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NIM   : A11.2022.14668

Kelompok   : A11.4415

PRAKTIKUM 9

Exception

OverdraftException.java

```java
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-
default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit
this template
 */
package com.restu;

/**
 *
 * @author Restu
 */
public class OverdraftException extends Exception {

    private final double deficit;

    public OverdraftException(String msg, double deficit) {
        super(msg);
        this.deficit = deficit;
    }

    public double getDeficit() {
        return deficit;
    }
}
```

Account.java

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

```java
 */
package com.restu;

/**
 *
 * @author Restu
 */
public class Account {

    protected double balance;

    protected Account(double initBalance) {
        balance = initBalance;
    }

    public double getBalance() {
        return balance;
    }

    public void deposit(double amt) {
        balance = balance + amt;
    }

    public void withdraw(double amt) throws OverdraftException {
        if (amt <= balance) {
            balance = balance - amt;
        } else {

            throw new OverdraftException("Dana Anda tidak cukup", amt
                    - balance);

        }
    }
}
```

tesBank.java

```java
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-
default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit
this template
 */
package com.restu;

/**
 *
 * @author Restu
 */
```
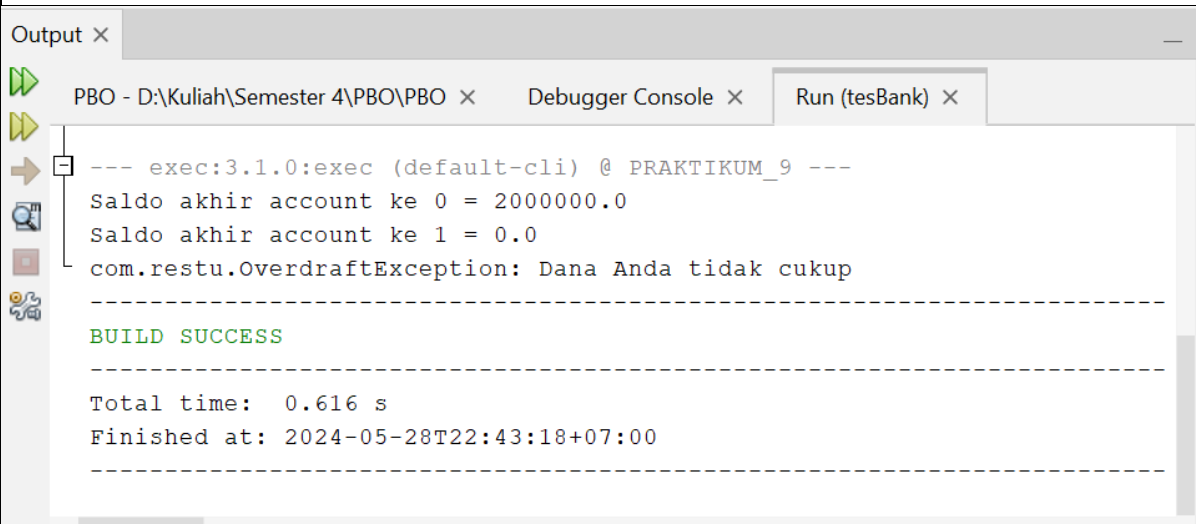
```java
public class tesBank {

    public static void main(String[] args) {
        int i;
        Account[] accounts = new Account[100];
        accounts[0] = new Account(2000000);
        accounts[1] = new Account(0);
        for (i = 0; i < 2; i++) {
            double b = accounts[i].getBalance();
            System.out.println("Saldo akhir account ke " + i + " = " + b);
            try {
                accounts[i].withdraw(1000000);
            } catch (OverdraftException ode) {
                System.err.println("" + ode);
            }         }
    }
}
```

Output

Output ×

PBO - D:\Kuliah\Semester 4\PBO\PBO ×   Debugger Console ×   Run (tesBank) ×

```
--- exec:3.1.0:exec (default-cli) @ PRAKTIKUM_9 ---
Saldo akhir account ke 0 = 2000000.0
Saldo akhir account ke 1 = 0.0
com.restu.OverdraftException: Dana Anda tidak cukup
------------------------------------------------------------------------
BUILD SUCCESS
------------------------------------------------------------------------
Total time:  0.616 s
Finished at: 2024-05-28T22:43:18+07:00
------------------------------------------------------------------------
```

