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package com.mycompany.seggrau;

import java.lang.Math;

/**
 *
 * @author Escritor
 */
public class TelaPrincipal extends javax.swing.JFrame {

    /**
     * Cria um novo formulário TelaPrincipal
     */
    public TelaPrincipal() {
        initComponents();
    }

    @SuppressWarnings("unchecked")
    private void initComponents() {

        // declara os componentes

        jLabel1 = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        jLabel4 = new javax.swing.JLabel();
        btn_resultado = new javax.swing.JButton();
        resultado = new javax.swing.JTextField();
        num1 = new javax.swing.JTextField();
        num2 = new javax.swing.JTextField();
        num3 = new javax.swing.JTextField();

        // Configura os componentes

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
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setTitle("Equação do 2º Grau");

jLabel1.setFont(new java.awt.Font("Franklin Gothic Heavy", 1, 18)); // NOI18N
jLabel1.setText("EQUAÇÃO DO 2º GRAU");

jLabel2.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jLabel2.setText("Valor de A");

jLabel3.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jLabel3.setText("Valor de B");

jLabel4.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jLabel4.setText("Valor de C ");

btn_resultado.setText("Resultado");
btn_resultado.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        btn_resultadoActionPerformed(evt);
    }
});

resultado.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
resultado.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        resultadoActionPerformed(evt);
    }
});

// configuração de layout
javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
getContentPane().setLayout(layout);
layout.setHorizontalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(layout.createSequentialGroup()
        .addContainerGap()
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .add(jLabel1)
            .add(jLabel2)
            .add(jLabel3)
            .add(jLabel4)
            .add(btn_resultado)
            .add(resultado)
        )
        .addContainerGap(159, true)
    )
    .addGap(159, 159, 159)
);
```

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        .addComponent(btn_resultado)
        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup())
        .addContainerGap(90, Short.MAX_VALUE)
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 238,
                javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGroup(layout.createSequentialGroup())
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                        .addComponent(jLabel3, javax.swing.GroupLayout.DEFAULT_SIZE,
                            javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(jLabel4, javax.swing.GroupLayout.DEFAULT_SIZE,
                            javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                    .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 69,
                        javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(69, 69, 69)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                    .addComponent(num1)
                    .addComponent(num2)
                    .addComponent(num3, javax.swing.GroupLayout.DEFAULT_SIZE, 68, Short.MAX_VALUE))))
        .addGap(72, 72, 72))
    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup())
        .addContainerGap()
        .addComponent(resultado)
        .addGap(20, 20, 20))
);
layout.setVerticalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup())
            .addContainerGap()
            .addComponent(jLabel1)
            .addGap(18, 18, 18)
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 32,
                    javax.swing.GroupLayout.PREFERRED_SIZE)

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        .addComponent(num1, javax.swing.GroupLayout.PREFERRED_SIZE, 32,
javax.swing.GroupLayout.PREFERRED_SIZE))
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
        .addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 32,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addComponent(num2, javax.swing.GroupLayout.PREFERRED_SIZE, 32,
javax.swing.GroupLayout.PREFERRED_SIZE))
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
        .addComponent(jLabel4, javax.swing.GroupLayout.DEFAULT_SIZE, 32, Short.MAX_VALUE)
        .addComponent(num3))
        .addGap(18, 18, 18)
        .addComponent(btn_resultado)
        .addGap(18, 18, 18)
        .addComponent(resultado, javax.swing.GroupLayout.PREFERRED_SIZE, 44,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addContainerGap(25, Short.MAX_VALUE))
    );

    pack();
} // </editor-fold>

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private void resultadoActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
}

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private void btn_resultadoActionPerformed(java.awt.event.ActionEvent evt) {
    //Faz o cálculo e o levantamento do exceções (caso precise) quando o botão for pressionado
    try{
        float a = Float.parseFloat(num1.getText());
        float b = Float.parseFloat(num2.getText());
        float c = Float.parseFloat(num3.getText());
        float delta = (b * b) - (4*a*c);

        if(delta < 0){

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    resultado.setText("Delta é negativo, logo x não pertence aos numeros reais!");
}
else{
    float x1 = (float) ((-b + Math.sqrt(delta)) / (2*a));
    float x2 = (float) ((-b - Math.sqrt(delta)) / (2*a));

    resultado.setText("X1 = " + Float.toString(x1)+ ", " + " X2 = " + Float.toString(x2));

}
}catch (Exception e){
    resultado.setText("Por Favor Digite Valores Validos!!!");
}

}
/**
 * @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(TelaPrincipal.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    }
    catch (InstantiationException ex) {
        java.util.logging.Logger.getLogger(TelaPrincipal.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
    }
}

```

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} catch (IllegalAccessException ex) {
    java.util.logging.Logger.getLogger(TelaPrincipal.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);
} catch (javax.swing.UnsupportedLookAndFeelException ex) {
    java.util.logging.Logger.getLogger(TelaPrincipal.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 TelaPrincipal().setVisible(true);
    }
});
}
```

```
// Declaração de variáveis - não modifique
private javax.swing.JButton btn_resultado;
private javax.swing.JLabel jLabel1;
private javax.swing.JLabel jLabel2;
private javax.swing.JLabel jLabel3;
private javax.swing.JLabel jLabel4;
private javax.swing.JTextField num1;
private javax.swing.JTextField num2;
private javax.swing.JTextField num3;
private javax.swing.JTextField resultado;
// Declaração de fim de variáveis
}
```