

Desenvolvimento de Sistemas

Nome: Wallex André Adriano dos Santos

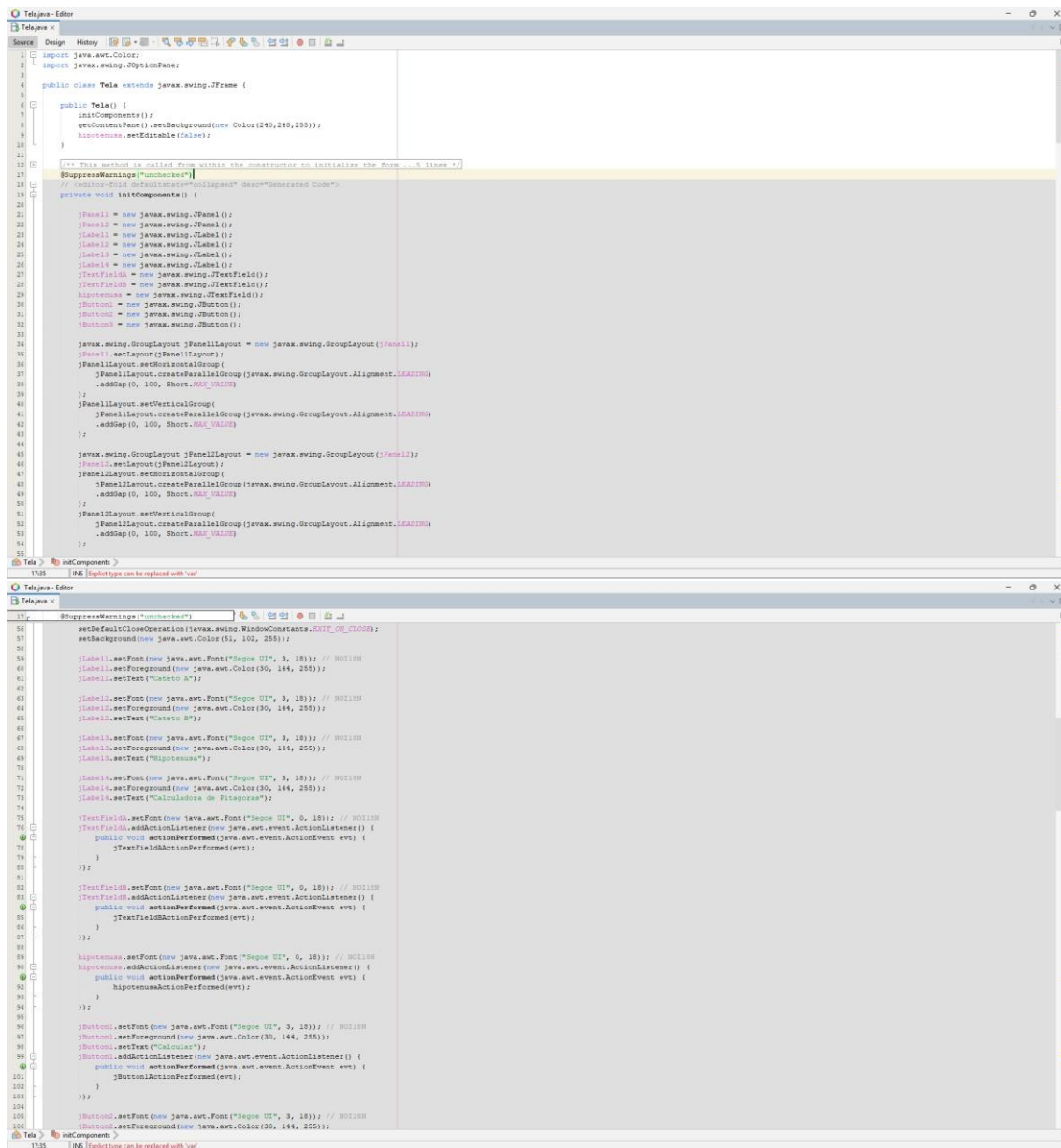
Turma: 2º DS

Período: Tarde


Códigos - GitHub

Exercícios

• Bhaskara



```
1 import java.awt.Color;
2 import javax.swing.JOptionPane;
3
4 public class Tela extends javax.swing.JFrame {
5
6     public Tela() {
7         initComponents();
8         setDefaultCloseOperation(new Color(240,240,255));
9         setDefaultCloseOperation(false);
10    }
11
12    /** This method is called from within the constructor to initialize the form ... */
13    @SuppressWarnings("unchecked")
14    //<editor-fold defaultstate="collapsed" desc="Generated Code">
15    private void initComponents() {
16
17        jPanel1 = new javax.swing.JPanel();
18        jPanel2 = new javax.swing.JPanel();
19        jLabel1 = new javax.swing.JLabel();
20        jLabel2 = new javax.swing.JLabel();
21        jLabel3 = new javax.swing.JLabel();
22        jLabel4 = new javax.swing.JLabel();
23        jTextField1 = new javax.swing.JTextField();
24        jTextField2 = new javax.swing.JTextField();
25        hipotenusa = new javax.swing.JTextField();
26        jButton1 = new javax.swing.JButton();
27        jButton2 = new javax.swing.JButton();
28
29        javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
30        jPanel1.setLayout(jPanel1Layout);
31        jPanel1Layout.setHorizontalGroup(
32            jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
33                .addGap(0, 100, Short.MAX_VALUE)
34        );
35        jPanel1Layout.setVerticalGroup(
36            jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
37                .addGap(0, 100, Short.MAX_VALUE)
38        );
39
40        javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
41        jPanel2.setLayout(jPanel2Layout);
42        jPanel2Layout.setHorizontalGroup(
43            jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
44                .addGap(0, 100, Short.MAX_VALUE)
45        );
46        jPanel2Layout.setVerticalGroup(
47            jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
48                .addGap(0, 100, Short.MAX_VALUE)
49        );
50
51    }
52
53    //<editor-fold defaultstate="collapsed" desc="Generated Code">
54    //<editor-fold defaultstate="collapsed" desc="Generated Code">
55
56    setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
57    setBackground(new java.awt.Color(240, 240, 255));
58
59    jLabel1.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
