**

# Modul 4



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**PreTest**

1. Apa itu Swing Control?

Swing Control adalah komponen grafis (GUI) di Java yang disediakan oleh pustaka Swing untuk membangun antarmuka pengguna. Swing adalah bagian dari Java Foundation Classes (JFC) dan menawarkan kontrol seperti tombol, label, kotak teks, daftar, dan lainnya, yang dirancang untuk membuat antarmuka pengguna berbasis desktop yang interaktif.

1. Apa fungsi dari Swing Control?

Swing Control memiliki beberapa fungsi utama, yaitu:

* Menyediakan Elemen GUI: Mengatur tampilan dan elemen interaktif seperti tombol, label, tabel, dan lainnya.
* Mempermudah Pengembangan GUI: Memungkinkan pengembang untuk membuat aplikasi desktop berbasis Java dengan antarmuka pengguna yang kaya.
* Portabilitas: Komponen Swing bersifat platform-independen sehingga tampilannya konsisten di berbagai sistem operasi.
* Event Handling: Mendukung pemrosesan interaksi pengguna, seperti klik tombol, entri teks, atau pemilihan item.

1. Tuliskan contoh program sederhana untuk Swing control!

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\*/

import javax.swing.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

/\*\*

\*

\* @author Muhammad Rizal Nur F

\*/

public class BP1\_M4\_PRETEST1\_Rizal {

public static void main(String[] args) {

// Membuat JFrame

JFrame frame = new JFrame("Contoh Swing Control");

frame.setSize(400, 300); // Ukuran JFrame

frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE); // Menutup aplikasi saat JFrame ditutup

frame.setLayout(null); // Menggunakan layout null untuk posisi manual komponen

// Membuat Label

JLabel label = new JLabel("Nama:"); // Label untuk input nama

label.setBounds(50, 50, 100, 30); // Posisi dan ukuran label

frame.add(label);

// Membuat TextField

JTextField textField = new JTextField(); // Input teks untuk nama

textField.setBounds(150, 50, 150, 30); // Posisi dan ukuran TextField

frame.add(textField);

// Membuat Button

JButton button = new JButton("Tampilkan"); // Tombol untuk menampilkan nama

button.setBounds(150, 100, 100, 30); // Posisi dan ukuran tombol

frame.add(button);

// Membuat Label untuk output

JLabel outputLabel = new JLabel(); // Label untuk menampilkan hasil output

outputLabel.setBounds(50, 150, 300, 30); // Posisi dan ukuran output label

frame.add(outputLabel);

// Menambahkan Action Listener pada tombol

/\*

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\*/

button.addActionListener(new ActionListener() {

@Override

public void actionPerformed(ActionEvent e) {

// Mengambil teks dari TextField

String nama = textField.getText();

// Menampilkan teks di outputLabel

outputLabel.setText("Halo, " + nama + "!");

}

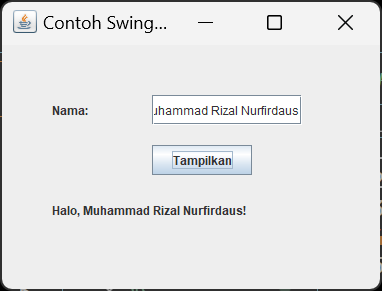
});

// Menampilkan JFrame

frame.setVisible(true); // Membuat JFrame terlihat

}

}



**Praktikum**



import javax.swing.JOptionPane;

/\*

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\*/

/\*\*

\*

\* @author Muhammad Rizal Nur F

\*/

public class BP1\_M4\_P1\_Rizal extends javax.swing.JFrame {

/\*\*

\* Creates new form BP1\_M4\_P1\_Rizal

\*/

public BP1\_M4\_P1\_Rizal() {

initComponents();

}

private void Login() {

String user, pass;

user = jTextField1.getText();

pass = jTextField2.getText();

if(user.equals("admin")&&pass.equals("admin111"))

{

JOptionPane.showMessageDialog(null, "Login sukses sebagai " +user,

"Login Message",JOptionPane.INFORMATION\_MESSAGE);

}

else

{

JOptionPane.showMessageDialog(null, "Login gagal", "Login message", 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() {

jLabel1 = new javax.swing.JLabel();

jLabel2 = new javax.swing.JLabel();

jLabel3 = new javax.swing.JLabel();

jLabel4 = new javax.swing.JLabel();

jTextField1 = new javax.swing.JTextField();

jTextField2 = new javax.swing.JTextField();

jButton1 = new javax.swing.JButton();

jButton2 = new javax.swing.JButton();

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

jLabel1.setFont(new java.awt.Font("Segoe UI", 1, 12)); // NOI18N

jLabel1.setText("FORM LOGIN");

jLabel2.setIcon(new javax.swing.ImageIcon(getClass().getResource("/bayi.jpg"))); // NOI18N

jLabel2.setText("jLabel2");

jLabel3.setText("Username");

jLabel4.setText("Password");

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

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

jTextField1ActionPerformed(evt);

}

});

jButton1.setText("LOGIN");

jButton1.addMouseListener(new java.awt.event.MouseAdapter() {

public void mouseClicked(java.awt.event.MouseEvent evt) {

jButton1MouseClicked(evt);

}

});

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

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

jButton1ActionPerformed(evt);

}

});

jButton2.setText("REGISTER");

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

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

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

.addGroup(layout.createSequentialGroup()

.addContainerGap()

.addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED\_SIZE, 177, javax.swing.GroupLayout.PREFERRED\_SIZE)

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

.addGroup(layout.createSequentialGroup()

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

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

.addComponent(jLabel4)

.addGroup(layout.createSequentialGroup()

.addComponent(jLabel3)

.addGap(64, 64, 64)

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

.addComponent(jTextField2, javax.swing.GroupLayout.PREFERRED\_SIZE, 71, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(jTextField1, javax.swing.GroupLayout.PREFERRED\_SIZE, 71, javax.swing.GroupLayout.PREFERRED\_SIZE)))))

.addGroup(layout.createSequentialGroup()

.addGap(40, 40, 40)

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

.addComponent(jButton1)

.addComponent(jLabel1))

.addGap(18, 18, 18)

.addComponent(jButton2)))

.addContainerGap(29, Short.MAX\_VALUE))

);

layout.setVerticalGroup(

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

.addGroup(layout.createSequentialGroup()

.addGap(64, 64, 64)

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

.addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED\_SIZE, 188, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addGroup(layout.createSequentialGroup()

.addComponent(jLabel1)

.addGap(33, 33, 33)

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

.addComponent(jLabel3)

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

.addGap(45, 45, 45)

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

.addComponent(jLabel4)

.addComponent(jTextField2, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addGap(46, 46, 46)

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

.addComponent(jButton1)

.addComponent(jButton2))))

.addContainerGap(390, Short.MAX\_VALUE))

);

pack();

}// </editor-fold>

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

// TODO add your handling code here:

}

private void jButton1MouseClicked(java.awt.event.MouseEvent evt) {

// TODO add your handling code here:

}

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

// TODO add your handling code here:

Login();

}

/\*\*

\* @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(BP1\_M4\_P1\_Rizal.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(BP1\_M4\_P1\_Rizal.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(BP1\_M4\_P1\_Rizal.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(BP1\_M4\_P1\_Rizal.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 BP1\_M4\_P1\_Rizal().setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.JButton jButton1;

private javax.swing.JButton jButton2;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel2;

private javax.swing.JLabel jLabel3;

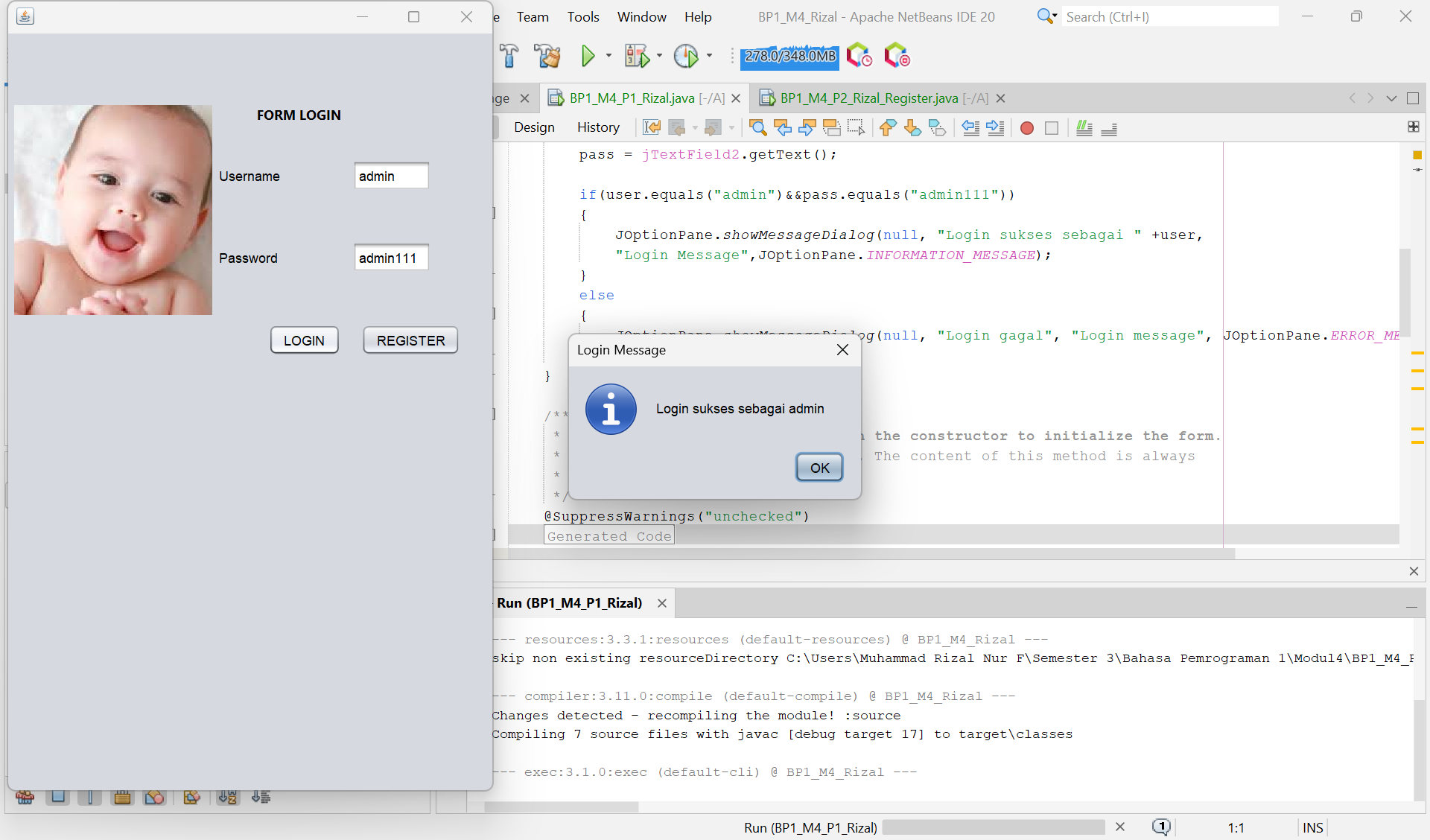
private javax.swing.JLabel jLabel4;

private javax.swing.JTextField jTextField1;

private javax.swing.JTextField jTextField2;

