

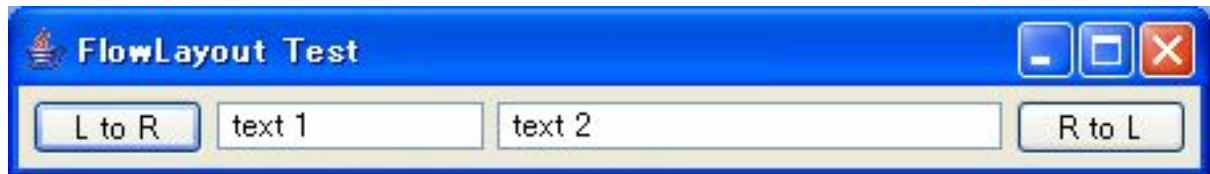
Swing レイアウト 2

[Swing]

- FlowLayout
- GridBagLayout
- GridLayout

FlowLayout

L to R



R to L



GridBagLayout

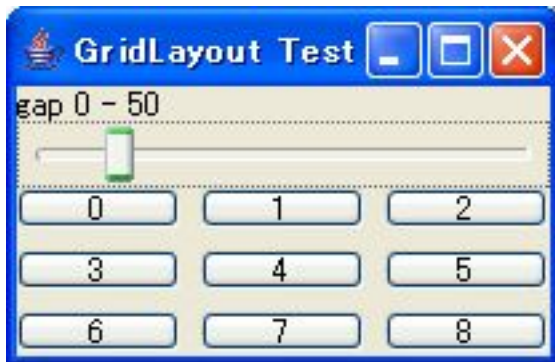
グリッドの位置

	0	1	2	3	4	5
0						
1						
2						
3						
4						
5						

結果



GridLayout



ソースコード

```
import java.awt.BorderLayout;
import java.awt.ComponentOrientation;
import java.awt.Container;
import java.awt.FlowLayout;
import java.awt.GridBagConstraints;
import java.awt.GridBagLayout;
import java.awt.GridLayout;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

import javax.swing.BoxLayout;
import javax.swing.JButton;
import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.JPanel;
import javax.swing.JSlider;
import javax.swing.JTextField;
import javax.swing.SwingUtilities;
import javax.swing.UIManager;
import javax.swing.event.ChangeEvent;
import javax.swing.event.ChangeListener;

@SuppressWarnings("serial")
public class LayoutTest2 extends JFrame {
    /**
     * FlowLayout test
     * @see http://java.sun.com/docs/books/tutorial/uiswing/layout/flow.html
     */
    public void testFlowLayout() {
        JFrame frame = new JFrame("FlowLayout Test");

        Container pane = frame.getContentPane();

        final JPanel panel1 = new JPanel(new FlowLayout());
        class MyMethodLocalActionListener implements ActionListener {
            MyMethodLocalActionListener() {
            }
            public void actionPerformed(ActionEvent e) {
                ComponentOrientation co = null;
            }
        }
    }
}
```

```

        if ("L to R".equals(((JButton)e.getSource()).getText())) {
            co = ComponentOrientation.LEFT_TO_RIGHT;
        } else {
            co = ComponentOrientation.RIGHT_TO_LEFT;
        }
        panel1.setComponentOrientation(co);
        panel1.validate();
        panel1.repaint();
    }
}

JButton btn1 = new JButton("L to R");
btn1.addActionListener(new MyMethodLocalActionListener());
JButton btn2 = new JButton("R to L");
btn2.addActionListener(new MyMethodLocalActionListener());

panel1.add(btn1);
panel1.add(new JTextField("text 1", 10));
panel1.add(new JTextField("text 2", 20));
panel1.add(btn2);

pane.add(panel1);
frame.pack();
frame.setVisible(true);
}

/**
 * GridBagLayout test
 * @see http://java.sun.com/docs/books/tutorial/uiswing/layout/gridbag.html
 */
public void testGridBagLayout() {
    JFrame frame = new JFrame("GridBagLayout Test");

    Container pane = frame.getContentPane();
    GridBagLayout gbl = new GridBagLayout();
    pane.setLayout(gbl);
    GridBagConstraints c = new GridBagConstraints();

    int[][] buttonPos = {
        {0,5}/*0*/,
        {0,4}/*1*/, {2,4}/*2*/, {4,4}/*3*/,
        {0,3}/*4*/, {2,3}/*5*/, {4,3}/*6*/,
        {0,2}/*7*/, {2,2}/*8*/, {4,2}/*9*/,
    };
    c.fill = GridBagConstraints.HORIZONTAL; // 共通設定

    c.gridwidth = 6; // 列数設定
    c.gridx = 0;
    c.gridy = 0;
    c.gridwidth = GridBagConstraints.REMAINDER; // 最終行
    JTextField txtResult = new JTextField("");
    gbl.setConstraints(txtResult, c);
    pane.add(txtResult);

    c.gridwidth = 3; // 列数設定
    c.gridx = 0;
    c.gridy = 1;
    JButton btnCE = new JButton("CE");
    gbl.setConstraints(btnCE, c);
    pane.add(btnCE);

    c.gridx = 3;
    c.gridy = 1;
    c.gridwidth = GridBagConstraints.REMAINDER; // 最終行
    JButton btnC = new JButton("C");
    gbl.setConstraints(btnC, c);
    pane.add(btnC);

    c.gridwidth = 2; // 列数設定
    for (int i=0; i<10; i++) {
        c.gridx = buttonPos[i][0];
        c.gridy = buttonPos[i][1];
