

# **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.

2. 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.

3. Tuliskan contoh program sederhana untuk Swing control!

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

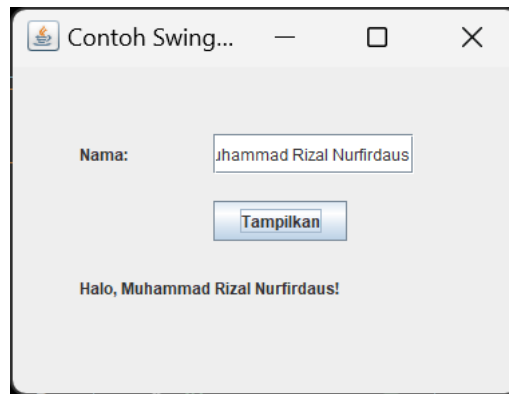
// Membuat Button
JButton button = new JButton("Tampilkan"); // Tombol untuk
menampilkan nama
button.setBounds(150, 100, 100, 30); // Posisi dan ukuran tombol
frame.add(button);

// 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
/*
 * Click
nbfs://nbhost/SystemFileSystem/Templates/Events/ActionListener.java to edit
this template
 */
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

1.

```
import javax.swing.JOptionPane;

/*
 * 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 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()
        .addGap(60, 60, 60)
        .addComponent(jLabel2,
            javax.swing.GroupLayout.PREFERRED_SIZE, 177,
            javax.swing.GroupLayout.PREFERRED_SIZE)
        .addContainerGap(189, false))
    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGap(60, 60, 60)
            .addComponent(jLabel4)
            .addPreferredGap(LayoutStyle.ComponentPlacement.RELATED)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jLabel3)
                .addGap(64, 64, 64))
            .addContainerGap(189, false))
        .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.T
RAILING)
        .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.L
EADING)
        .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.B
ASELINE)
        .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.B
ASELINE)
        .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(j  
ava.util.logging.Level.SEVERE, null, ex);  
    } catch (InstantiationException ex) {
```

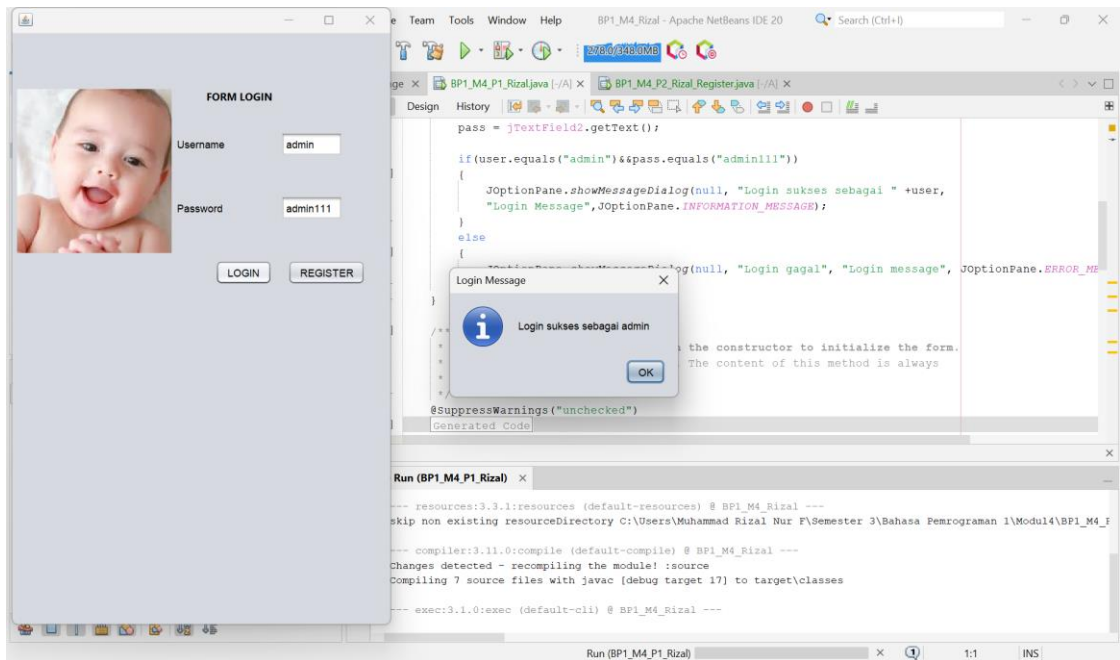
```
java.util.logging.Logger.getLogger(BP1_M4_P1_Rizal.class.getName()).log(j  
ava.util.logging.Level.SEVERE, null, ex);  
    } catch (IllegalAccessException ex) {
```

```
java.util.logging.Logger.getLogger(BP1_M4_P1_Rizal.class.getName()).log(j  
ava.util.logging.Level.SEVERE, null, ex);  
    } catch (javax.swing.UnsupportedLookAndFeelException ex) {
```

```
java.util.logging.Logger.getLogger(BP1_M4_P1_Rizal.class.getName()).log(j  
ava.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.