// End of variables declaration

}



Analisis : Kode di atas adalah implementasi sederhana dari aplikasi **Form Login** menggunakan Java Swing. Aplikasi ini memiliki antarmuka grafis dengan dua bidang teks untuk input *username* dan *password*, serta dua tombol: "LOGIN" dan "REGISTER". Saat tombol "LOGIN" diklik, metode Login() akan dipanggil untuk memeriksa apakah *username* dan *password* yang dimasukkan sesuai dengan nilai tetap ("admin" dan "admin111"). Jika cocok, pesan sukses akan ditampilkan menggunakan JOptionPane, sementara jika tidak, pesan kesalahan akan muncul. Desain antarmuka mencakup label, teks, dan ikon, yang diatur menggunakan javax.swing.GroupLayout.



/\*

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\*/

/\*\*

\*

\* @author Muhammad Rizal Nur F

\*/

public class BP1\_M4\_P2\_Rizal\_Register extends javax.swing.JFrame {

/\*\*

\* Creates new form BP1\_M4\_P2\_Rizal\_Register

\*/

public BP1\_M4\_P2\_Rizal\_Register() {

initComponents();

}

private void simpan()

{

String nim, nama, jk, prodi, alamat;

nim=jTextField1.getText(); nama=jTextField2.getText();

//Jenis Kelamin

jk="";

if(buttonGroup1.isSelected (null))

{

jk=jRadioButton1.getText();

}

else {jk=jRadioButton2.getText(); }

prodi=(String) jComboBox1.getSelectedItem();

//HOBI

StringBuffer hobi = new StringBuffer();

if(jCheckBox1.isSelected())

{hobi.append(jCheckBox1.getText() + ",");}

if(jCheckBox2.isSelected())

{hobi.append(jCheckBox2.getText() + ",");}

if(jCheckBox3.isSelected())

{hobi.append(jCheckBox3.getText() + ",");}

else

{hobi.append(jCheckBox4.getText() + ",");}

alamat=jTextArea1.getText();

jTextArea2.setText("DATA REGISTER \n"

+ "1. NIM : "+nim+"\n"

+ "2. NAMA : "+nama+"\n"

+ "3. Jenis Kelamin : "+jk+"\n"

+ "4. Prodi : "+prodi+"\n"

+ "5. Hobi : "+hobi+"\n"

+ "6. Alamat : "+alamat+"\n");

}

/\*\*

\* 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();

jTextField1 = new javax.swing.JTextField();

jRadioButton1 = new javax.swing.JRadioButton();

jRadioButton2 = new javax.swing.JRadioButton();

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

jLabel5 = new javax.swing.JLabel();

jCheckBox1 = new javax.swing.JCheckBox();

jCheckBox2 = new javax.swing.JCheckBox();

jCheckBox3 = new javax.swing.JCheckBox();

jCheckBox4 = new javax.swing.JCheckBox();

jLabel6 = new javax.swing.JLabel();

jTextField2 = new javax.swing.JTextField();

jButton1 = new javax.swing.JButton();

jLabel7 = new javax.swing.JLabel();

jScrollPane1 = new javax.swing.JScrollPane();

jTextArea1 = new javax.swing.JTextArea();

jScrollPane2 = new javax.swing.JScrollPane();

jTextArea2 = new javax.swing.JTextArea();

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

jLabel1.setFont(new java.awt.Font("Segoe UI", 1, 12)); // NOI18N

jLabel1.setText("FORM REGISTER");

jLabel2.setText("NIM");

jLabel3.setText("NAMA");

jLabel4.setText("JENIS KELAMIN");

jRadioButton1.setText("Laki-laki");

jRadioButton2.setText("Perempuan");

jComboBox1.setModel(new javax.swing.DefaultComboBoxModel<>(new String[] { "Teknik Informatika", "Sistem Informasi", "Desain Komunikasi Visual", "Manejemen Informatika" }));

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

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

jComboBox1ActionPerformed(evt);

}

});

jLabel5.setText("PRODI");

jCheckBox1.setText("NONTON");

jCheckBox2.setText("OLAHRAGA");

jCheckBox3.setText("DENGERIN MUSIK");

jCheckBox4.setText("TRAVELING");

jLabel6.setText("HOBI");

jTextField2.addActionListener(new java.awt.event.ActionListener() {

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

jTextField2ActionPerformed(evt);

}

});

jButton1.setText("REGISTER");

jButton1.addMouseListener(new java.awt.event.MouseAdapter() {

public void mouseClicked(java.awt.event.MouseEvent evt) {

jButton1MouseClicked(evt);

}

});

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

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

jButton1ActionPerformed(evt);

}

});

jLabel7.setText("ALAMAT");

jTextArea1.setColumns(20);

jTextArea1.setRows(5);

jScrollPane1.setViewportView(jTextArea1);

jTextArea2.setColumns(20);

jTextArea2.setRows(5);

jScrollPane2.setViewportView(jTextArea2);

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

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

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

.addGroup(layout.createSequentialGroup()

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

.addGroup(layout.createSequentialGroup()

.addGap(159, 159, 159)

.addComponent(jLabel1))

.addGroup(layout.createSequentialGroup()

.addContainerGap()

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

.addComponent(jLabel2)

.addComponent(jLabel3)

.addComponent(jLabel4)

.addComponent(jLabel5)

.addComponent(jLabel6)

.addComponent(jLabel7))

.addGap(67, 67, 67)

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

.addComponent(jTextField2)

.addComponent(jTextField1)

.addGroup(layout.createSequentialGroup()

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

.addComponent(jRadioButton1)

.addComponent(jCheckBox1, javax.swing.GroupLayout.PREFERRED\_SIZE, 85, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED, 108, Short.MAX\_VALUE)

.addComponent(jRadioButton2)

.addGap(45, 45, 45))

.addGroup(layout.createSequentialGroup()

.addComponent(jCheckBox2)

.addGap(32, 32, 32)

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

.addComponent(jCheckBox4, javax.swing.GroupLayout.PREFERRED\_SIZE, 85, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(jCheckBox3, javax.swing.GroupLayout.PREFERRED\_SIZE, 127, javax.swing.GroupLayout.PREFERRED\_SIZE)))

.addComponent(jComboBox1, javax.swing.GroupLayout.PREFERRED\_SIZE, 152, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(jButton1)

.addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE)))

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

.addContainerGap()

.addComponent(jScrollPane2, javax.swing.GroupLayout.PREFERRED\_SIZE, 352, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addGap(87, 87, 87)))

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

);

layout.setVerticalGroup(

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

.addGroup(layout.createSequentialGroup()

.addContainerGap()

.addComponent(jLabel1)

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

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

.addComponent(jLabel2)

.addComponent(jTextField1, 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)

.addComponent(jTextField2, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addGap(14, 14, 14)

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

.addComponent(jLabel4)

.addComponent(jRadioButton1)

.addComponent(jRadioButton2))

.addGap(8, 8, 8)

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

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

.addComponent(jLabel5))

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

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

.addComponent(jCheckBox1)

.addComponent(jCheckBox3)

.addComponent(jLabel6))

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

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

.addComponent(jCheckBox2)

.addComponent(jCheckBox4))

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

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

.addComponent(jLabel7)

.addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

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

.addComponent(jButton1)

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

.addComponent(jScrollPane2, javax.swing.GroupLayout.DEFAULT\_SIZE, 95, Short.MAX\_VALUE)

.addContainerGap())

);

pack();

}// </editor-fold>

private void jTextField2ActionPerformed(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:

}

private void jButton1MouseClicked(java.awt.event.MouseEvent evt) {

// TODO add your handling code here:

}

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

// TODO add your handling code here:

simpan();

}

/\*\*

\* @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(BP1\_M4\_P2\_Rizal\_Register.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(BP1\_M4\_P2\_Rizal\_Register.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(BP1\_M4\_P2\_Rizal\_Register.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(BP1\_M4\_P2\_Rizal\_Register.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 BP1\_M4\_P2\_Rizal\_Register().setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.ButtonGroup buttonGroup1;

private javax.swing.JButton jButton1;

private javax.swing.JCheckBox jCheckBox1;

private javax.swing.JCheckBox jCheckBox2;

private javax.swing.JCheckBox jCheckBox3;

private javax.swing.JCheckBox jCheckBox4;

private javax.swing.JComboBox<String> jComboBox1;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel2;

private javax.swing.JLabel jLabel3;

private javax.swing.JLabel jLabel4;

private javax.swing.JLabel jLabel5;

private javax.swing.JLabel jLabel6;

private javax.swing.JLabel jLabel7;

private javax.swing.JRadioButton jRadioButton1;

private javax.swing.JRadioButton jRadioButton2;

private javax.swing.JScrollPane jScrollPane1;

private javax.swing.JScrollPane jScrollPane2;

private javax.swing.JTextArea jTextArea1;