        JButton btnN = new JButton(String.valueOf(i));
        gbl.setConstraints(btnN, c);
        pane.add(btnN);
    }

    c.gridx = 2;
    c.gridy = 5;
    JButton btnP = new JButton("+");
    gbl.setConstraints(btnP, c);
    pane.add(btnP);
}

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        c.gridx = 4;
        c.gridy = 5;
        JButton btnM = new JButton("-");
        gbl.setConstraints(btnM, c);
        pane.add(btnM);

        frame.pack();
        frame.setVisible(true);
    }
    /**
     * GridLayout test
     * @see http://java.sun.com/docs/books/tutorial/uiswing/layout/grid.html
     */
    public void testGridLayout() {
        JFrame frame = new JFrame("GridLayout Test");
        final Container pane = frame.getContentPane();
        pane.setLayout(new BorderLayout());

        final GridLayout gridLayout = new GridLayout(3,3);
        final JPanel gridPanel = new JPanel(gridLayout);
        for (int i=0; i<9; i++) {
            gridPanel.add(new JButton(String.valueOf(i)));
        }

        JPanel ctrlPanel = new JPanel(new BorderLayout());
        JSlider slider = new JSlider(0,50);
        slider.addChangeListener(
            new ChangeListener() {
                public void stateChanged(ChangeEvent e) {
                    int val = ((JSlider)e.getSource()).getValue();
                    gridLayout.setHgap(val);
                    gridLayout.setVgap(val);
                    gridLayout.layoutContainer(gridPanel);
                }
            }
        );
        ctrlPanel.add(new JLabel("gap 0 - 50"), BorderLayout.NORTH);
        ctrlPanel.add(slider, BorderLayout.CENTER);

        pane.add(ctrlPanel, BorderLayout.NORTH);
        pane.add(gridPanel, BorderLayout.CENTER);
        frame.pack();
        frame.setVisible(true);
    }

    /* ***** 以下メニュー用 ***** */
    public LayoutTest2() {
        setTitle("Layout Test 2");

        JButton btn1 = new JButton("flow");
        btn1.addActionListener(new MyActionListener("flow"));

        JButton btn2 = new JButton("gridbag");
        btn2.addActionListener(new MyActionListener("gridbag"));

        JButton btn3 = new JButton("grid");
        btn3.addActionListener(new MyActionListener("grid"));

        JPanel pane = new JPanel();
        pane.setLayout(new BoxLayout(pane, BoxLayout.Y_AXIS));

        pane.add(btn1);
        pane.add(btn2);
        pane.add(btn3);
        getContentPane().add(pane);

        pack();
    }
    class MyActionListener implements ActionListener {
        private String type = null;
        public MyActionListener(String type) {
            this.type = type;
        }
        public void actionPerformed(ActionEvent e) {
            if ("flow".equals(this.type)) {
                testFlowLayout();
            }
            if ("gridbag".equals(this.type)) {
                testGridBagLayout();
            }
            if ("grid".equals(this.type)) {

```

```

        testGridLayout();
    }
}
}
public static void main(String[] args) {
    try {
        UIManager.setLookAndFeel("com.sun.java.swing.plaf.windows.WindowsLookAndFeel");
        // UIManager.setLookAndFeel("javax.swing.plaf.metal.MetalLookAndFeel");
    } catch (Exception e) {
        e.printStackTrace();
    }
    SwingUtilities.invokeLater(
        new Runnable() {
            public void run() {
                LayoutTest2 lt = new LayoutTest2();
                lt.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
                lt.setVisible(true);
            }
        }
    );
}
}

```