Latihan 1 (Program Kalkulator)

Kalkulator.java

```java
/*
 * 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
 */
package com.restu;

/**
 *
 * @author Restu
 */
public class Kalkulator extends javax.swing.JFrame {

    /**
     * Creates new form Kalkulator
     */
    public Kalkulator() {
        initComponents();
    }

    /**
     * This method is called from within the constructor to initialize the
form.
     * WARNING: Do NOT modify this code. The content of this method is
always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">//GEN-
BEGIN:initComponents
    private void initComponents() {

        JOptionPane = new javax.swing.JOptionPane();
        judul = new javax.swing.JLabel();
        nilai1 = new javax.swing.JLabel();
        txtNilai1 = new javax.swing.JTextField();
        txtNilai2 = new javax.swing.JTextField();
        nilai2 = new javax.swing.JLabel();
        btnTambah = new javax.swing.JButton();
        btnKali = new javax.swing.JButton();
        hasil = new javax.swing.JLabel();
        txtHasil = new javax.swing.JTextField();
        btnBagi = new javax.swing.JButton();
        btnPangkat = new javax.swing.JButton();
```

```java
        btnKurang = new javax.swing.JButton();
        btnAkar = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        judul.setFont(new java.awt.Font("Segoe UI", 1, 24)); // NOI18N
        judul.setText("Kalkulator");
        judul.setToolTipText("");

        nilai1.setFont(new java.awt.Font("Segoe UI", 1, 12)); // NOI18N
        nilai1.setText("Nilai Pertama");

        txtNilai1.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                txtNilai1ActionPerformed(evt);
            }
        });

        txtNilai2.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                txtNilai2ActionPerformed(evt);
            }
        });

        nilai2.setFont(new java.awt.Font("Segoe UI", 1, 12)); // NOI18N
        nilai2.setText("NIlai Kedua");

        btnTambah.setText("Tambah");
        btnTambah.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnTambahActionPerformed(evt);
            }
        });

        btnKali.setText("Kali");
        btnKali.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnKaliActionPerformed(evt);
            }
        });

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

        txtHasil.setEditable(false);
        txtHasil.setBackground(new java.awt.Color(204, 255, 255));
        txtHasil.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```java
                txtHasilActionPerformed(evt);
            }
        });

        btnBagi.setText("Bagi");
        btnBagi.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnBagiActionPerformed(evt);
            }
        });

        btnPangkat.setText("Pangkat");
        btnPangkat.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnPangkatActionPerformed(evt);
            }
        });

        btnKurang.setText("Kurang");
        btnKurang.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnKurangActionPerformed(evt);
            }
        });

        btnAkar.setText("Akar");
        btnAkar.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnAkarActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(34, 34, 34)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(btnKurang)
                        .addGap(48, 48, 48)
                        .addComponent(btnPangkat))
                    .addGroup(layout.createSequentialGroup()
```

```java
                            .addGroup(layout.createParallelGroup(javax.swing.Gro
upLayout.Alignment.LEADING, false)
                                .addGroup(layout.createSequentialGroup()
                                    .addComponent(nilai2)
                                    .addGap(28, 28, 28)
                                    .addComponent(txtNilai2))
                                .addGroup(layout.createSequentialGroup()
                                    .addComponent(nilai1)
                                    .addGap(18, 18, 18)
                                    .addGroup(layout.createParallelGroup(javax.s
wing.GroupLayout.Alignment.LEADING)
                                        .addComponent(judul)
                                        .addComponent(txtNilai1,
javax.swing.GroupLayout.PREFERRED_SIZE, 123,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                                .addGroup(layout.createSequentialGroup()
                                    .addComponent(hasil)
                                    .addPreferredGap(javax.swing.LayoutStyle.Com