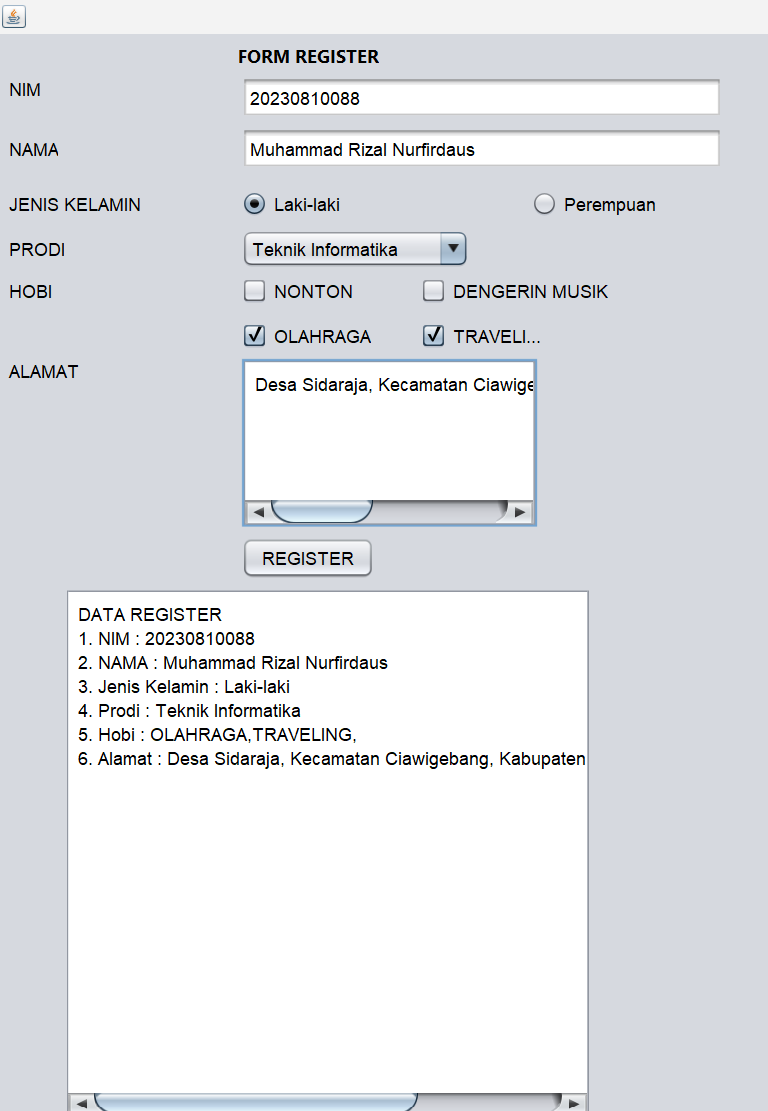
private javax.swing.JTextArea jTextArea2;

private javax.swing.JTextField jTextField1;

private javax.swing.JTextField jTextField2;

// End of variables declaration

}



Analisis : Program ini adalah sebuah aplikasi berbasis GUI (Graphical User Interface) yang menggunakan Java Swing untuk membuat formulir pendaftaran. Pengguna diminta untuk mengisi beberapa informasi seperti NIM, nama, jenis kelamin, program studi, hobi, dan alamat. Data yang dimasukkan akan ditampilkan kembali di area teks setelah pengguna menekan tombol "REGISTER". Program ini menggunakan berbagai komponen Swing, termasuk JTextField, JRadioButton, JComboBox, JCheckBox, dan JTextArea untuk menangani input dan menampilkan data.

**PostTest**

1. Lengkapi kondisi Login, sehingga memiliki kondisi:

* Jika username tidak diisi, maka akan menampilkan message "username harus diisi".
* Jika username salah, maka akan menampilkan message "username salah".
* Jika password tidak diisi, maka akan menampilkan message "password harus diisi".
* Jika password salah, maka akan menampilkan message "password salah".

import javax.swing.JOptionPane;

/\*

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\*/

/\*\*

\*

\* @author Muhammad Rizal Nur F

\*/

public class BP1\_M4\_P1\_Rizal extends javax.swing.JFrame {

/\*\*

\* Creates new form BP1\_M4\_P1\_Rizal

\*/

public BP1\_M4\_P1\_Rizal() {

initComponents();

}

private void Login() {

String user, pass;

user = jTextField1.getText();

pass = jTextField2.getText();

// Validasi untuk username tidak diisi

if (user.isEmpty()) {

JOptionPane.showMessageDialog(null, "Username harus diisi", "Login Message", JOptionPane.WARNING\_MESSAGE);

return;

}

// Validasi untuk password tidak diisi

if (pass.isEmpty()) {

JOptionPane.showMessageDialog(null, "Password harus diisi", "Login Message", JOptionPane.WARNING\_MESSAGE);

return;

}

// Validasi untuk username salah

if (!user.equals("admin")) {

JOptionPane.showMessageDialog(null, "Username salah", "Login Message", JOptionPane.ERROR\_MESSAGE);

return;

}

// Validasi untuk password salah

if (!pass.equals("admin111")) {

JOptionPane.showMessageDialog(null, "Password salah", "Login Message", JOptionPane.ERROR\_MESSAGE);

return;

}

// Jika semua validasi lolos

JOptionPane.showMessageDialog(null, "Login sukses sebagai " + user, "Login Message", JOptionPane.INFORMATION\_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() {

jLabel1 = new javax.swing.JLabel();

jLabel2 = new javax.swing.JLabel();

jLabel3 = new javax.swing.JLabel();

jLabel4 = new javax.swing.JLabel();

jTextField1 = new javax.swing.JTextField();

jTextField2 = new javax.swing.JTextField();

jButton1 = new javax.swing.JButton();

jButton2 = new javax.swing.JButton();

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

jLabel1.setFont(new java.awt.Font("Segoe UI", 1, 12)); // NOI18N

jLabel1.setText("FORM LOGIN");

jLabel2.setIcon(new javax.swing.ImageIcon(getClass().getResource("/bayi.jpg"))); // NOI18N

jLabel2.setText("jLabel2");

jLabel3.setText("Username");

jLabel4.setText("Password");

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

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

jTextField1ActionPerformed(evt);

}

});

jButton1.setText("LOGIN");

jButton1.addMouseListener(new java.awt.event.MouseAdapter() {

public void mouseClicked(java.awt.event.MouseEvent evt) {

jButton1MouseClicked(evt);

}

});

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

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

jButton1ActionPerformed(evt);

}

});

jButton2.setText("REGISTER");

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

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

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

.addGroup(layout.createSequentialGroup()

.addContainerGap()

.addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED\_SIZE, 177, javax.swing.GroupLayout.PREFERRED\_SIZE)

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

.addGroup(layout.createSequentialGroup()

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

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

.addComponent(jLabel4)

.addGroup(layout.createSequentialGroup()

.addComponent(jLabel3)

.addGap(64, 64, 64)

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

.addComponent(jTextField2, javax.swing.GroupLayout.PREFERRED\_SIZE, 71, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addComponent(jTextField1, javax.swing.GroupLayout.PREFERRED\_SIZE, 71, javax.swing.GroupLayout.PREFERRED\_SIZE)))))

.addGroup(layout.createSequentialGroup()

.addGap(40, 40, 40)

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

.addComponent(jButton1)

.addComponent(jLabel1))

.addGap(18, 18, 18)

.addComponent(jButton2)))

.addContainerGap(29, Short.MAX\_VALUE))

);

layout.setVerticalGroup(

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

.addGroup(layout.createSequentialGroup()

.addGap(64, 64, 64)

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

.addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED\_SIZE, 188, javax.swing.GroupLayout.PREFERRED\_SIZE)

.addGroup(layout.createSequentialGroup()

.addComponent(jLabel1)

.addGap(33, 33, 33)

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

.addComponent(jLabel3)

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

.addGap(45, 45, 45)

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

.addComponent(jLabel4)

.addComponent(jTextField2, javax.swing.GroupLayout.PREFERRED\_SIZE, javax.swing.GroupLayout.DEFAULT\_SIZE, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addGap(46, 46, 46)

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

.addComponent(jButton1)

.addComponent(jButton2))))

.addContainerGap(390, Short.MAX\_VALUE))

);

pack();

}// </editor-fold>

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

// TODO add your handling code here:

}

private void jButton1MouseClicked(java.awt.event.MouseEvent evt) {

// TODO add your handling code here:

}

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

// TODO add your handling code here:

Login();

}

/\*\*

\* @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(BP1\_M4\_P1\_Rizal.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(BP1\_M4\_P1\_Rizal.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(BP1\_M4\_P1\_Rizal.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(BP1\_M4\_P1\_Rizal.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 BP1\_M4\_P1\_Rizal().setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.JButton jButton1;

private javax.swing.JButton jButton2;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel2;

private javax.swing.JLabel jLabel3;

