Code Example of GUI by using swing components

Example # 01 (Simple form (container) by using swing components)

Basic.java

```
import javax.swing.*;
import java.awt.*;


public class Basic extends JFrame{

     public Basic(){
          super("First GUI Form");

          Container container = getContentPane();
          container.setLayout(new FlowLayout());

          this.setVisible(true);
          this.setSize(250,500);
     }


     public static void main(String args[]){
          Basic basic = new Basic();

     }
}
```

Output:

Example # 02 (Simple form designing by using swing components)

Form1.java

```
import javax.swing.*; import java.awt.*;
public class Form1 extends JFrame{

    // Label
    JLabel lb1= new JLabel("First Name");

    // Text Field
    JTextField tf1 = new JTextField(15);

    //Button
    JButton bt = new JButton("Submit");

    public Form1(){
    setLayout(new FlowLayout());

    //Add Name and TextField
        add(lb1);
        add(tf1);

    //Add button
        add(bt);

        setVisible(true);
        setSize(300,300);

    }


    public static void main(String args[]){
        Form1 form1 = new Form1();
    }
}
```

Output:

Example # 03 (Simple form designing by using swing components)

Form.java

```
import javax.swing.*;
import javax.swing.event.*;
import java.awt.*;
import java.awt.event.*;

public class Form extends JFrame{

    //Menu
    JMenuBar menuBar = new JMenuBar();
    JMenu menu = new JMenu("File");
    //  ToolBar and its buttons
    JToolBar tbar = new JToolBar();
    JButton tbrbtn1 = new JButton(new ImageIcon("left.gif"));
    JButton tbrbtn2 = new JButton(new ImageIcon("right.gif"));
    JButton tbrbtn3 = new JButton(new ImageIcon("open.gif"));
    JButton tbrbtn4 = new JButton(new ImageIcon("save.gif"));
    JButton tbrbtn5 = new JButton("Text button");
    // Label
    JLabel lb1= new JLabel("First Name");
    JLabel lb2= new JLabel("Last Name");
    JLabel lb3= new JLabel("Login ID");
    JLabel lb4= new JLabel("Password");
    JLabel lb5= new JLabel("Gender");
    JLabel lb6= new JLabel("Country");
    JLabel lb7= new JLabel("Account Type");
    JLabel lb8= new JLabel("Description");
    JLabel lb9= new JLabel("Choose your Color");
    // Text Field
    JTextField tf1 = new JTextField(15);
    JTextField tf2 = new JTextField(15);
    JTextField tf3 = new JTextField(15);
    //Password Field
    JPasswordField pf = new JPasswordField(15);
    // Radio button
    JRadioButton rb1 = new JRadioButton("Male", true);
    JRadioButton rb2 = new JRadioButton("Female", false);
    //ComboBox
    JComboBox jcb = new JComboBox();
    //CheckBoxes
    JCheckBox cb1 = new JCheckBox("A");
    JCheckBox cb2 = new JCheckBox("B");
    JCheckBox cb3 = new JCheckBox("C");
    //TextArea
    JTextArea ta = new JTextArea("Hello",5,10);
    //List
    String color[] = {"Black", "Red", "Green", "Blue", "Pink", "gray"};
    JList list = new JList(color);
    //Button
    JButton bt = new JButton("Submit");

    // Constructor
    public Form(){
        Container container = getContentPane();
        container.setLayout(new FlowLayout());
     //Add Menu and its items
        menu.setMnemonic('F');
        menu.add(new JMenuItem("Open"));
        menu.add(new JMenuItem("Save"));
        menu.add(new JMenuItem("Save As"));
        menu.add(new JMenuItem("Quit"));
        menuBar.add(menu);
        setJMenuBar(menuBar);
```

