Class Panel03


```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;
/**
 * Panel03 is a JPanel that calculates hail size
 *
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 * @teacher Coglianese
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 */
public class Panel03 extends JPanel
{
    private JLabel label1, label2;
    private JTextField box;
    private int number, count;
    /**
     * Default constructor makes a JPanel with number, textbox, and buttons
     */
    public Panel03()
    {
        setLayout(new FlowLayout());
        number = 37;
        count = 0;

        label1 = new JLabel("37");
        label1.setFont(new Font("Serif", Font.BOLD, 100));
        label1.setForeground(Color.blue);
        add(label1);

        JPanel panel = new JPanel();
        panel.setLayout(new FlowLayout());
        add(panel);

        box = new JTextField("37", 5);
        box.setHorizontalAlignment(SwingConstants.RIGHT);
        panel.add(box);

        JButton button1 = new JButton("Set");
        button1.addActionListener(new Listener1());
        panel.add(button1);

        JButton button2 = new JButton("Next");
        button2.addActionListener(new Listener2());
        panel.add(button2);

        JButton button3 = new JButton("Quit");
        button3.addActionListener(new Listener3());
```

```
        panel.add(button3);

        label2 = new JLabel("Iterations: 0");
        add(label2);
    }
    /**
     * Listener1 waits for action from a button
     *
     * Here it is used to set the main number to the number in the text box
     */
    private class Listener1 implements ActionListener
    {
        /**
         * Set the main number to the number in the text box
         *
         * @param   e   Action that Listener is waiting for
         */
        public void actionPerformed(ActionEvent e)
        {
            number = Integer.parseInt(box.getText());
            label1.setText("" + number);
        }
    }
    /**
     * Listener2 waits for action from a button
     *
     * Here it is used for iterating the hail size
     */
    private class Listener2 implements ActionListener
    {
        /**
         * Iterates the hail size
         *
         * @param   e   Action that Listener is waiting for
         */
        public void actionPerformed(ActionEvent e)
        {
            number = Integer.parseInt(label1.getText());
            if (number%2==0){
                number=number/2;}
            else{
                number=(number*3)+1;}
            label1.setText("" + number);
            count++;
            label2.setText("Interatiosn: " + count);
        }
    }
    /**
     * Listener3 waits for action from a button
```

```
     *
     * Here it is used to close the program
     */
    private class Listener3 implements ActionListener
    {
        /**
         * Closes program
         *
         * @param   e   Action that Listener is waiting for
         */
        public void actionPerformed(ActionEvent e)
        {
            System.exit(1);
        }
    }
}
```