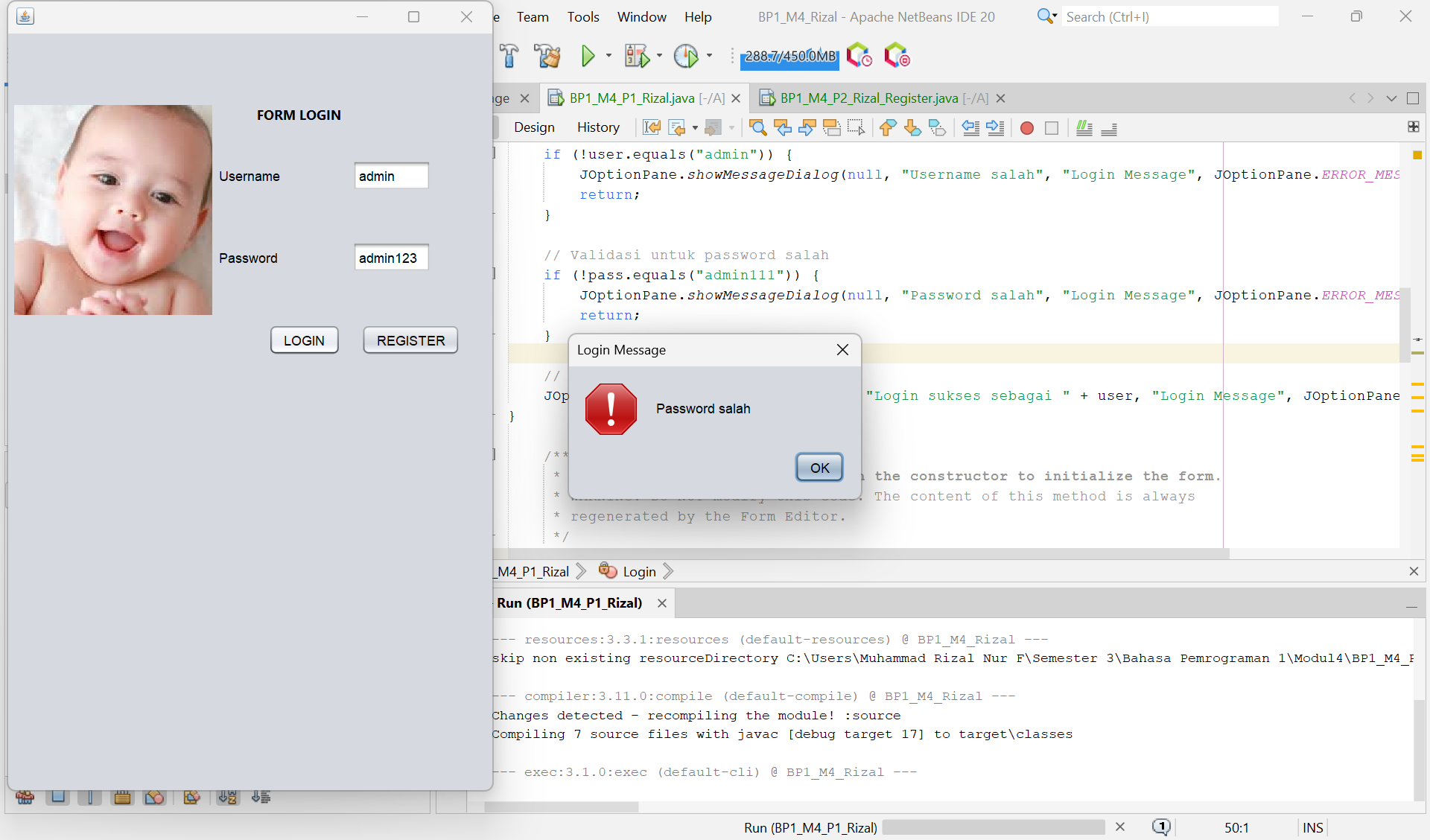
private javax.swing.JLabel jLabel4;

private javax.swing.JTextField jTextField1;

private javax.swing.JTextField jTextField2;

// End of variables declaration

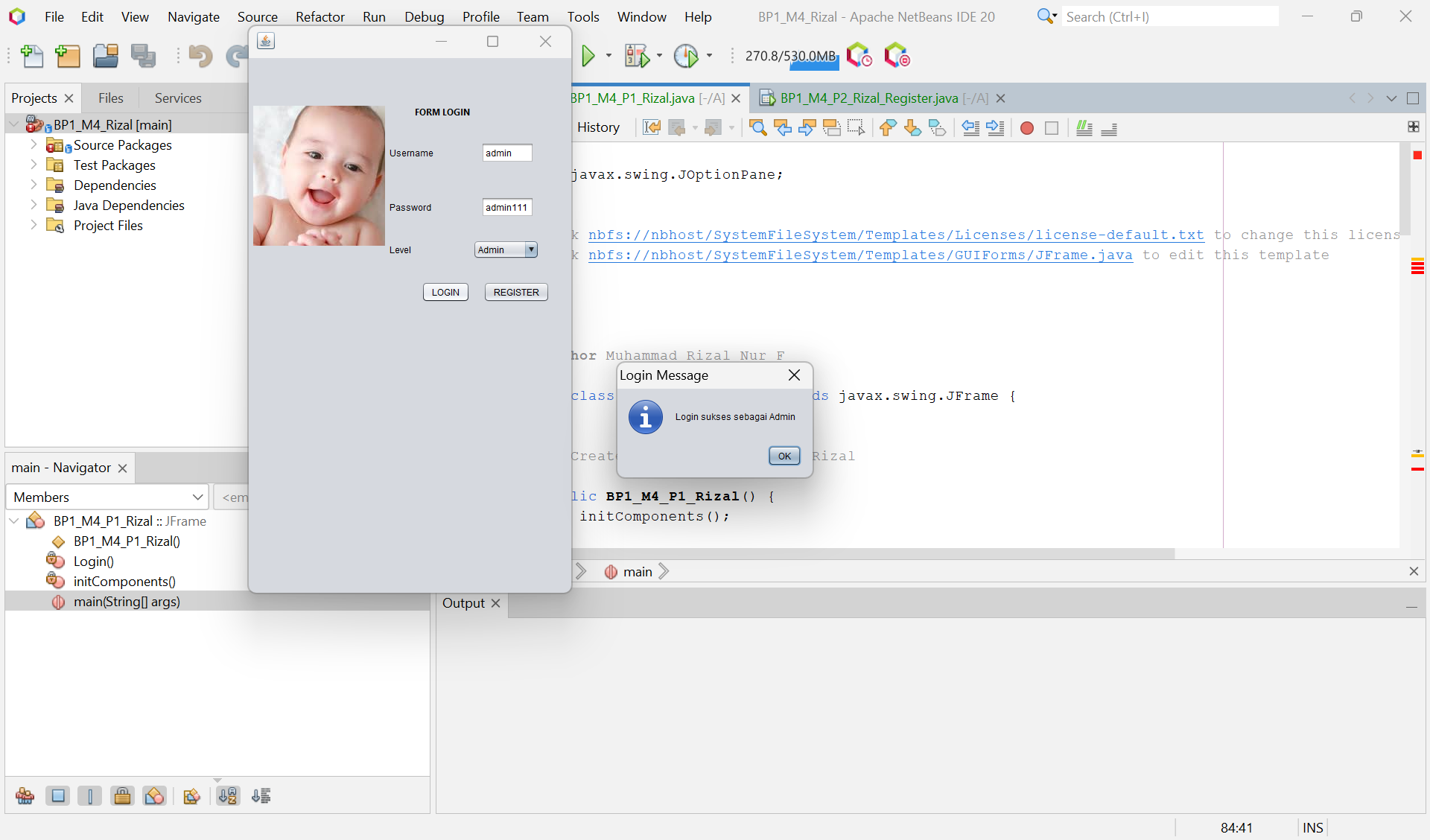
}



Analisis :

* **Cek Username Kosong**: Menambahkan validasi untuk mengecek apakah jTextField1 (username) kosong. Jika kosong, akan muncul pesan "Username harus diisi".
* **Cek Password Kosong**: Menambahkan validasi untuk mengecek apakah jTextField2 (password) kosong. Jika kosong, akan muncul pesan "Password harus diisi".
* **Cek Username Salah**: Menambahkan validasi untuk mengecek apakah username yang dimasukkan bukan "admin". Jika salah, akan muncul pesan "Username salah".
* **Cek Password Salah**: Menambahkan validasi untuk mengecek apakah password yang dimasukkan bukan "admin111". Jika salah, akan muncul pesan "Password salah".

1. Lengkapi Form Login pada Praktikum dengan menambahkan Level untuk Login menggunakan JComboBox. Level yang dimiliki adalah Admin dan User.



Analisis :

1. **JComboBox untuk Level Login:**

* jComboBox1 digunakan untuk memilih level login. Nilainya adalah:
* **"Pilih Level"**: Default, menunjukkan bahwa level belum dipilih.
* **"Admin"**: Untuk login sebagai admin.
* **"User"**: Untuk login sebagai user.

1. **Validasi Input:**

* Jika username, password, atau level kosong atau tidak dipilih dengan benar, aplikasi akan menampilkan pesan kesalahan yang relevan.

1. **Logika Login:**

* Kombinasi *username*, *password*, dan *level* diperiksa secara spesifik:
* **Admin:** username = "admin", password = "admin111", dan level = "Admin".
* **User:** username = "user", password = "user123", dan level = "User".
* Jika kombinasi salah, maka akan muncul pesan "Username, Password, atau Level salah".

1. **Pesan Informasi:**

* Menggunakan JOptionPane untuk menampilkan dialog pesan yang sesuai (sukses/gagal).

1. Lengkapi kondisi Register, sehingga memiliki kondisi

* Jika button register pada Form Registrasi di klik, maka Form Registrasi kembali kosong.
* Jika button register pada Form Registrasi di klik, maka akan tampil message **"registrasi berhasil"**.
* Jika button register pada Form Registrasi di klik, maka akan tampil message **"registrasi gagal, data harus lengkap"** jika ada data yang tidak diisi.
* Tambahkan tombol untuk keluar dari tampilan Form Registrasi.