```
2.
/*
 * 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 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();
    radioButton1 = new javax.swing.JRadioButton();
    radioButton2 = new javax.swing.JRadioButton();
    comboBox1 = new javax.swing.JComboBox<>();
    jLabel5 = new javax.swing.JLabel();
    checkBox1 = new javax.swing.JCheckBox();
    checkBox2 = new javax.swing.JCheckBox();
    checkBox3 = new javax.swing.JCheckBox();
    checkBox4 = 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");

    radioButton1.setText("Laki-laki");

    radioButton2.setText("Perempuan");

    comboBox1.setModel(new
javax.swing.DefaultComboBoxModel<>(new String[] { "Teknik Informatika",
```

```

"Sistem Informasi", "Desain Komunikasi Visual", "Manajemen 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("DANGERIN 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.setViewportViewView(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()
                .addGap(67, 67, 67)
                .addComponent(jLabel2)
                .addComponent(jLabel3)
                .addComponent(jLabel4)
                .addComponent(jLabel5)
                .addComponent(jLabel6)
                .addComponent(jLabel7)))
            .addGroup(layout.createSequentialGroup()
                .addGap(159, 159, 159)
                .addComponent(jTextField2)
                .addComponent(jTextField1)))
        .addContainerGap())
    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addComponent(jRadioButton1)
        .addComponent(jCheckBox1,
            javax.swing.GroupLayout.PREFERRED_SIZE, 85,
            javax.swing.GroupLayout.PREFERRED_SIZE))
        .addGroup(layout.createSequentialGroup()
            .addGap(108, 108, 108)
            .addComponent(jRadioButton2)
            .addGap(45, 45, 45)))
        .addContainerGap())

```

```

        .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  
}
```

**FORM REGISTER**

NIM: 20230810088

NAMA: Muhammad Rizal Nurfirdaus

JENIS KELAMIN: ☒ Laki-laki ☐ Perempuan

PRODI: Teknik Informatika

HOBI: ☐ NONTON ☐ Dengerin Musik  
☒ Olahraga ☒ Traveling

ALAMAT: Desa Sidaraja, Kecamatan Ciawigebang

**REGISTER**

**DATA REGISTER**

1. NIM : 20230810088
2. NAMA : Muhammad Rizal Nurfirdaus
3. Jenis Kelamin : Laki-laki
4. Prodi : Teknik Informatika
5. Hobi : OLAHRAGA, TRAVELING,
6. Alamat : Desa Sidaraja, Kecamatan Ciawigebang, Kabupaten

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;
```

```
/*
```

```
 * 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 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()

        .addGap(177, 177, 177)

        .addComponent(jLabel2,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)

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

            .addGroup(layout.createSequentialGroup()

                .addGap(177, 177, 177)

                .addComponent(jLabel4)

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