ponentPlacement.RELATED, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                                    .addComponent(txtHasil,
javax.swing.GroupLayout.PREFERRED_SIZE, 124,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                            .addGap(18, 18, 18)
                            .addGroup(layout.createParallelGroup(javax.swing.Gro
upLayout.Alignment.LEADING)
                                .addComponent(btnTambah)
                                .addComponent(btnKali)
                                .addComponent(btnBagi)))
                        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                            .addComponent(btnAkar)
                            .addGap(1, 1, 1)))
                    .addContainerGap(37, Short.MAX_VALUE))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING)
            .addGroup(layout.createSequentialGroup()
                .addGap(22, 22, 22)
                .addComponent(judul)
                .addGap(44, 44, 44)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout
.Alignment.BASELINE)
                    .addComponent(nilai1)
                    .addComponent(txtNilai1,
javax.swing.GroupLayout.PREFERRED_SIZE,
```

```java
            javax.swing.GroupLayout.DEFAULT_SIZE,
            javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(btnTambah))
                    .addGap(18, 18, 18)
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout
.Alignment.BASELINE)
                        .addComponent(nilai2)
                        .addComponent(txtNilai2,
            javax.swing.GroupLayout.PREFERRED_SIZE,
            javax.swing.GroupLayout.DEFAULT_SIZE,
            javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(btnKali))
                    .addGap(18, 18, 18)
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout
.Alignment.BASELINE)
                        .addComponent(txtHasil,
            javax.swing.GroupLayout.PREFERRED_SIZE,
            javax.swing.GroupLayout.DEFAULT_SIZE,
            javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(hasil)
                        .addComponent(btnBagi))
                    .addGap(18, 18, 18)
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout
.Alignment.BASELINE)
                        .addComponent(btnPangkat)
                        .addComponent(btnKurang)
                        .addComponent(btnAkar))
                    .addContainerGap(32, Short.MAX_VALUE))
        );

        pack();
    }// </editor-fold>//GEN-END:initComponents

    private void btnTambahActionPerformed(java.awt.event.ActionEvent evt)
{//GEN-FIRST:event_btnTambahActionPerformed
        // TODO add your handling code here:
        try {
            int n1 = Integer.parseInt(txtNilai1.getText());
            int n2 = Integer.parseInt(txtNilai2.getText());
            int hasil = n1 + n2;
            txtHasil.setText(Integer.toString(hasil));
        } catch (NumberFormatException e) {
            JOptionPane.showMessageDialog(null, "Data Masih Kosong");
        }
    }//GEN-LAST:event_btnTambahActionPerformed

    private void btnKaliActionPerformed(java.awt.event.ActionEvent evt)
{//GEN-FIRST:event_btnKaliActionPerformed
```

```java
        // TODO add your handling code here:
        try {
            int n1 = Integer.parseInt(txtNilai1.getText());
            int n2 = Integer.parseInt(txtNilai2.getText());
            int hasil = n1 * n2;
            txtHasil.setText(Integer.toString(hasil));
        } catch (NumberFormatException e) {
            JOptionPane.showInternalMessageDialog(null, "Data Masih
Kosong");
        }
    }//GEN-LAST:event_btnKaliActionPerformed

    private void txtHasilActionPerformed(java.awt.event.ActionEvent evt)
{//GEN-FIRST:event_txtHasilActionPerformed
        // TODO add your handling code here:
    }//GEN-LAST:event_txtHasilActionPerformed

    private void txtNilai1ActionPerformed(java.awt.event.ActionEvent evt)
{//GEN-FIRST:event_txtNilai1ActionPerformed
        // TODO add your handling code here:
    }//GEN-LAST:event_txtNilai1ActionPerformed

    private void txtNilai2ActionPerformed(java.awt.event.ActionEvent evt)
{//GEN-FIRST:event_txtNilai2ActionPerformed
        // TODO add your handling code here:
    }//GEN-LAST:event_txtNilai2ActionPerformed

    private void btnBagiActionPerformed(java.awt.event.ActionEvent evt)
{//GEN-FIRST:event_btnBagiActionPerformed
        // TODO add your handling code here:
        try {
            int n1 = Integer.parseInt(txtNilai1.getText());