/\*

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\*/

/\*\*

\*

\* @author Muhammad Rizal Nur F

\*/

import javax.swing.\*;

import java.awt.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

public class BP1\_M4\_P2\_Rizal\_Register extends JFrame {

// Komponen UI

private JTextField txtNIM, txtNama;

private JRadioButton rbLaki, rbPerempuan;

private JComboBox<String> cbProdi;

private JCheckBox cbNonton, cbOlahraga, cbDengerinMusik, cbTraveling;

private JTextArea txtAlamat, txtHasil;

private JButton btnRegister, btnKeluar;

public BP1\_M4\_P2\_Rizal\_Register() {

// Set title JFrame

setTitle("FORM REGISTER");

setSize(400, 600);

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

setLayout(null);

// Membuat label FORM REGISTER

JLabel lblTitle = new JLabel("FORM REGISTER", SwingConstants.CENTER);

lblTitle.setBounds(100, 10, 200, 30);

lblTitle.setFont(new Font("Arial", Font.BOLD, 16));

add(lblTitle);

// Label dan TextField untuk NIM

JLabel lblNIM = new JLabel("NIM");

lblNIM.setBounds(20, 50, 100, 30);

add(lblNIM);

txtNIM = new JTextField();

txtNIM.setBounds(120, 50, 240, 30);

add(txtNIM);

// Label dan TextField untuk Nama

JLabel lblNama = new JLabel("NAMA");

lblNama.setBounds(20, 90, 100, 30);

add(lblNama);

txtNama = new JTextField();

txtNama.setBounds(120, 90, 240, 30);

add(txtNama);

// Label dan RadioButton untuk Jenis Kelamin

JLabel lblJenisKelamin = new JLabel("JENIS KELAMIN");

lblJenisKelamin.setBounds(20, 130, 100, 30);

add(lblJenisKelamin);

rbLaki = new JRadioButton("LAKI-LAKI");

rbLaki.setBounds(120, 130, 100, 30);

rbPerempuan = new JRadioButton("PEREMPUAN");

rbPerempuan.setBounds(220, 130, 100, 30);

// Grouping RadioButton

ButtonGroup bgJenisKelamin = new ButtonGroup();

bgJenisKelamin.add(rbLaki);

bgJenisKelamin.add(rbPerempuan);

add(rbLaki);

add(rbPerempuan);

// Label dan ComboBox untuk Prodi

JLabel lblProdi = new JLabel("PRODI");

lblProdi.setBounds(20, 170, 100, 30);

add(lblProdi);

String[] prodiList = {"TEKNIK INFORMATIKA", "SISTEM INFORMASI", "DESAIN KOMUNIKASI VISUAL", "MANAJEMEN INFORMATIKA"};

cbProdi = new JComboBox<>(prodiList);

cbProdi.setBounds(120, 170, 240, 30);

add(cbProdi);

// Label dan CheckBox untuk Hobi

JLabel lblHobi = new JLabel("HOBI");

lblHobi.setBounds(20, 210, 100, 30);

add(lblHobi);

cbNonton = new JCheckBox("NONTON");

cbNonton.setBounds(120, 210, 100, 30);

cbDengerinMusik = new JCheckBox("DENGERIN MUSIK");

cbDengerinMusik.setBounds(220, 210, 130, 30);

cbOlahraga = new JCheckBox("OLAHRAGA");

cbOlahraga.setBounds(120, 240, 100, 30);

cbTraveling = new JCheckBox("TRAVELING");

cbTraveling.setBounds(220, 240, 100, 30);

add(cbNonton);

add(cbDengerinMusik);

add(cbOlahraga);

add(cbTraveling);

// Label dan TextArea untuk Alamat

JLabel lblAlamat = new JLabel("ALAMAT");

lblAlamat.setBounds(20, 280, 100, 30);

add(lblAlamat);

txtAlamat = new JTextArea();

txtAlamat.setBounds(120, 280, 240, 60);

add(txtAlamat);

// Button Register

btnRegister = new JButton("REGISTER");

btnRegister.setBounds(120, 360, 100, 30);

add(btnRegister);

// Button Keluar

btnKeluar = new JButton("KELUAR");

btnKeluar.setBounds(240, 360, 100, 30);

add(btnKeluar);

// TextArea untuk menampilkan hasil registrasi

txtHasil = new JTextArea();

txtHasil.setBounds(20, 410, 340, 120);

txtHasil.setEditable(false);

txtHasil.setBorder(BorderFactory.createLineBorder(Color.BLACK));

add(txtHasil);

// Action Listener untuk tombol Register

btnRegister.addActionListener(new ActionListener() {

@Override

public void actionPerformed(ActionEvent e) {

if (isDataLengkap()) {

tampilkanHasil();

JOptionPane.showMessageDialog(null, "Registrasi berhasil!", "Informasi", JOptionPane.INFORMATION\_MESSAGE);

clearForm();

} else {

JOptionPane.showMessageDialog(null, "Registrasi gagal, data harus lengkap!", "Error", JOptionPane.ERROR\_MESSAGE);

}

}

});

// Action Listener untuk tombol Keluar

btnKeluar.addActionListener(new ActionListener() {

@Override

public void actionPerformed(ActionEvent e) {

System.exit(0);

}

});

// Set JFrame visible

setVisible(true);

}

// Method untuk menampilkan hasil registrasi

private void tampilkanHasil() {

String jenisKelamin = rbLaki.isSelected() ? "LAKI-LAKI" : (rbPerempuan.isSelected() ? "PEREMPUAN" : "TIDAK DIPILIH");

String hobi = "";

if (cbNonton.isSelected()) hobi += "NONTON ";

if (cbOlahraga.isSelected()) hobi += "OLAHRAGA ";

if (cbDengerinMusik.isSelected()) hobi += "DENGERIN MUSIK ";

if (cbTraveling.isSelected()) hobi += "TRAVELING ";

// Menggabungkan hasil registrasi

String hasil = "NIM: " + txtNIM.getText() + "\n" +

"NAMA: " + txtNama.getText() + "\n" +

"JENIS KELAMIN: " + jenisKelamin + "\n" +

"PRODI: " + cbProdi.getSelectedItem() + "\n" +

"HOBI: " + hobi + "\n" +

"ALAMAT: " + txtAlamat.getText();

txtHasil.setText(hasil);

}

// Method untuk mengecek kelengkapan data

private boolean isDataLengkap() {

return !txtNIM.getText().isEmpty() && !txtNama.getText().isEmpty() &&

(rbLaki.isSelected() || rbPerempuan.isSelected()) &&

txtAlamat.getText() != null && !txtAlamat.getText().isEmpty();

}

// Method untuk mengosongkan form

private void clearForm() {

txtNIM.setText("");

txtNama.setText("");

rbLaki.setSelected(false);

rbPerempuan.setSelected(false);

cbProdi.setSelectedIndex(0);

cbNonton.setSelected(false);

cbOlahraga.setSelected(false);

cbDengerinMusik.setSelected(false);

cbTraveling.setSelected(false);

txtAlamat.setText("");

txtHasil.setText("");

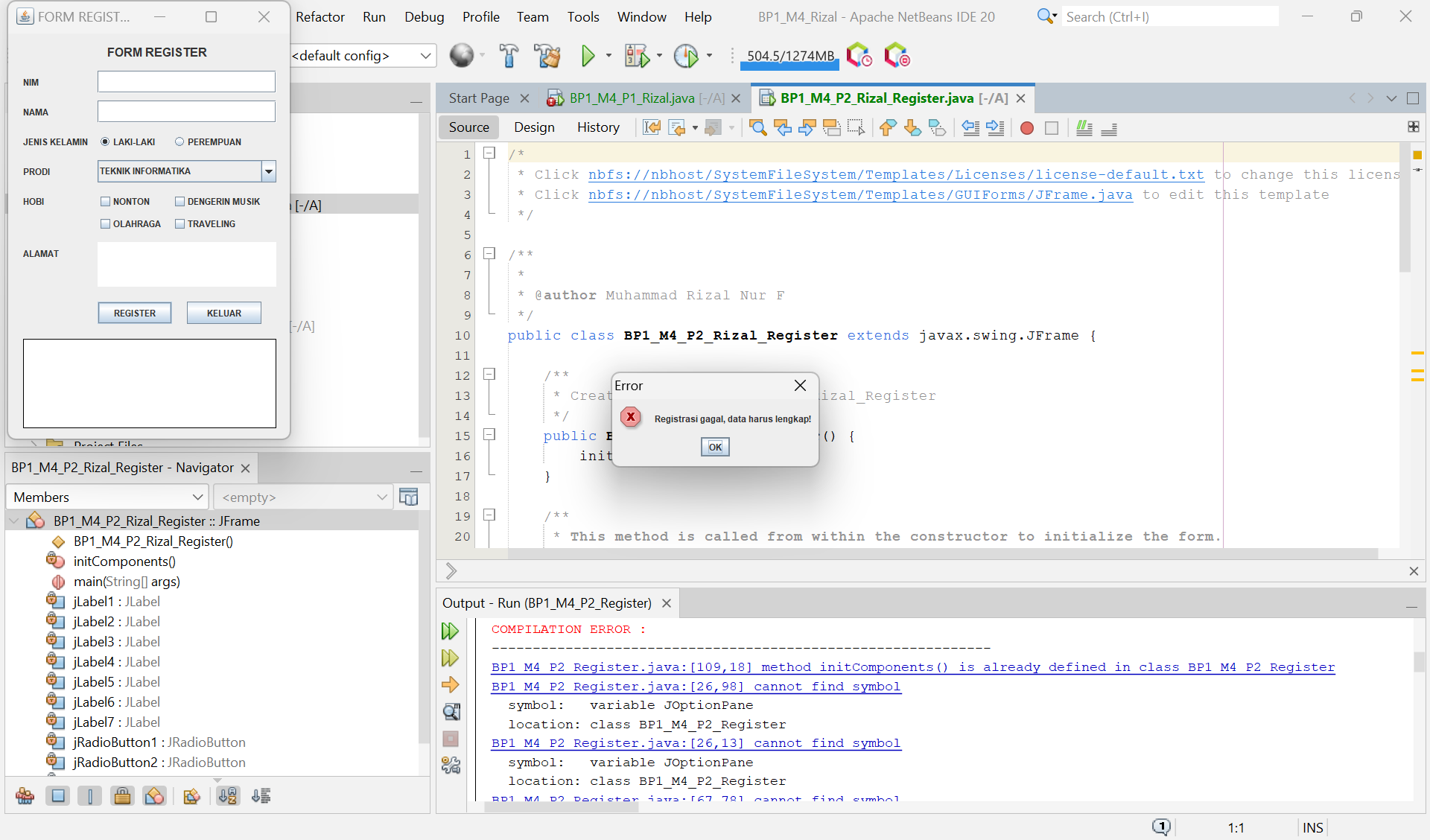
}

public static void main(String[] args) {

new BP1\_M4\_P2\_Rizal\_Register();

}

}



Analisis : Program ini adalah aplikasi registrasi sederhana dengan form yang melibatkan input data pengguna seperti NIM, nama, jenis kelamin, program studi, hobi, dan alamat. Ketika tombol "Register" ditekan, sistem pertama-tama memeriksa kelengkapan data yang dimasukkan. Jika ada data yang kosong atau tidak terisi dengan benar, program akan menampilkan pesan "Registrasi gagal, data harus lengkap". Jika semua data lengkap, maka aplikasi akan menampilkan pesan sukses "Registrasi berhasil" dan data yang dimasukkan akan ditampilkan di area teks, lalu form akan direset ke keadaan semula.