```

```

        .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.Alignme
nt.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.Alignme
nt.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.Alignme
nt.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()).l
        og(java.util.logging.Level.SEVERE, null, ex);

    } catch (InstantiationException ex) {

        java.util.logging.Logger.getLogger(BP1_M4_P1_Rizal.class.getName()).l
        og(java.util.logging.Level.SEVERE, null, ex);

    } catch (IllegalAccessException ex) {

        java.util.logging.Logger.getLogger(BP1_M4_P1_Rizal.class.getName()).l
        og(java.util.logging.Level.SEVERE, null, ex);

    } catch (javax.swing.UnsupportedLookAndFeelException ex) {

        java.util.logging.Logger.getLogger(BP1_M4_P1_Rizal.class.getName()).l
        og(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;

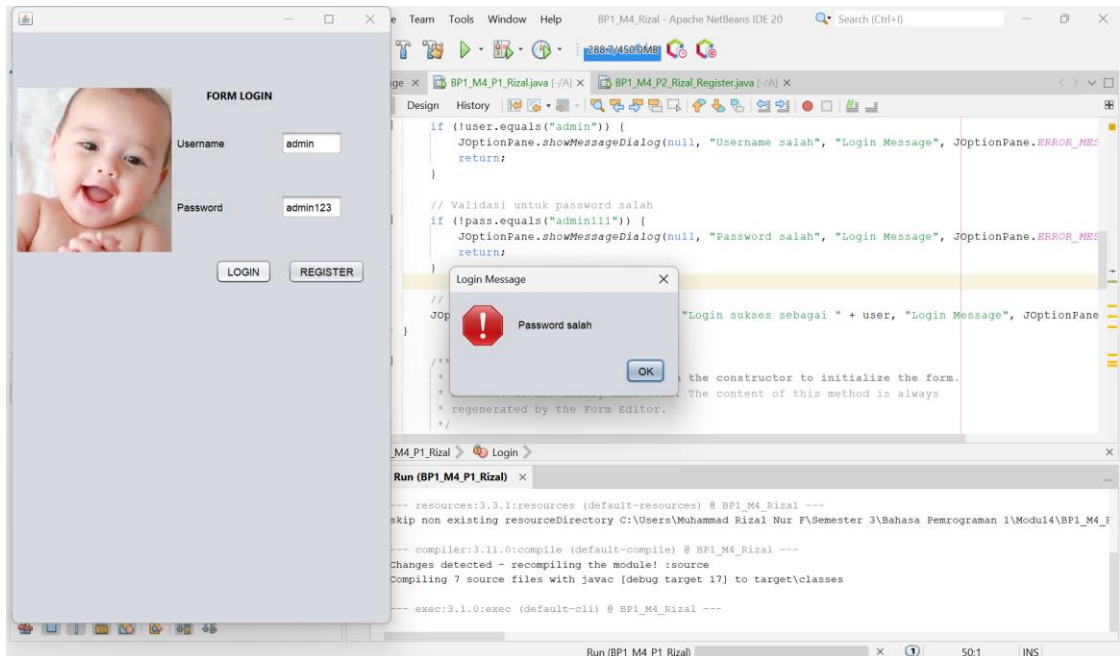
private javax.swing.JLabel jLabel4;

private javax.swing.JTextField jTextField1;

private javax.swing.JTextField jTextField2;

// End of variables declaration
}

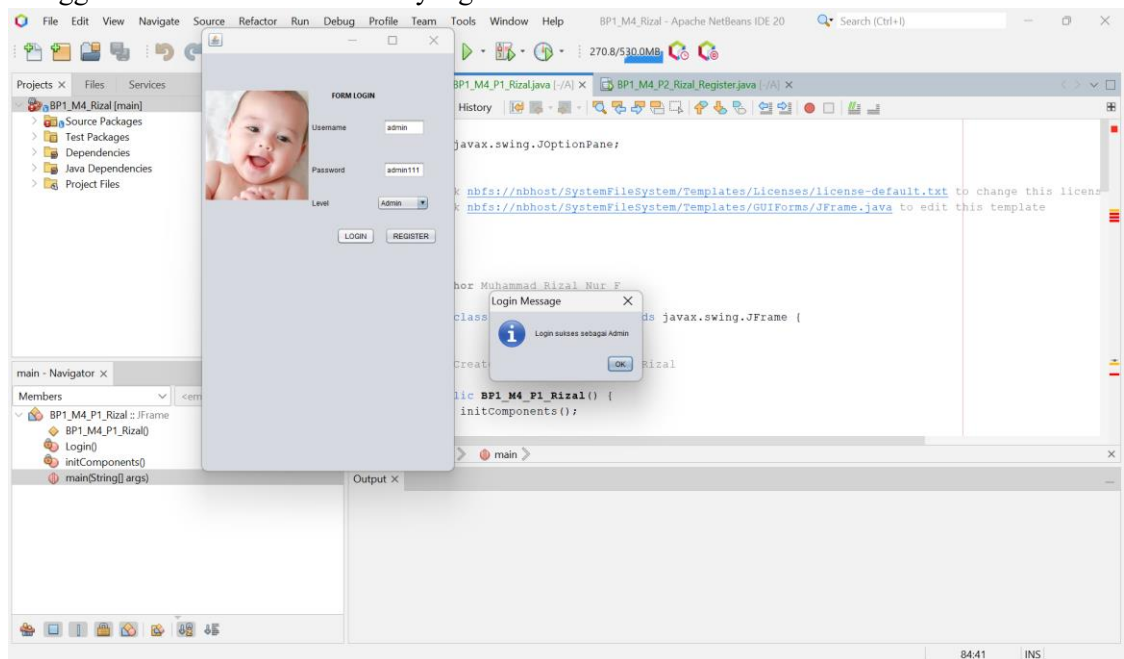
```



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".
2. 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.
2. **Validasi Input:**
  - Jika username, password, atau level kosong atau tidak dipilih dengan benar, aplikasi akan menampilkan pesan kesalahan yang relevan.
3. **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".
4. **Pesan Informasi:**
  - Menggunakan JOptionPane untuk menampilkan dialog pesan yang sesuai (sukses/gagal).

3. 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.

/\*

\* 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 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("");

}

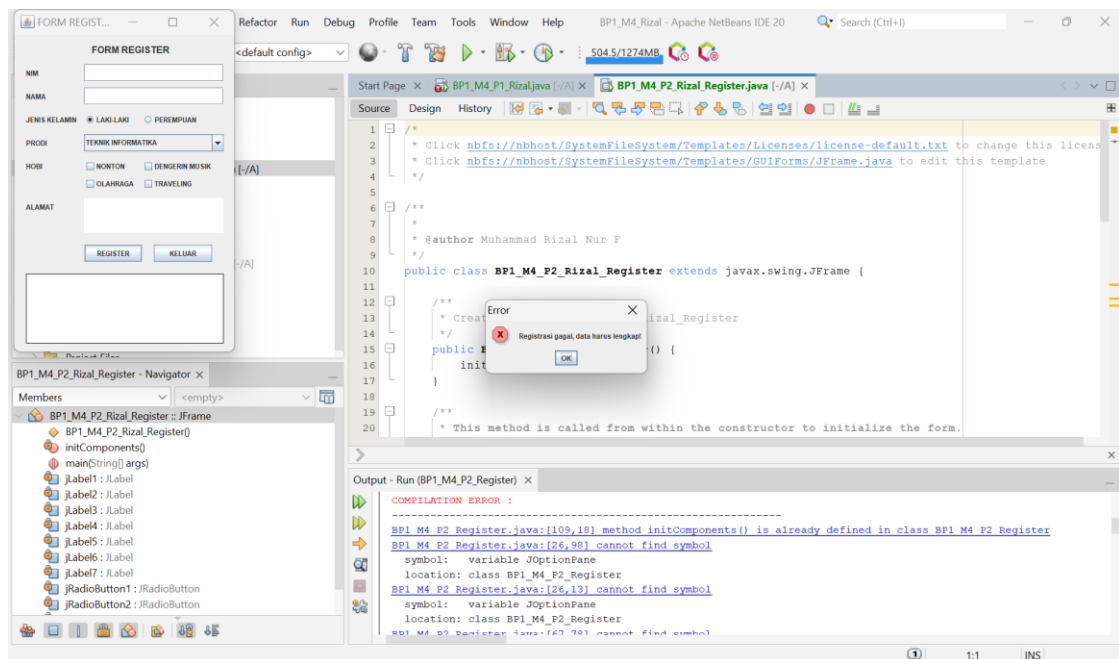
public static void main(String[] args) {

    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.

/\*

\* Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license

\* Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this template

\*/



```

import javax.swing.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.BAS
ELINE)

        .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.BAS
ELINE)

        .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.BAS
ELINE)

        .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
```

```
}
```



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

```
import javax.swing.*;  
import java.awt.*;  
import java.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();

}

}