60    jLabel1.setForeground(new java.awt.Color(30, 144, 255));
61    jLabel1.setText("Cateto A");
62
63    jLabel2.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
64    jLabel2.setForeground(new java.awt.Color(30, 144, 255));
65    jLabel2.setText("Cateto B");
66
67    jLabel3.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
68    jLabel3.setForeground(new java.awt.Color(30, 144, 255));
69    jLabel3.setText("Hipotenusa");
70
71    jLabel4.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
72    jLabel4.setForeground(new java.awt.Color(30, 144, 255));
73    jLabel4.setText("Calcule o valor de Bhaskara");
74
75    jTextField1.addActionListener(new java.awt.event.ActionListener() {
76        public void actionPerformed(java.awt.event.ActionEvent evt) {
77            jTextField1ActionPerformed(evt);
78        }
79    });
80
81    jTextField2.addActionListener(new java.awt.event.ActionListener() {
82        public void actionPerformed(java.awt.event.ActionEvent evt) {
83            jTextField2ActionPerformed(evt);
84        }
85    });
86
87    hipotenusa.setFont(new java.awt.Font("Segoe UI", 0, 18)); // NOI18N
88    hipotenusa.addActionListener(new java.awt.event.ActionListener() {
89        public void actionPerformed(java.awt.event.ActionEvent evt) {
90            hipotenusaActionPerformed(evt);
91        }
92    });
93
94    jButton1.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
95    jButton1.setForeground(new java.awt.Color(30, 144, 255));
96    jButton1.setText("Calcular");
97    jButton1.addActionListener(new java.awt.event.ActionListener() {
98        public void actionPerformed(java.awt.event.ActionEvent evt) {
99            jButton1ActionPerformed(evt);
100        }
101    });
102
103    jButton2.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
104    jButton2.setForeground(new java.awt.Color(30, 144, 255));
105    jButton2.setText("Limpar");
106    jButton2.addActionListener(new java.awt.event.ActionListener() {
107        public void actionPerformed(java.awt.event.ActionEvent evt) {
108            jButton2ActionPerformed(evt);
109        }
110    });
111
112    }
```


 — □ ×

Calculadora de Bhaskara

A

B


C

X1

X2

Δ

Duas raízes reais e distintas.

 — □ ×

Calculadora de Bhaskara

A

B

C

X1

X2

Δ

- **Pitágoras**

The image displays two screenshots of the NetBeans IDE, showing the development of a Java Swing application for calculating the hypotenuse of a right triangle.

Top Screenshot: The code defines the `Tela` class, which extends `JFrame`. It includes a constructor `initComponents()` that initializes the GUI components. A warning message is visible: "WARNING: Do NOT modify this code. The content of this method is always regenerated by the Form Editor." The code sets up a `JPanel` with a `GridLayout` and adds components like `JLabel`, `JTextField`, and `JButton`.

```

1  import java.awt.Color;
2  import javax.swing.JOptionPane;
3
4  public class Tela extends javax.swing.JFrame {
5
6      public Tela() {
7          initComponents();
8          getContentPane().setBackground(new Color(240,240,255));
9          hipotenusa.setEditable(false);
10     }
11
12     /**
13      * This method is called from within the constructor to initialize the form.
14      * WARNING: Do NOT modify this code. The content of this method is always
15      * regenerated by the Form Editor.
16      */
17     @SuppressWarnings("unchecked")
18     // <editor-fold defaultstate="collapsed" desc="Generated Code">
19     private void initComponents() {
20
21         jPanel1 = new javax.swing.JPanel();
22         jPanel2 = new javax.swing.JPanel();
23         jLabel1 = new javax.swing.JLabel();
24         jLabel2 = new javax.swing.JLabel();
25         jLabel3 = new javax.swing.JLabel();
26         jLabel4 = new javax.swing.JLabel();
27         jTextField1 = new javax.swing.JTextField();
28         jTextField2 = new javax.swing.JTextField();
29         hipotenusa = new javax.swing.JTextField();
30         button1 = new javax.swing.JButton();
31         button2 = new javax.swing.JButton();
32         button3 = new javax.swing.JButton();
33
34         javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
35         jPanel1.setLayout(jPanel1Layout);
36         jPanel1Layout.setHorizontalGroup(
37             jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
38                 .addGap(0, 100, Short.MAX_VALUE)
39         );
40         jPanel1Layout.setVerticalGroup(
41             jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
42                 .addGap(0, 100, Short.MAX_VALUE)
43         );
44
45         javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
46         jPanel2.setLayout(jPanel2Layout);
47         jPanel2Layout.setHorizontalGroup(
48             jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
49                 .addGap(0, 100, Short.MAX_VALUE)
50         );
51         jPanel2Layout.setVerticalGroup(
52             jPanel2Layout.setVerticalGroup(
53
54
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```


Bottom Screenshot: The code continues with the initialization of the GUI components. It sets the default close operation to `EXIT_ON_CLOSE`, sets the background color, and sets the font and foreground color for the labels. It also sets the text for the labels and the text field. The code adds action listeners for the buttons and the text field.

```

52     jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
53         .addGap(0, 100, Short.MAX_VALUE)
54     );
55
56     setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
57     setBackground(new java.awt.Color(81, 102, 255));
58
59     jLabel1.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
60     jLabel1.setForeground(new java.awt.Color(30, 144, 255));
61     jLabel1.setText("Cateto A:");
62
63     jLabel3.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
64     jLabel3.setForeground(new java.awt.Color(30, 144, 255));
65     jLabel3.setText("Cateto B:");
66
67     jLabel5.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
68     jLabel5.setForeground(new java.awt.Color(30, 144, 255));
69     jLabel5.setText("Hipotenusa:");
70
71     jLabel4.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
72     jLabel4.setForeground(new java.awt.Color(30, 144, 255));
73     jLabel4.setText("Calculadora de Pitagoras");
74
75     jTextField1.setFont(new java.awt.Font("Segoe UI", 0, 18)); // NOI18N
76     jTextField1.addActionListener(new java.awt.event.ActionListener() {
77         public void actionPerformed(java.awt.event.ActionEvent evt) {
78             jTextField1ActionPerformed(evt);
79         }
80     });
81
82     jTextField2.setFont(new java.awt.Font("Segoe UI", 0, 18)); // NOI18N
83     jTextField2.addActionListener(new java.awt.event.ActionListener() {
84         public void actionPerformed(java.awt.event.ActionEvent evt) {
85             jTextField2ActionPerformed(evt);
86         }
87     });
88
89     hipotenusa.setFont(new java.awt.Font("Segoe UI", 0, 18)); // NOI18N
90     hipotenusa.addActionListener(new java.awt.event.ActionListener() {
91         public void actionPerformed(java.awt.event.ActionEvent evt) {
92             hipotenusaActionPerformed(evt);
93         }
94     });
95
96     button1.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
97     button1.setForeground(new java.awt.Color(30, 144, 255));
98     button1.setText("Calcular");
99     button1.addActionListener(new java.awt.event.ActionListener() {
100         public void actionPerformed(java.awt.event.ActionEvent evt) {
101             button1ActionPerformed(evt);
102         }
103     });
104
105     button2.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
106     button2.setForeground(new java.awt.Color(30, 144, 255));
107     button2.setText("Limpar");
108     button2.addActionListener(new java.awt.event.ActionListener() {
109         public void actionPerformed(java.awt.event.ActionEvent evt) {
110             button2ActionPerformed(evt);
111         }
112     });
113
114     button3.setFont(new java.awt.Font("Segoe UI", 3, 18)); // NOI18N
115     button3.setForeground(new java.awt.Color(30, 144, 255));
116     button3.setText("Sair");
117     button3.addActionListener(new java.awt.event.ActionListener() {
118         public void actionPerformed(java.awt.event.ActionEvent evt) {
119             button3ActionPerformed(evt);
120         }
121     });
122
123     javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
124     getContentPane().setLayout(layout);
125     layout.setHorizontalGroup(
126         layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
127             .addGroup(layout.createSequentialGroup()
128                 .addContainerGap()
129                 .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
130                     .addComponent(jLabel1)
131                     .addComponent(jTextField1)
132                     .addComponent(jLabel3)
133                     .addComponent(jTextField2)
134                     .addComponent(jLabel5)
135                     .addComponent(jLabel4)
136                     .addComponent(button1)
137                     .addComponent(button2)
138                     .addComponent(button3)
139                 )
140                 .addContainerGap())
141     );
142     layout.setVerticalGroup(
143         layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
144             .addGroup(layout.createSequentialGroup()
145                 .addContainerGap()
146                 .addComponent(jLabel1)
147                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
148                 .addComponent(jTextField1)
149                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
150                 .addComponent(jLabel3)
151                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
152                 .addComponent(jTextField2)
153                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
154                 .addComponent(jLabel5)
155                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
156                 .addComponent(jLabel4)
157                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
158                 .addComponent(button1)
159                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
160                 .addComponent(button2)
161                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
162                 .addComponent(button3)
163                 .addContainerGap(10, Short.MAX_VALUE)
164     );
165
166     pack();
167
168     setTitle("Calculadora de Pitagoras");
169     setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
170     setLocationRelativeTo(null);
171     setResizable(false);
172
173     setVisible(true);
174
175     setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
176
177     javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
178     getContentPane().setLayout(layout);
179     layout.setHorizontalGroup(
180         layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
181             .addGroup(layout.createSequentialGroup()
182                 .addContainerGap()
183                 .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
184                     .addComponent(jLabel1)
185                     .addComponent(jTextField1)
186                     .addComponent(jLabel3)
187                     .addComponent(jTextField2)
188                     .addComponent(jLabel5)
189                     .addComponent(jLabel4)
190                     .addComponent(button1)
191                     .addComponent(button2)
192                     .addComponent(button3)
193                 )
194                 .addContainerGap())
195     );
196     layout.setVerticalGroup(
197         layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
198             .addGroup(layout.createSequentialGroup()
199                 .addContainerGap()
200                 .addComponent(jLabel1)
201                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
202                 .addComponent(jTextField1)
203                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
204                 .addComponent(jLabel3)
205                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
206                 .addComponent(jTextField2)
207                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
208                 .addComponent(jLabel5)
209                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
210                 .addComponent(jLabel4)
211                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
212                 .addComponent(button1)
213                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
214                 .addComponent(button2)
215                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
216                 .addComponent(button3)
217                 .addContainerGap(10, Short.MAX_VALUE)
218     );
219
220     pack();
221
222     setTitle("Calculadora de Pitagoras");
223     setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
224     setLocationRelativeTo(null);
225     setResizable(false);
226
227     setVisible(true);
228
229     setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
230
231     javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
232     getContentPane().setLayout(layout);
233     layout.setHorizontalGroup(
234         layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
235             .addGroup(layout.createSequentialGroup()
236                 .addContainerGap()
237                 .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
238                     .addComponent(jLabel1)
239                     .addComponent(jTextField1)
240                     .addComponent(jLabel3)
241                     .addComponent(jTextField2)
242                     .addComponent(jLabel5)
243                     .addComponent(jLabel4)
244                     .addComponent(button1)
245                     .addComponent(button2)
246                     .addComponent(button3)
247                 )
248                 .addContainerGap())
249     );
250     layout.setVerticalGroup(
251         layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
252             .addGroup(layout.createSequentialGroup()
253                 .addContainerGap()
254                 .addComponent(jLabel1)
255                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
256                 .addComponent(jTextField1)
257                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
258                 .addComponent(jLabel3)
259                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
260                 .addComponent(jTextField2)
261                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
262                 .addComponent(jLabel5)
263                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
264                 .addComponent(jLabel4)
265                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
266                 .addComponent(button1)
267                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
268                 .addComponent(button2)
269                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
270                 .addComponent(button3)
271                 .addContainerGap(10, Short.MAX_VALUE)
272     );
273
274     pack();
275
276     setTitle("Calculadora de Pitagoras");
277     setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
278     setLocationRelativeTo(null);
279     setResizable(false);
280
281     setVisible(true);
282
283     setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
284
285     javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
286     getContentPane().setLayout(layout);
287     layout.setHorizontalGroup(
288         layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
289             .addGroup(layout.createSequentialGroup()
290                 .addContainerGap()
291                 .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
292                     .addComponent(jLabel1)
293                     .addComponent(jTextField1)
294                     .addComponent(jLabel3)
295                     .addComponent(jTextField2)
296                     .addComponent(jLabel5)
297                     .addComponent(jLabel4)
298                     .addComponent(button1)
299                     .addComponent(button2)
300                     .addComponent(button3)
301                 )
302                 .addContainerGap())
303     );
304     layout.setVerticalGroup(
305         layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
306             .addGroup(layout.createSequentialGroup()
307                 .addContainerGap()
308                 .addComponent(jLabel1)
309                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
310                 .addComponent(jTextField1)
311                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
312                 .addComponent(jLabel3)
313                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
314                 .addComponent(jTextField2)
315                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
316                 .addComponent(jLabel5)
317                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
318                 .addComponent(jLabel4)
319                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
320                 .addComponent(button1)
321                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
322                 .addComponent(button2)
323                 .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
324                 .addComponent(button3)
325                 .addContainerGap(10, Short.MAX_VALUE)
326     );
327
328     pack();
329
330     setTitle("Calculadora de Pitagoras");
331     setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
332    
```