**Tugas**

1. Lengkapi / koneksikan pada Form Login jika di klik maka akan tampil Form Register.
2. Tambahkan data yang harus diisi pada Form Register (Kelas, Angkatan, DPA, Semester).
3. Buat Form Data Nilai Mahasiswa.
4. Jika Register gagal, maka tampilan akan kembali ke Form Login.
5. Jika Register berhasil, maka akan tampil Form Data Nilai Mahasiswa.

/\*

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\*/

import javax.swing.JOptionPane;

/\*\*

\*

\* @author Muhammad Rizal Nur F

\*/

public class BP1\_M4\_P1\_Rizal extends javax.swing.JFrame {

public BP1\_M4\_P1\_Rizal() {

initComponents(); // Inisialisasi komponen yang ada di desain GUI

}

@SuppressWarnings("unchecked")

private void initComponents() {

jLabel1 = new javax.swing.JLabel();

jLabel2 = new javax.swing.JLabel();

txtUsername = new javax.swing.JTextField();

txtPassword = new javax.swing.JPasswordField();

btnLogin = new javax.swing.JButton();

btnRegister = new javax.swing.JButton();

jLabelImage = new javax.swing.JLabel(); // Label untuk gambar

jLabel3 = new javax.swing.JLabel(); // Label untuk level

comboLevel = new javax.swing.JComboBox<>(); // JComboBox untuk level

txtAreaOutput = new javax.swing.JTextArea(); // JTextArea untuk menampilkan hasil inputan

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

jLabel1.setText("Username:");

jLabel2.setText("Password:");

jLabel3.setText("Level:");

// Menambahkan pilihan level

comboLevel.setModel(new javax.swing.DefaultComboBoxModel<>(new String[] { "Admin", "User " }));

btnLogin.setText("Login");

btnLogin.addActionListener(evt -> btnLoginActionPerformed(evt));

btnRegister.setText("Register");

btnRegister.addActionListener(evt -> btnRegisterActionPerformed(evt));

// Menambahkan gambar bayi

try {

jLabelImage.setIcon(new javax.swing.ImageIcon(getClass().getResource("/bayi.jpg"))); // pastikan gambar ada di folder yang tepat

} catch (NullPointerException e) {

JOptionPane.showMessageDialog(this, "Gambar tidak ditemukan!", "Error", JOptionPane.ERROR\_MESSAGE);

}

// Mengatur JTextArea

txtAreaOutput.setEditable(false); // Tidak bisa diedit oleh pengguna

txtAreaOutput.setRows(5); // Jumlah baris

txtAreaOutput.setColumns(20); // Jumlah kolom

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(30, 30, 30)

.addComponent(jLabelImage) // Menampilkan gambar bayi di kiri

.addGap(18, 18, 18)

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

.addGroup(layout.createSequentialGroup()

.addComponent(jLabel1)

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

.addComponent(txtUsername, javax.swing.GroupLayout.PREFERRED\_SIZE, 150, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addGroup(layout.createSequentialGroup()

.addComponent(jLabel2)

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

.addComponent(txtPassword))

.addGroup(layout.createSequentialGroup()

.addComponent(jLabel3)

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

.addComponent(comboLevel, javax.swing.GroupLayout.PREFERRED\_SIZE, 150, javax.swing.GroupLayout.PREFERRED\_SIZE))

.addGroup(layout.createSequentialGroup()

.addComponent(btnLogin, javax.swing.GroupLayout.PREFERRED\_SIZE, 75, javax.swing.GroupLayout.PREFERRED\_SIZE)

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

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

.addContainerGap(30, Short.MAX\_VALUE))

.addGroup(layout.createSequentialGroup()

.addGap(30, 30, 30)

.addComponent(txtAreaOutput) // Menampilkan JTextArea di bawah

.addContainerGap(30, Short.MAX\_VALUE))

);

layout.setVerticalGroup(

layout.createSequentialGroup()

.addGap(30, 30, 30)

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

.addComponent(jLabelImage) // Gambar bayi di kiri

.addGroup(layout.createSequentialGroup()

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

.addComponent(jLabel1)

.addComponent(txtUsername, 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(jLabel2)

.addComponent(txtPassword, 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)

.addComponent(comboLevel, 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(btnLogin)

.addComponent(btnRegister))))

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

.addComponent(txtAreaOutput, javax.swing.GroupLayout.PREFERRED\_SIZE, 100, javax.swing.GroupLayout.PREFERRED\_SIZE) // Ukuran JTextArea

.addContainerGap(30, Short.MAX\_VALUE)

);

pack();

}

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

// Validasi login

String username = txtUsername.getText().trim();

String password = new String(txtPassword.getPassword()).trim();

String level = (String) comboLevel.getSelectedItem(); // Mendapatkan level yang dipilih

if (username.isEmpty() || password.isEmpty()) {

JOptionPane.showMessageDialog(this, "Username dan Password tidak boleh kosong!", "Error", JOptionPane.ERROR\_MESSAGE);

return;

}

// Validasi berdasarkan level

if (level.equals("Admin") && username.equals("admin") && password.equals("admin123")) {

JOptionPane.showMessageDialog(this, "Login Berhasil sebagai Admin!");

// Tampilkan hasil inputan di JTextArea

txtAreaOutput.setText("Username: " + username + "\nPassword: " + password + "\nLevel: " + level);

// Pindah ke Form Data Nilai Mahasiswa jika login berhasil

new FormDataNilaiMahasiswa().setVisible(true);

this.dispose(); // Menutup form login setelah berpindah

} else if (level.equals("User ") && username.equals("user") && password.equals("user123")) {

JOptionPane.showMessageDialog(this, "Login Berhasil sebagai User!");

// Tampilkan hasil inputan di JTextArea

txtAreaOutput.setText("Username: " + username + "\nPassword: " + password + "\nLevel: " + level);

// Pindah ke Form User jika login berhasil

new FormUser ().setVisible(true);

this.dispose(); // Menutup form login setelah berpindah

} else {

JOptionPane.showMessageDialog(this, "Username atau Password salah!", "Error", JOptionPane.ERROR\_MESSAGE);

}

}

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

// Pindah ke Form Register

new BP1\_M4\_P2\_Rizal\_Register().setVisible(true);

this.dispose(); // Tutup form login setelah berpindah

}

public static void main(String args[]) {

/\* Set the Nimbus look and feel \*/

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 | InstantiationException | IllegalAccessException | javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(BP1\_M4\_P1\_Rizal.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

}

/\* Create and display the form \*/

java.awt.EventQueue.invokeLater(() -> new BP1\_M4\_P1\_Rizal().setVisible(true));

}

// Variables declaration - do not modify

private javax.swing.JButton btnLogin;

private javax.swing.JButton btnRegister;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel2;

private javax.swing.JLabel jLabel3; // Label untuk level

private javax.swing.JTextField txtUsername;

private javax.swing.JPasswordField txtPassword;

private javax.swing.JLabel jLabelImage; // Label untuk gambar bayi

private javax.swing.JComboBox<String> combo Level; // JComboBox untuk level

private javax.swing.JTextArea txtAreaOutput; // JTextArea untuk menampilkan hasil inputan

// End of variables declaration

}

/\*

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 \*/

import javax.swing.\*;

import java.awt.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

/\*\*

 \*

 \* @author Muhammad Rizal Nur F

 \*/

public class BP1\_M4\_P2\_Rizal\_Register extends JFrame {

    private JTextField txtNIM, txtNama, txtKelas, txtAngkatan, txtDPA, txtSemester;

    private JRadioButton rbLaki, rbPerempuan;

    private JComboBox<String> cbProdi;

    private JCheckBox cbNonton, cbOlahraga, cbDengerinMusik, cbTraveling;

    private JTextArea txtAlamat, txtHasil; // Declare txtHasil for results

    private JButton btnRegister, btnKeluar;

    public BP1\_M4\_P2\_Rizal\_Register() {

        // Set title JFrame

        setTitle("FORM REGISTER");

        setSize(400, 800);  // Increase size to accommodate new fields

        setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

        setLayout(null);

        // Title

        JLabel lblTitle = new JLabel("FORM REGISTER", SwingConstants.CENTER);

        lblTitle.setBounds(100, 10, 200, 30);

        lblTitle.setFont(new Font("Arial", Font.BOLD, 16));

        add(lblTitle);

        // NIM

        JLabel lblNIM = new JLabel("NIM");

        lblNIM.setBounds(20, 50, 100, 30);

        add(lblNIM);

        txtNIM = new JTextField();

        txtNIM.setBounds(120, 50, 240, 30);

        add(txtNIM);

        // Nama

        JLabel lblNama = new JLabel("NAMA");

        lblNama.setBounds(20, 90, 100, 30);

        add(lblNama);

        txtNama = new JTextField();

        txtNama.setBounds(120, 90, 240, 30);

        add(txtNama);

        // Jenis Kelamin

        JLabel lblJenisKelamin = new JLabel("JENIS KELAMIN");

        lblJenisKelamin.setBounds(20, 130, 100, 30);

        add(lblJenisKelamin);

        rbLaki = new JRadioButton("Laki-laki");

        rbLaki.setBounds(120, 130, 100, 30);

        add(rbLaki);

        rbPerempuan = new JRadioButton("Perempuan");

        rbPerempuan.setBounds(230, 130, 100, 30);

        add(rbPerempuan);

        ButtonGroup genderGroup = new ButtonGroup();

        genderGroup.add(rbLaki);

        genderGroup.add(rbPerempuan);

        // Prodi

        JLabel lblProdi = new JLabel("PRODI");

        lblProdi.setBounds(20, 170, 100, 30);

        add(lblProdi);

        String[] prodiOptions = {"Teknik Informatika", "Sistem Informasi", "Manajemen"};

        cbProdi = new JComboBox<>(prodiOptions);

        cbProdi.setBounds(120, 170, 240, 30);

        add(cbProdi);