```



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

```
import javax.swing.*;  
import java.awt.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);

}

}

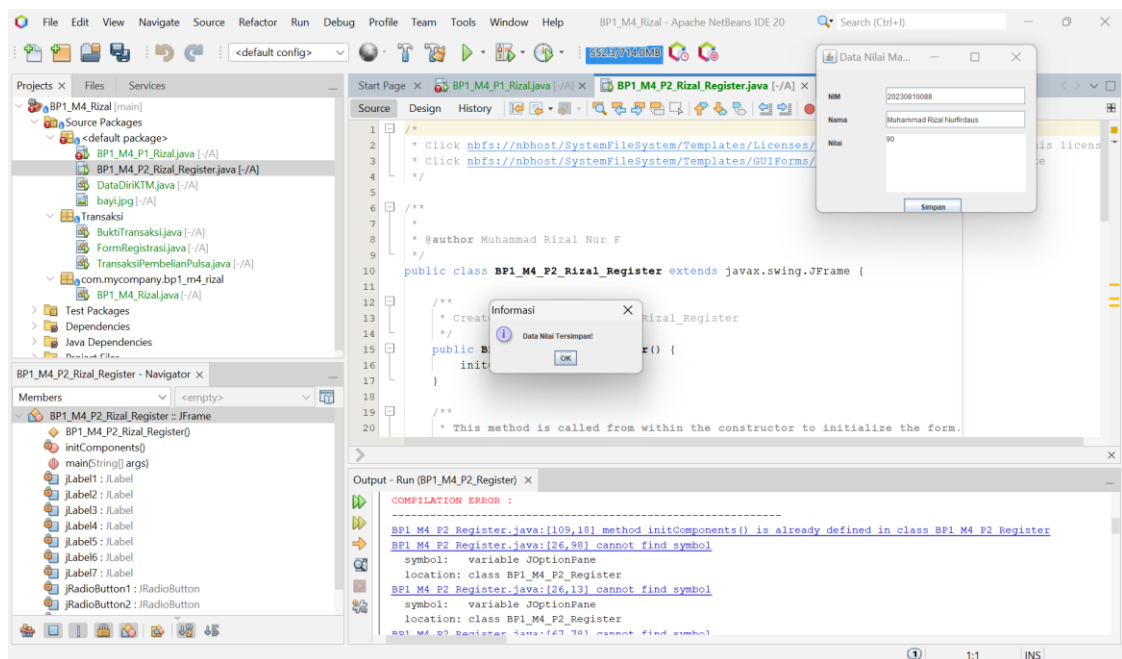
```

**FORM REGISTER**

NIM: 20230810088  
 NAMA: Muhammad Rizal Nurfaus  
 JENIS KELAMIN: ☒ Laki-laki ☐ Perempuan  
 PRODI: Teknik Informatika  
 HOB: ☐ Nonton ☐ Dedeserpin...  
☒ Olahraga  
 ALAMAT: Desa Sidaraja  
 KELAS: TINF-2023-04  
 ANGKATAN: 2023  
 DPA: Dede Husen M Kom  
 SEMESTER: 3

Registrasi berhasil

NIM: 20230810088  
 Nama: Muhammad Rizal Nurfaus  
 Jenis Kelamin: Laki-laki  
 Prodi: Teknik Informatika  
 Hobi: Dedeserpin...  
 Alamat: Desa Sidaraja  
 Kelas: TINF-2023-04  
 Angkatan: 2023  
 DPA: Dede Husen M Kom



## 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

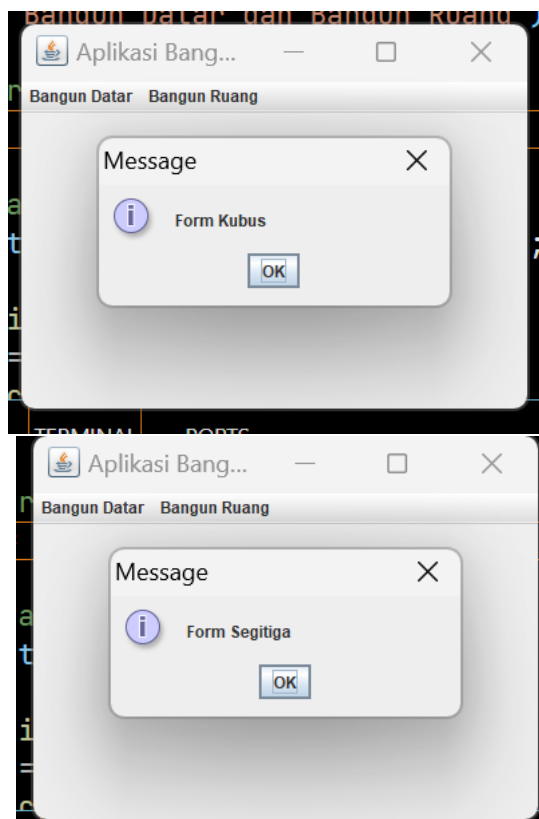
Kubus (Alt+k)

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 screenshot 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.