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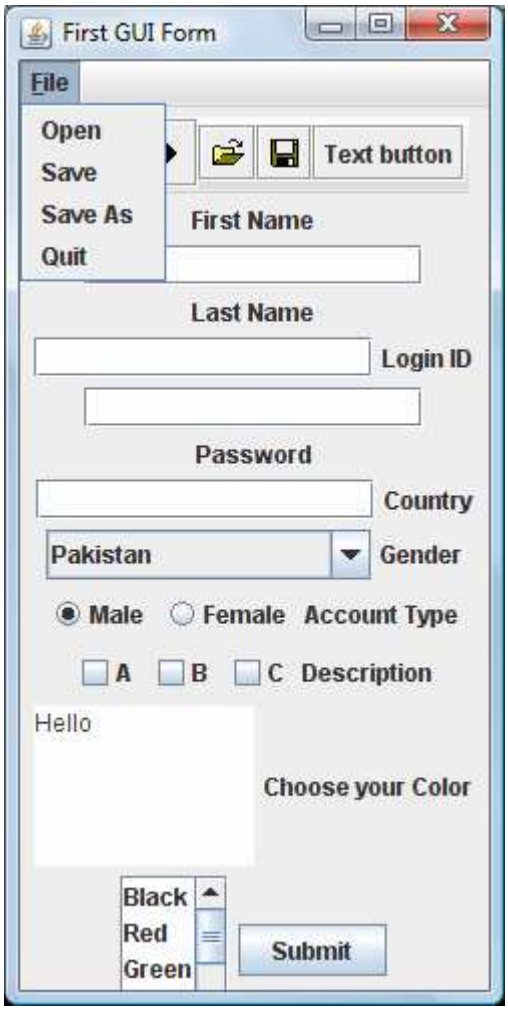
```
    //Add Toolbar and its buutons
        container.add(tbar);
        tbar.add(tbrbtn1);
        tbrbtn1.setToolTipText("left");
        tbar.add(tbrbtn2);
        tbrbtn2.setToolTipText("right");
        tbar.add(tbrbtn3);
        tbrbtn3.setToolTipText("Open File");
        tbar.add(tbrbtn4);
        tbrbtn4.setToolTipText("Save File");
        tbar.add(tbrbtn5);
    //Add Name and TextField
        container.add(lb1);
        container.add(tf1);
    //Add LastName and TextField
        container.add(lb2);
        container.add(tf2);
    //Add Login and TextField
        container.add(lb3);
        container.add(tf3);
    //Add Password and Field
        container.add(lb4);
        container.add(pf);
   //Add Country and ComboBox
        container.add(lb6);
        jcb.addItem("Pakistan");
        jcb.addItem("United Kingdom");
        jcb.addItem("United State of America");
        jcb.addItem("India");
        jcb.addItem("Japan");
        container.add(jcb);
    //Add Gender and RadioButton
        container.add(lb5);
        container.add(rb1);
        container.add(rb2);
        ButtonGroup grp = new ButtonGroup();
        grp.add(rb1); grp.add(rb2);
    //Add Type and Checkboxes
        container.add(lb7);
        container.add(cb1);
        container.add(cb2);
        container.add(cb3);
    //Add TextArea and Checkboxes
        container.add(lb8);
        container.add(ta);
   // Add List
        container.add(lb9);
        list.setVisibleRowCount(4);
        container.add(list);
        container.add(new JScrollPane(list));
    //Add button
        container.add(bt);

        this.setVisible(true);
        this.setSize(250,500);
        this.setTitle("First GUI Form");
    }

    public static void main(String args[]){
        Form form = new Form();
   }
```

Code Example of GUI by using swing components

Output:

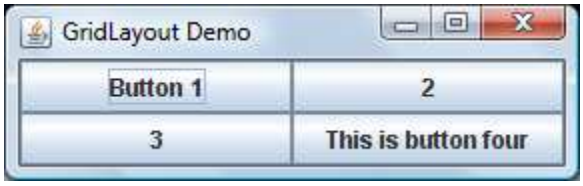


Example # 04 (Grid Layout)

GridLayoutFrame.java

```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;

public class GridLayoutFrame extends JFrame
{

    public static void main(String[] args) {
        GridLayoutFrame window = new GridLayoutFrame();
        window.setVisible(true);
    }

    GridLayoutFrame(){
//... Create content pane, set layout, add components
    Container content = getContentPane();
    content.setLayout(new GridLayout(2,2));
    //the following constructor will produce horizental and
    //vertical spaces between components
    //content.setLayout(new GridLayout(2,2,3,3));

    content.add(new JButton("Button 1"));
    content.add(new JButton("2"));
    content.add(new JButton("3"));
    content.add(new JButton("This is button four"));

    setTitle("GridLayout Demo");
    setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    pack();
    }
} // end class GridLayoutFrame
```

Output:

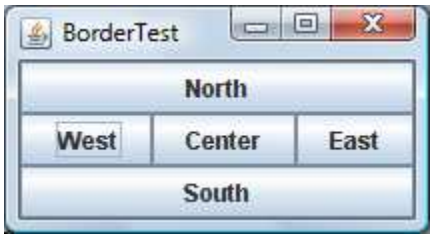


Example # 05 (Border Layout)

BorderTest.java

```
import java.awt.*;
import javax.swing.*;

class BorderTest extends JFrame {

    //============================================================ main
    public static void main(String[] args) {
        JFrame window = new BorderTest();
        window.setVisible(true);
    }

    //============================================== constructor
    BorderTest() {
        //... Create components (but without listeners)
        JButton north  = new JButton("North");
        JButton east   = new JButton("East");
        JButton south  = new JButton("South");
        JButton west   = new JButton("West");
        JButton center = new JButton("Center");

        //... Create content pane, set layout, add components
        Container content = getContentPane();
        content.setLayout(new BorderLayout());

        content.add(north , BorderLayout.NORTH);
        content.add(east  , BorderLayout.EAST);
        content.add(south , BorderLayout.SOUTH);
        content.add(west  , BorderLayout.WEST);
        content.add(center, BorderLayout.CENTER);

        //... Set window characteristics.
        setTitle("BorderTest");
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        pack();
    }
}
```

Output:



Example # 06 (Flow Layout)

FlowLayoutFrame.java

```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;

public class FlowLayoutFrame extends JFrame
{
   public static void main(String[] args) {
       FlowLayoutFrame window = new FlowLayoutFrame();
       window.setVisible(true);
    }

   public FlowLayoutFrame()
   {
    //... Create content pane, set layout, add components
    Container content = getContentPane();

    content.setLayout(new FlowLayout());
    content.add(new JButton("Button 1"));
    content.add(new JButton("2"));
    content.add(new JButton("This is button three"));
    content.add(new JButton("four"));

    setTitle("FlowLayout Demo");
    setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    pack();
    }

} // end class FlowLayoutFrame
```

Output:

Example # 07 (Complex GUI with the combinations of Layouts)

CalculatorGUI.java

```
import java.awt.*; import javax.swing.*;

public class CalculatorGUI {

JFrame fCalc;
JButton b1, b2, b3, b4, b5, b6, b7, b8, b9, b0,bPlus, bMinus, bMul, bPoint, bEqual, bClear
JPanel pButtons;
JTextField tfAnswer;
JLabel lMyCalc;

//method used for setting layout of GUI
public void initGUI ( ) {
    fCalc = new JFrame();
        b0 = new JButton("0");
        b1 = new JButton("1");
        b2 = new JButton("2");
        b3 = new JButton("3");
        b4 = new JButton("4");
        b5 = new JButton("5");
        b6 = new JButton("6");
        b7 = new JButton("7");
        b8 = new JButton("8");
        b9 = new JButton("9");
        bPlus = new JButton("+");
        bMinus = new JButton("-");
        bMul = new JButton("*");
        bPoint = new JButton(".");
        bEqual = new JButton("=");
        bClear = new JButton("C");
        tfAnswer = new JTextField();
        lMyCalc = new JLabel("My Clacualator");
    //creating panel object and setting its layout
    pButtons = new JPanel(new GridLayout(4,4));

    //adding components (buttons) to panel
    pButtons.add(b1);
    pButtons.add(b2);
    pButtons.add(b3);
    pButtons.add(bClear);
    pButtons.add(b4);
    pButtons.add(b5);
    pButtons.add(b6);
    pButtons.add(bMul);
    pButtons.add(b7);
    pButtons.add(b8);
    pButtons.add(b9);
    pButtons.add(bMinus);
    pButtons.add(b0);
    pButtons.add(bPoint);
    pButtons.add(bPlus);
    pButtons.add(bEqual);

    // getting componenet area of JFrame
    Container con = fCalc.getContentPane();
    con.setLayout(new BorderLayout());

    //adding components to container
    con.add(tfAnswer, BorderLayout.NORTH);
    con.add(lMyCalc, BorderLayout.SOUTH);
    con.add(pButtons, BorderLayout.CENTER);
    fCalc.setSize(300, 300);
    fCalc.setVisible(true);
} //end initGUI method
public CalculatorGUI () { // default constructor
initGUI ();
}

public static void main (String args[ ]) {
CalculatorGUI calGUI = new CalculatorGUI ();
}
} // end of class
```

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Output: