

```

1 // joi/10/joi/JOIPanel.java
2 //
3 //
4 // Copyright 2003 Bill Campbell and Ethan Bolker
5
6 import java.applet.*;
7 import java.awt.*;
8 import java.awt.event.*;
9
10 /**
11  * A JOIPanel displays a button and a message.
12  * Pushing the button changes the message.
13  *
14  * This panel can be displayed either from an applet
15  * or in a browser or by the JVM as an application.
16  *
17  * @version 1.0
18  */
19
20 public class JOIPanel extends Applet
21 {
22     private static final String MESSAGE1 = "Java Outside In";
23     private static final String MESSAGE2 = "Java Inside Out";
24     private String currentMessage = MESSAGE1; // currently displayed
25
26     private Font font; // for printing the message
27     private Button button; // for changing messages
28
29     /**
30      * Equip this Panel with a Button
31      * and an associated ButtonListener, and
32      * set the font for the message.
33      */
34
35     public void init()
36     {
37         // what this Panel looks like
38         button = new Button( "Press Me" );
39         button.add( button );
40         font = new Font("Garamond", Font.BOLD, 48);
41
42         // how this Panel behaves
43         button.addActionListener( new JOIButtonListener( this ) );
44     }
45
46     /**
47      * Method that responds when the ButtonListener sends a
48      * changeMessage message.
49      */
50
51     public void changeMessage()
52     {
53         currentMessage =
54             currentMessage.equals(MESSAGE1) ? MESSAGE2 : MESSAGE1;
55         this.repaint();
56     }

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57
58     /**
59      * Draw the current message on this Panel.
60      *
61      * (The button is already there.)
62      *
63      * @param g an object encapsulating the graphics (e.g. pen)
64      * properties.
65      */
66
67     public void paint(Graphics g)
68     {
69         g.setColor(Color.black);
70         g.setFont(font);
71         g.drawString(currentMessage, 40, 75);
72     }
73
74     /**
75      * Ask the JVM to display this Panel.
76      */
77
78     public static void main( String[] args )
79     {
80         Terminal t = new Terminal();
81         JFrame frame = new JFrame();
82         JOIPanel panel = new JOIPanel();
83         panel.init();
84         frame.add(panel);
85         frame.setSize(400, 120);
86         frame.show();
87         t.readLine("Type return to close the window ... ");
88         System.exit(0);
89     }
90 }

```

```
1 // joi/10/joi/ButtonListener.java
2 //
3 //
4 // Copyright 2003 Bill Campbell and Ethan Bolker
5
6 import java.awt.event.*;
7
8 /**
9  * A simple listener for responding to button presses.
10  * It knows the Panel on which the button lives, and
11  * responds to button events by sending a changeMessage()
12  * to that Panel.
13  *
14  * @version 10
15  */
16
17 public class JOIButtonListener implements ActionListener
18 {
19     private JOIPanel panel; // the Panel containing the Button
20
21     /**
22      * Construct the ButtonListener.
23      *
24      * @param panel the Panel on which this Button will act.
25      */
26
27     public JOIButtonListener( JOIPanel panel )
28     {
29         this.panel = panel;
30     }
31
32     /**
33      * Defines the ActionListener behavior that must be implemented.
34      *
35      * When a user pushes the Button that we're listening to,
36      * send a changeMessage() message to the Panel.
37      *
38      * @param e the "event" when the button is pressed.
39      */
40
41     public void actionPerformed( ActionEvent e )
42     {
43         panel.changeMessage();
44     }
45 }
```

```
1 <!-- joi/10/joi.html-->
2 <!-- -->
3 <!-- -->
4 <!-- Copyright 2002 Bill Campbell and Ethan Bolker-->
5
6 <html>
7 <body>
8
9 <applet
10 code="JoiPanel.class" height=100 width=400>
11 </applet>
12
13 </html>
14 </body>
```