            int n2 = Integer.parseInt(txtNilai2.getText());
            if (n2 == 0) {
                JOptionPane.showMessageDialog(null, "Pembagi tidak boleh
nol");
            } else {
                int hasil = n1 / n2;
                txtHasil.setText(Integer.toString(hasil));
            }
        } catch (NumberFormatException e) {
            JOptionPane.showMessageDialog(null, "Data Masih Kosong atau
Tidak Valid");
        }
    }//GEN-LAST:event_btnBagiActionPerformed

    private void btnPangkatActionPerformed(java.awt.event.ActionEvent evt)
{//GEN-FIRST:event_btnPangkatActionPerformed
```

```java
            // TODO add your handling code here:
            try {
                int n1 = Integer.parseInt(txtNilai1.getText());
                int n2 = Integer.parseInt(txtNilai2.getText());
                int hasil = (int) Math.pow(n1, n2);
                txtHasil.setText(Integer.toString(hasil));
            } catch (NumberFormatException e) {
                JOptionPane.showMessageDialog(null, "Data Masih Kosong atau
Tidak Valid");
            }
    }//GEN-LAST:event_btnPangkatActionPerformed

    private void btnKurangActionPerformed(java.awt.event.ActionEvent evt)
{//GEN-FIRST:event_btnKurangActionPerformed
            // TODO add your handling code here:
            try {
                int n1 = Integer.parseInt(txtNilai1.getText());
                int n2 = Integer.parseInt(txtNilai2.getText());
                int hasil = n1 - n2;
                txtHasil.setText(Integer.toString(hasil));
            } catch (NumberFormatException e) {
                JOptionPane.showMessageDialog(null, "Data Masih Kosong atau
Tidak Valid");
            }
    }//GEN-LAST:event_btnKurangActionPerformed

    private void btnAkarActionPerformed(java.awt.event.ActionEvent evt)
{//GEN-FIRST:event_btnAkarActionPerformed
            // TODO add your handling code here:
            try {
                int n1 = Integer.parseInt(txtNilai1.getText());
                double hasil = Math.sqrt(n1);
                txtHasil.setText(Double.toString(hasil));
            } catch (NumberFormatException e) {
                JOptionPane.showMessageDialog(null, "Data Masih Kosong atau
Tidak Valid");
            }
    }//GEN-LAST:event_btnAkarActionPerformed

    /**
     * @param args the command line arguments
     */
    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())) {
```

```java
                    javax.swing.UIManager.setLookAndFeel(info.getClassName()
);
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {
            java.util.logging.Logger.getLogger(Kalkulator.class.getName()).l
og(java.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {
            java.util.logging.Logger.getLogger(Kalkulator.class.getName()).l
og(java.util.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
            java.util.logging.Logger.getLogger(Kalkulator.class.getName()).l
og(java.util.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
            java.util.logging.Logger.getLogger(Kalkulator.class.getName()).l
og(java.util.logging.Level.SEVERE, null, ex);
        }//<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(Kalkulator.class.getName()).l
og(java.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {
            java.util.logging.Logger.getLogger(Kalkulator.class.getName()).l
og(java.util.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
            java.util.logging.Logger.getLogger(Kalkulator.class.getName()).l
og(java.util.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
            java.util.logging.Logger.getLogger(Kalkulator.class.getName()).l
og(java.util.logging.Level.SEVERE, null, ex);
        }
        //</editor-fold>
```

```java
        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new Kalkulator().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify//GEN-BEGIN:variables
    private javax.swing.JOptionPane JOptionPane;
    private javax.swing.JButton btnAkar;
    private javax.swing.JButton btnBagi;
    private javax.swing.JButton btnKali;
    private javax.swing.JButton btnKurang;
    private javax.swing.JButton btnPangkat;
    private javax.swing.JButton btnTambah;
    private javax.swing.JLabel hasil;
    private javax.swing.JLabel judul;
    private javax.swing.JLabel nilai1;
    private javax.swing.JLabel nilai2;
    private javax.swing.JTextField txtHasil;
    private javax.swing.JTextField txtNilai1;
    private javax.swing.JTextField txtNilai2;
    // End of variables declaration//GEN-END:variables
}
```
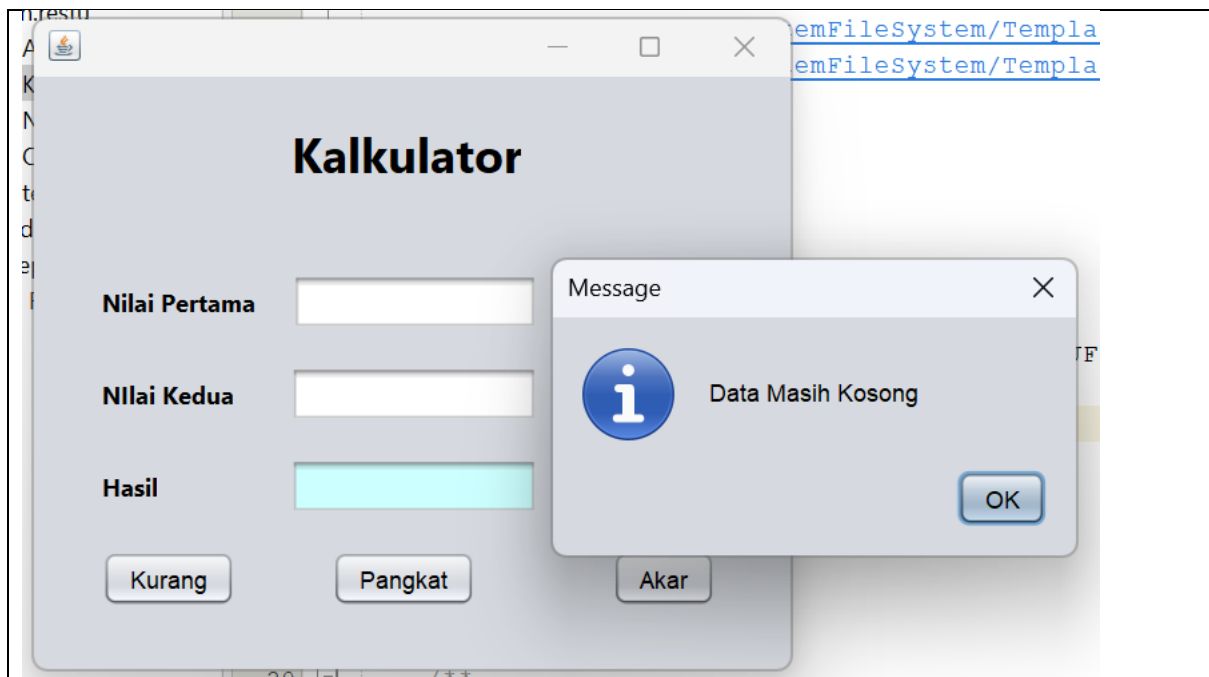
Output