        // Hobi

        JLabel lblHobi = new JLabel("HOBI");

        lblHobi.setBounds(20, 210, 100, 30);

        add(lblHobi);

        cbNonton = new JCheckBox("Nonton");

        cbNonton.setBounds(120, 210, 100, 30);

        add(cbNonton);

        cbOlahraga = new JCheckBox("Dedengerin Musik");

        cbOlahraga.setBounds(230, 210, 100, 30);

        add(cbOlahraga);

        cbDengerinMusik = new JCheckBox("Olahraga");

        cbDengerinMusik.setBounds(120, 240, 150, 30);

        add(cbDengerinMusik);

        cbTraveling = new JCheckBox("Traveling");

        cbTraveling.setBounds(230, 240, 100, 30);

        add(cbTraveling);

        // Alamat

        JLabel lblAlamat = new JLabel("ALAMAT");

        lblAlamat.setBounds(20, 280, 100,  30);

        add(lblAlamat);

        txtAlamat = new JTextArea();

        txtAlamat.setBounds(120, 280, 240, 50);

        add(txtAlamat);

        // Kelas

        JLabel lblKelas = new JLabel("KELAS");

        lblKelas.setBounds(20, 340, 100, 30);

        add(lblKelas);

        txtKelas = new JTextField();

        txtKelas.setBounds(120, 340, 240, 30);

        add(txtKelas);

        // Angkatan

        JLabel lblAngkatan = new JLabel("ANGKATAN");

        lblAngkatan.setBounds(20, 380, 100, 30);

        add(lblAngkatan);

        txtAngkatan = new JTextField();

        txtAngkatan.setBounds(120, 380, 240, 30);

        add(txtAngkatan);

        // DPA

        JLabel lblDPA = new JLabel("DPA");

        lblDPA.setBounds(20, 420, 100, 30);

        add(lblDPA);

        txtDPA = new JTextField();

        txtDPA.setBounds(120, 420, 240, 30);

        add(txtDPA);

        // Semester

        JLabel lblSemester = new JLabel("SEMESTER");

        lblSemester.setBounds(20, 460, 100, 30);

        add(lblSemester);

        txtSemester = new JTextField();

        txtSemester.setBounds(120, 460, 240, 30);

        add(txtSemester);

        // Register and Exit Buttons

        btnRegister = new JButton("Register");

        btnRegister.setBounds(120, 500, 100, 30);

        add(btnRegister);

        btnKeluar = new JButton("Keluar");

        btnKeluar.setBounds(230, 500, 100, 30);

        add(btnKeluar);

        // Result TextArea

        txtHasil = new JTextArea();

        txtHasil.setBounds(20, 540, 340, 150);

        txtHasil.setEditable(false); // Make it non-editable

        add(txtHasil);

        // Action Listener for Register

        btnRegister.addActionListener(new ActionListener() {

            @Override

            public void actionPerformed(ActionEvent e) {

                if (isDataLengkap()) {

                    tampilkanHasil();

                    JOptionPane.showMessageDialog(null, "Registrasi berhasil!", "Informasi", JOptionPane.INFORMATION\_MESSAGE);

                    new FormDataNilaiMahasiswa();  // Show the next form

                    dispose(); // Close register form

                } else {

                    JOptionPane.showMessageDialog(null, "Registrasi gagal, data harus lengkap!", "Error", JOptionPane.ERROR\_MESSAGE);

                    new BP1\_M4\_P1\_Rizal(); // Show login form again

                    dispose(); // Close register form

                }

            }

        });

        // Action Listener for Exit

        btnKeluar.addActionListener(new ActionListener() {

            @Override

            public void actionPerformed(ActionEvent e) {

                System.exit(0);

            }

        });

        setVisible(true);

    }

    // Method to check if data is complete

    private boolean isDataLengkap() {

        // Check if all fields are filled

        return !txtNIM.getText().isEmpty() && !txtNama.getText().isEmpty() &&

               !txtKelas.getText().isEmpty() && !txtAngkatan.getText().isEmpty() &&

               !txtDPA.getText().isEmpty() && !txtSemester.getText().isEmpty() &&

               (rbLaki.isSelected() || rbPerempuan.isSelected()) && cbProdi.getSelectedIndex() != -1;

    }

    // Method to display the results in a TextArea

    private void tampilkanHasil() {

        String hasil = "NIM: " + txtNIM.getText() + "\n";

        hasil += "Nama: " + txtNama.getText() + "\n";

        hasil += "Jenis Kelamin: " + (rbLaki.isSelected() ? "Laki-laki" : "Perempuan") + "\n";

        hasil += "Prodi: " + cbProdi.getSelectedItem() + "\n";

        hasil += "Hobi: " + (cbNonton.isSelected() ? "Nonton, " : "") +

                 (cbOlahraga.isSelected() ? "Olahraga, " : "") +

                 (cbDengerinMusik.isSelected() ? "Dengerin Musik, " : "") +

                 (cbTraveling.isSelected() ? "Traveling" : "") + "\n";

        hasil += "Alamat: " + txtAlamat.getText() + "\n";

        hasil += "Kelas: " + txtKelas.getText() + "\n";

        hasil += "Angkatan: " + txtAngkatan.getText() + "\n";

        hasil += "DPA: " + txtDPA.getText() + "\n";

        hasil += "Semester: " + txtSemester.getText() + "\n";

        txtHasil.setText(hasil); // Set the result to the JTextArea

    }

    public static void main(String[] args) {

        // Create and display the register form

        new BP1\_M4\_P2\_Rizal\_Register();

    }

}

/\*

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 \*/

import javax.swing.\*;

import java.awt.event.\*;

public class FormDataNilaiMahasiswa extends JFrame {

    private JTextField txtNIM, txtNama;

    private JTextArea txtNilai;

    private JButton btnSimpan;

    public FormDataNilaiMahasiswa() {

        setTitle("Data Nilai Mahasiswa");

        setSize(400, 300);

        setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

        setLayout(null);

        JLabel lblNIM = new JLabel("NIM");

        lblNIM.setBounds(20, 30, 100, 30);

        add(lblNIM);

        txtNIM = new JTextField();

        txtNIM.setBounds(120, 30, 240, 30);

        add(txtNIM);

        JLabel lblNama = new JLabel("Nama");

        lblNama.setBounds(20, 70, 100, 30);

        add(lblNama);

        txtNama = new JTextField();

        txtNama.setBounds(120, 70, 240, 30);

        add(txtNama);

        JLabel lblNilai = new JLabel("Nilai");

        lblNilai.setBounds(20, 110, 100, 30);

        add(lblNilai);

        txtNilai = new JTextArea();

        txtNilai.setBounds(120, 110, 240, 100);

        add(txtNilai);

        btnSimpan = new JButton("Simpan");

        btnSimpan.setBounds(150, 220, 100, 30);

        add(btnSimpan);

        btnSimpan.addActionListener(new ActionListener() {

            @Override

            public void actionPerformed(ActionEvent e) {

                JOptionPane.showMessageDialog(null, "Data Nilai Tersimpan!", "Informasi", JOptionPane.INFORMATION\_MESSAGE);