```
Telajna - Editor
Source Design History
205 hipotenusa.setText(String.format("%.2f", hipotenusaR));
206
207 }catch (NumberFormatException ex){
208     JOptionPane.showMessageDialog(null,
209         "Entrada invalida! Digite apenas numeros.",
210         "Error",
211         JOptionPane.ERROR_MESSAGE);
212     jTextField1.setText(null);
213     jTextField2.setText(null);
214     hipotenusa.setText(null);
215 }
216
217
218
219 private void jButtonActionPerformed(java.awt.event.ActionEvent evt) {
220     jTextField1.setText(null);
221     jTextField2.setText(null);
222     hipotenusa.setText(null);
223     jTextField1.requestFocus();
224 }
225
226 private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {
227     System.exit(0);
228 }
229
230
231 /**
232  * Sparam args the command line arguments
233  */
234 public static void main(String args[]) {
235     /* Set the Nimbus look and feel */
236     /* Look and feel setting code (optional)
237
238     /* Create and display the form */
239     java.awt.EventQueue.invokeLater(new Runnable() {
240         public void run() {
241             Tela tela = new Tela();
242             tela.setLocationRelativeTo(null);
243             tela.setVisible(true);
244         }
245     });
246
247 // Variables declaration - do not modify
248 private javax.swing.JTextField hipotenusa;
249 private javax.swing.JButton jButton;
250 private javax.swing.JButton jButton3;
251 private javax.swing.JButton jButton4;
252 private javax.swing.JLabel jLabel1;
253 private javax.swing.JLabel jLabel2;
254 private javax.swing.JLabel jLabel3;
255 private javax.swing.JLabel jLabel4;
256 private javax.swing.JTextField jTextField1;
257 private javax.swing.JTextField jTextField2;
258 }
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Calculadora de Pitagoras

Cateto A

Cateto B

Hipotenusa

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Calculadora de Pitagoras

Cateto A

Cateto B

Hipotenusa