Latihan 2 (Program frmNilai)

frmNilai.java
| ```java
package com.restu;
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 Restu
 */
public class Nilai extends javax.swing.JFrame {

    /**
     * Creates new form Nilai
     */
    public Nilai() {
        initComponents();
    }

    /**
``` |

```java
     * 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">//GEN-
BEGIN:initComponents
    private void initComponents() {

        jLabel1 = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        jLabel4 = new javax.swing.JLabel();
        jLabel5 = new javax.swing.JLabel();
        jLabel6 = new javax.swing.JLabel();
        jLabel7 = new javax.swing.JLabel();
        jLabel8 = new javax.swing.JLabel();
        textNim = new javax.swing.JTextField();
        textNama = new javax.swing.JTextField();
        textTugas = new javax.swing.JTextField();
        textUts = new javax.swing.JTextField();
        textUas = new javax.swing.JTextField();
        na = new javax.swing.JTextField();
        nHuruf = new javax.swing.JTextField();
        predikat = new javax.swing.JTextField();
        jLabel9 = new javax.swing.JLabel();
        jLabel10 = new javax.swing.JLabel();
        jLabel11 = new javax.swing.JLabel();
        naTugas = new javax.swing.JTextField();
        naUts = new javax.swing.JTextField();
        naUas = new javax.swing.JTextField();
        btnHitung = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        setTitle("Kalkulator Nilai");

        jLabel1.setText("NIM");

        jLabel2.setText("Nama");

        jLabel3.setText("N. Tugas");

        jLabel4.setText("N. UTS");

        jLabel5.setText("N. UAS");
```

```java
        jLabel6.setText("N. Akhir");

        jLabel7.setText("N. Huruf");

        jLabel8.setText("Predikat");

        textNim.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                textNimActionPerformed(evt);
            }
        });

        textTugas.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                textTugasActionPerformed(evt);
            }
        });

        textUas.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                textUasActionPerformed(evt);
            }
        });

        na.setEditable(false);
        na.setBackground(new java.awt.Color(204, 255, 255));

        nHuruf.setEditable(false);
        nHuruf.setBackground(new java.awt.Color(204, 255, 255));

        predikat.setEditable(false);
        predikat.setBackground(new java.awt.Color(204, 255, 255));

        jLabel9.setText("35%");

        jLabel10.setText("45%");

        jLabel11.setText("20%");

        naTugas.setEditable(false);
        naTugas.setBackground(new java.awt.Color(204, 255, 255));
        naTugas.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                naTugasActionPerformed(evt);
            }
        });

        naUts.setEditable(false);
```

```java
        naUts.setBackground(new java.awt.Color(204, 255, 255));

        naUas.setEditable(false);
        naUas.setBackground(new java.awt.Color(204, 255, 255));

        btnHitung.setText("Hitung");
        btnHitung.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                btnHitungActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING)
            .addGroup(layout.createSequentialGroup()
                .addGap(42, 42, 42)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout
.Alignment.LEADING, false)
                    .addComponent(jLabel1,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                    .addComponent(jLabel2,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                    .addComponent(jLabel3,
javax.swing.GroupLayout.DEFAULT_SIZE, 60, Short.MAX_VALUE)
                    .addComponent(jLabel4,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                    .addComponent(jLabel5,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                    .addComponent(jLabel6,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                    .addComponent(jLabel7,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                    .addComponent(jLabel8,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.
RELATED)
```

```java
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout
.Alignment.LEADING, false)
                            .addComponent(na,
javax.swing.GroupLayout.PREFERRED_SIZE, 71,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(nHuruf,
javax.swing.GroupLayout.PREFERRED_SIZE, 71,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addGroup(layout.createSequentialGroup()
                                .addComponent(predikat,
javax.swing.GroupLayout.PREFERRED_SIZE, 71,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                .addPreferredGap(javax.swing.LayoutStyle.ComponentPl
acement.RELATED, javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                                .addComponent(btnHitung))
                            .addGroup(layout.createSequentialGroup()
                                .addGroup(layout.createParallelGroup(javax.swing.Gro
upLayout.Alignment.LEADING)
                                    .addComponent(textUts,
javax.swing.GroupLayout.PREFERRED_SIZE, 71,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addComponent(textUas,
javax.swing.GroupLayout.PREFERRED_SIZE, 71,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                    .addComponent(textTugas,
javax.swing.GroupLayout.PREFERRED_SIZE, 71,
javax.swing.GroupLayout.PREFERRED_SIZE))
                                .addGap(28, 28, 28)
                                .addGroup(layout.createParallelGroup(javax.swing.Gro
upLayout.Alignment.LEADING, false)
                                    .addGroup(layout.createSequentialGroup()
                                        .addComponent(jLabel11,
javax.swing.GroupLayout.PREFERRED_SIZE, 43,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addPreferredGap(javax.swing.LayoutStyle.Com
ponentPlacement.RELATED)
                                        .addComponent(naTugas))
                                    .addGroup(layout.createSequentialGroup()
                                        .addComponent(jLabel10,
javax.swing.GroupLayout.PREFERRED_SIZE, 43,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addPreferredGap(javax.swing.LayoutStyle.Com
ponentPlacement.RELATED)
                                        .addComponent(naUas,
javax.swing.GroupLayout.PREFERRED_SIZE, 77,
javax.swing.GroupLayout.PREFERRED_SIZE))
                                    .addGroup(layout.createSequentialGroup()
```

```java
                                            .addComponent(jLabel9,
javax.swing.GroupLayout.PREFERRED_SIZE, 37,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                        .addPreferredGap(javax.swing.LayoutStyle.Com
ponentPlacement.UNRELATED)
                                        .addComponent(naUts,
javax.swing.GroupLayout.PREFERRED_SIZE, 77,
javax.swing.GroupLayout.PREFERRED_SIZE))))
                        .addComponent(textNim)
                        .addComponent(textNama))
                .addContainerGap(67, Short.MAX_VALUE))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING)
            .addGroup(layout.createSequentialGroup()
                .addGap(22, 22, 22)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout
.Alignment.BASELINE)
                    .addComponent(jLabel1)
                    .addComponent(textNim,
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(textNama,
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(textTugas,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel11)
                    .addComponent(naTugas,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
```

```java
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                            .addComponent(jLabel4)
                            .addComponent(textUts, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(jLabel9)
                            .addComponent(naUts, 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(jLabel5)
                            .addComponent(textUas, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(jLabel10)
                            .addComponent(naUas, 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(jLabel6)
                            .addComponent(na, 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(jLabel7)
                            .addComponent(nHuruf, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
```

```java
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout
.Alignment.BASELINE)
                        .addComponent(jLabel8)
                        .addComponent(predikat,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addComponent(btnHitung))
                    .addContainerGap(59, Short.MAX_VALUE))
        );

        pack();
    }// </editor-fold>//GEN-END:initComponents

    private void textNimActionPerformed(java.awt.event.ActionEvent evt)
{//GEN-FIRST:event_textNimActionPerformed
        // TODO add your handling code here:
    }//GEN-LAST:event_textNimActionPerformed

    private void textTugasActionPerformed(java.awt.event.ActionEvent evt)
{//GEN-FIRST:event_textTugasActionPerformed
        // TODO add your handling code here:
    }//GEN-LAST:event_textTugasActionPerformed

    private void textUasActionPerformed(java.awt.event.ActionEvent evt)
{//GEN-FIRST:event_textUasActionPerformed
        // TODO add your handling code here:
    }//GEN-LAST:event_textUasActionPerformed

    private void btnHitungActionPerformed(java.awt.event.ActionEvent evt)
{//GEN-FIRST:event_btnHitungActionPerformed
        // TODO add your handling code here:
        try {
            int nt = Integer.parseInt(textTugas.getText()) * 20/100;
            naTugas.setText(Integer.toString(nt));

            int nuts = Integer.parseInt(textUts.getText()) * 35/100;
            naUts.setText(Integer.toString(nuts));

            int nuas = Integer.parseInt(textUas.getText()) * 45/100;
            naUas.setText(Integer.toString(nuas));

            int nakhir = nt+nuts+nuas;
            na.setText(Integer.toString(nakhir));

            if(nakhir>=85) {
                nHuruf.setText("A");
                predikat.setText("Apik");
```

```java
            }else if(nakhir>=70 && nakhir<85) {
                nHuruf.setText("B");
                predikat.setText("Baik");
            }else if(nakhir>=60 && nakhir<70) {
                nHuruf.setText("C");
                predikat.setText("Cukup");
            }else if(nakhir>=60 && nakhir<60) {
                nHuruf.setText("D");
                predikat.setText("Dablek");
            }else {
                nHuruf.setText("E");
                predikat.setText("Elek");
            }
        }
        catch(NumberFormatException e) {
            JOptionPane.showInternalMessageDialog(null, "Data Masih
Kosong");
        }
    }//GEN-LAST:event_btnHitungActionPerformed

    private void naTugasActionPerformed(java.awt.event.ActionEvent evt)
{//GEN-FIRST:event_naTugasActionPerformed
        // TODO add your handling code here:
    }//GEN-LAST:event_naTugasActionPerformed

    /**
     * @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
                java.util.logging.Logger.getLogger(Nilai.class.getName()).log(ja
va.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {
                java.util.logging.Logger.getLogger(Nilai.class.getName()).log(ja
va.util.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
                java.util.logging.Logger.getLogger(Nilai.class.getName()).log(ja
va.util.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
                java.util.logging.Logger.getLogger(Nilai.class.getName()).log(ja
va.util.logging.Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new Nilai().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify//GEN-BEGIN:variables
    private javax.swing.JButton btnHitung;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel10;
    private javax.swing.JLabel jLabel11;
    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.JLabel jLabel8;
    private javax.swing.JLabel jLabel9;
    private javax.swing.JTextField nHuruf;
    private javax.swing.JTextField na;
    private javax.swing.JTextField naTugas;
    private javax.swing.JTextField naUas;
    private javax.swing.JTextField naUts;
    private javax.swing.JTextField predikat;
    private javax.swing.JTextField textNama;
    private javax.swing.JTextField textNim;
    private javax.swing.JTextField textTugas;
    private javax.swing.JTextField textUas;
    private javax.swing.JTextField textUts;
    // End of variables declaration//GEN-END:variables
}
```

Output