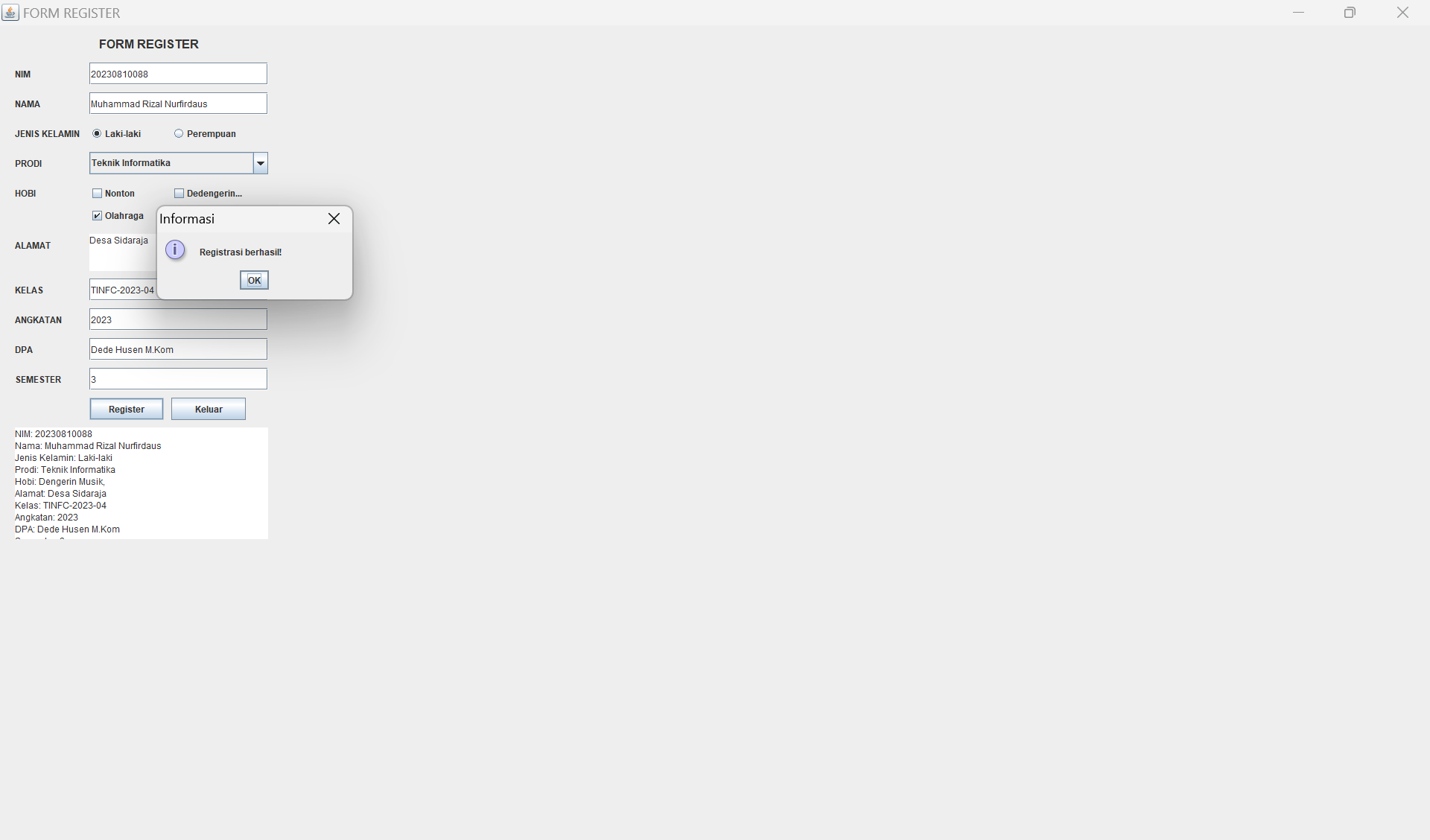
            }

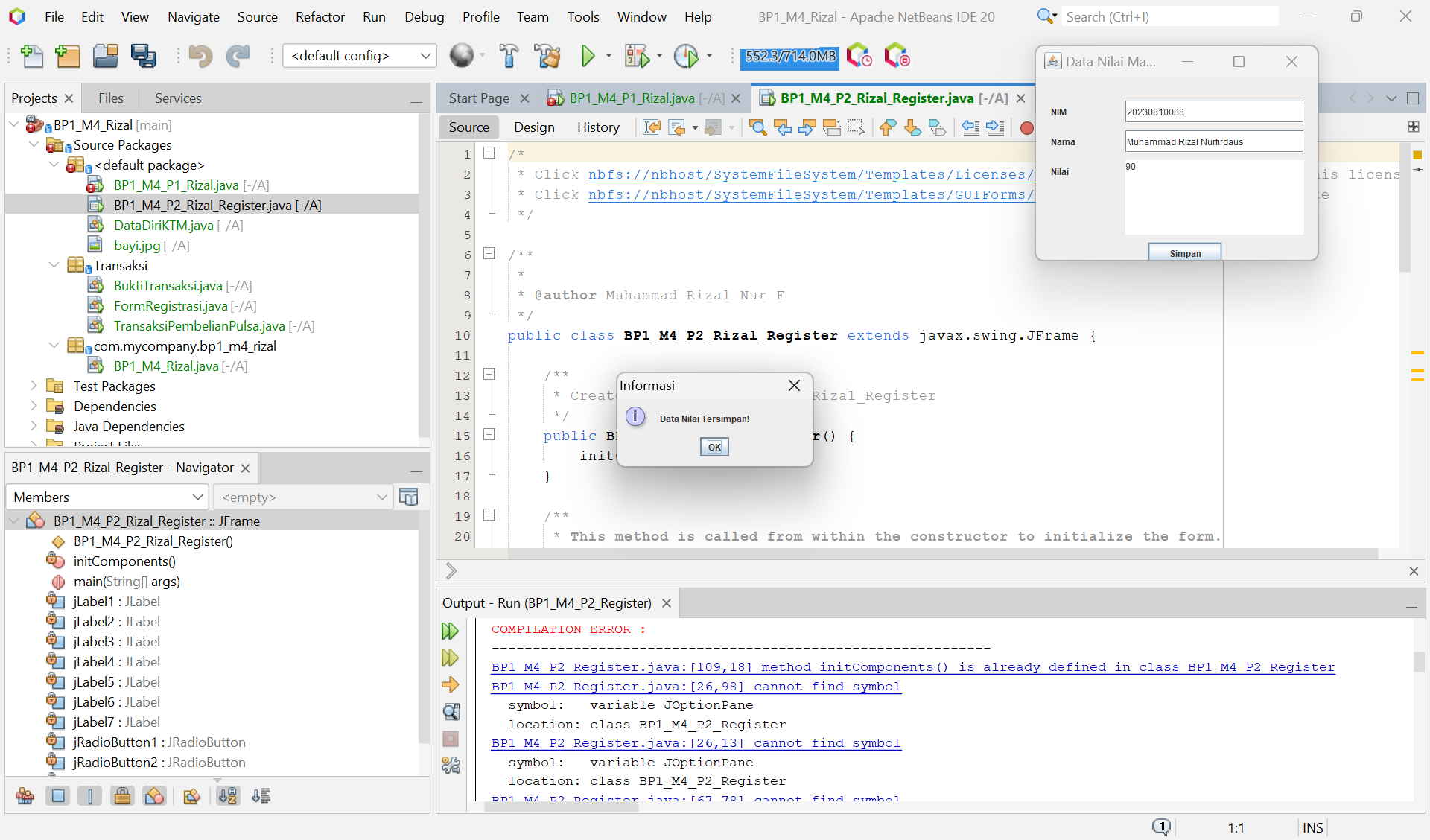
        });

        setVisible(true);

    }

}





Analisis :

* **Form Login:** Memungkinkan pengguna untuk login, dan setelah login berhasil, form login akan menutup dan form registrasi akan muncul.
* **Form Register:** Menambahkan kolom untuk **Kelas**, **Angkatan**, **DPA**, dan **Semester**. Jika registrasi berhasil, form nilai mahasiswa akan muncul. Jika gagal, kembali ke form login.
* **Form Data Nilai Mahasiswa:** Menyediakan input untuk **NIM**, **Nama**, dan **Nilai**, serta tombol untuk menyimpan data.

Dengan tambahan ini, Aplikasi pendaftaran dengan validasi dan alur yang lebih jelas, serta tampilan yang lebih terstruktur.

**Tugas Tambahan**

* 1. Buatlah sebuah aplikasi yang didalamnya terdapat hirarki menu sebagai berikut   
     Menu: Bangun Datar

Segitiga (Alt+s)

Persegi (Alt+p)

Lingkaran (Alt+l)

Menu Bangun Ruang

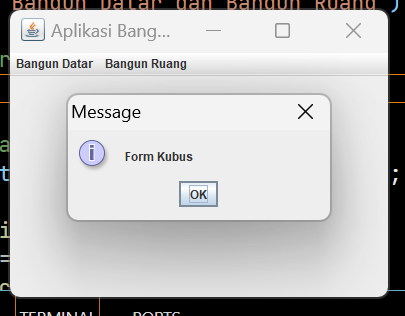
Kubus (Alt+k)

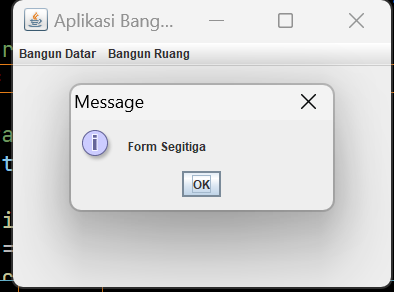
Balok (Alt+b)

Tabung (Alt+t)

Ketika sub menu diklik (atau menekan shortcut) maka akan menampilkan form sesuai dengan sub menu.

Tambahkan kedalam laporan praktikum screenshoot hasil dan penjelasan singkat kode nya.





**Script Code:**

package BP1\_M4\_Rizal;

import javax.swing.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

public class MenuAplikasi extends JFrame {

    public MenuAplikasi() {

        // Set judul jendela

        setTitle("Aplikasi Bangun Datar dan Bangun Ruang");

        // Membuat menu bar

        JMenuBar menuBar = new JMenuBar();

        // Menu Bangun Datar

        JMenu menuBangunDatar = new JMenu("Bangun Datar");

        JMenuItem segitiga = new JMenuItem("Segitiga");

        segitiga.setMnemonic('S'); // Alt + S

        JMenuItem persegi = new JMenuItem("Persegi");

        persegi.setMnemonic('P'); // Alt + P

        JMenuItem lingkaran = new JMenuItem("Lingkaran");

        lingkaran.setMnemonic('L'); // Alt + L

        menuBangunDatar.add(segitiga);

        menuBangunDatar.add(persegi);

        menuBangunDatar.add(lingkaran);

        // Menu Bangun Ruang

        JMenu menuBangunRuang = new JMenu("Bangun Ruang");

        JMenuItem kubus = new JMenuItem("Kubus");

        kubus.setMnemonic('K'); // Alt + K

        JMenuItem balok = new JMenuItem("Balok");

        balok.setMnemonic('B'); // Alt + B

        JMenuItem tabung = new JMenuItem("Tabung");

        tabung.setMnemonic('T'); // Alt + T

        menuBangunRuang.add(kubus);

        menuBangunRuang.add(balok);

        menuBangunRuang.add(tabung);

        // Tambahkan menu ke menu bar

        menuBar.add(menuBangunDatar);

        menuBar.add(menuBangunRuang);

        setJMenuBar(menuBar);

        // Menambahkan action listener untuk setiap item menu

        segitiga.addActionListener(e -> JOptionPane.showMessageDialog(this, "Form Segitiga"));

        persegi.addActionListener(e -> JOptionPane.showMessageDialog(this, "Form Persegi"));

        lingkaran.addActionListener(e -> JOptionPane.showMessageDialog(this, "Form Lingkaran"));

        kubus.addActionListener(e -> JOptionPane.showMessageDialog(this, "Form Kubus"));

        balok.addActionListener(e -> JOptionPane.showMessageDialog(this, "Form Balok"));

        tabung.addActionListener(e -> JOptionPane.showMessageDialog(this, "Form Tabung"));

        // Pengaturan jendela

        setSize(400, 300);

        setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

        setLocationRelativeTo(null); // Center the window

    }

    public static void main(String[] args) {

        SwingUtilities.invokeLater(() -> {

            MenuAplikasi frame = new MenuAplikasi();

            frame.setVisible(true);

        });

    }

}

**Penjelasan Singkat**

Membuat Menu: Program ini menggunakan JMenuBar untuk membuat menu bar dengan dua menu utama: "Bangun Datar" dan "Bangun Ruang".

Sub Menu dan Shortcut: Setiap submenu (misalnya, Segitiga, Persegi, Lingkaran, Kubus, Balok, Tabung) ditambahkan ke menu utama dan diberikan shortcut menggunakan setMnemonic.

ActionListener: Setiap submenu memiliki ActionListener yang akan menampilkan dialog (menggunakan JOptionPane) saat submenu diklik atau shortcut ditekan. Dialog tersebut berfungsi sebagai form sederhana yang sesuai dengan submenu yang dipilih.

Pengaturan Jendela: Ukuran jendela ditentukan dengan setSize, dan jendela ditampilkan di tengah layar dengan setLocationRelativeTo(null).

Program ini dapat dijalankan di IDE Java seperti NetBeans atau IntelliJ IDEA untuk melihat hasil dan mengambil screenshot sesuai instruksi.