JAVA Code Snippets and Tutorials

THE DESTINATION FILE SAVER PROGRAM

private void jFileChooser1ActionPerformed(java.awt.event.ActionEvent evt) {

String action = (evt.getActionCommand());

if(action.equals("CancelSelection")) {

System.exit(0);

}

if(action.equals("ApproveSelection")) {

File f;

f = jFileChooser1.getCurrentDirectory();

String cr = f.toString();

System.out.println(cr);

String filename = JOptionPane.showInputDialog("Enter file name:");

PrintWriter writer;

try {

writer = new PrintWriter((filename+".txt"), "UTF-8");

writer.println("The first line");

writer.println("The second line");

writer.close();

File source = new File("C:/Users/Aakash/Documents/NetBeansProjects/JavaWindows/"+(filename)+".txt");

File dest = new File((f+"/"+(filename+".txt")));

Files.copy(source.toPath(), dest.toPath());

}

catch(Exception ex){}

}

}

Setting per pixel translucency in JFrame

import java.awt.\*;

import javax.swing.\*;

import static java.awt.GraphicsDevice.WindowTranslucency.\*;

import java.util.logging.Level;

import java.util.logging.Logger;

public class JGradientFrameCreator extends JFrame {

public JGradientFrameCreator() {

setTitle("Hello! Everyone");

setBackground(new Color(255,255,255,***0***)); //0 is extremely important

setSize(new Dimension(300,200));

setLocationRelativeTo(null);

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

*JPanel panel = new JPanel() {*

*protected void paintComponent(Graphics g) {*

*final int R = 250;*

*final int G = 250;*

*final int B = 250;*

*Paint p = new GradientPaint(0.0f, 0.0f, new Color(R, G, B, 0), 0.0f, getHeight(), new Color(R, G, B, 255), true);*

*Graphics2D g2d = (Graphics2D)g;*

*g2d.setPaint(p);*

*g2d.fillRect(0, 0, getWidth(), getHeight());*

*}};*

*setContentPane(panel);*

*setLayout(new GridBagLayout());*

/////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////

//add components

add(new JButton("fdsf"));

}

public static void main(String[] args) {

**JFrame.setDefaultLookAndFeelDecorated(true); // most important**

// Create the GUI on the event-dispatching thread

SwingUtilities.invokeLater(new Runnable() {

@Override

public void run() {

JGradientFrameCreator var = new JGradientFrameCreator();

// Display the window.

var.setVisible(true);

}

});

}

}

Java Basics

-Aviral Srivastava

String functions

import java.util.\*;

class str1

{

public static void main(String args[])

{

String s1 = "Bhagirath";

System.out.println("S1 = " + s1);

int length = s1.length();

System.out.println("S1 lenth = " + length);

System.out.println("S1 lowercase = " + s1.toLowerCase());

System.out.println("S1 uppercase = " + s1.toUpperCase());

System.out.println("S1 replace a with z = " + s1.replace('a','z'));

System.out.println("S1 indexOf('e')= " + s1.indexOf('e'));

System.out.println("S1 lastindexof('e') = " + s1.lastIndexOf('e'));

String s2 = "ViewSonic";

System.out.println("S2 = " + s2);

System.out.println("S1 and S2 trim = " + s1.trim() + s2.trim());

System.out.println("S1 and S2 equals = " + s1.equals(s2));

System.out.println("S1 and S2 equals ignoring case = " + s1.equalsIgnoreCase(s2));

System.out.println("S1 and S2 compareTo = " + s1.compareTo(s2));

System.out.println("S1 and S2 concate = " + s1.concat(s2));

System.out.println("S1 substring(n) = " + s1.substring(5));

System.out.println("S1 substring(n,m) = " + s1.substring(5,8));

System.out.println("S1 toString() = " + s1.toString());

int i = 100;

System.out.println("S1.valueOf(variable) = " + (s1.valueOf(i)).length());

System.out.println("Start with " + s1.startsWith("P"));

System.out.println("Start with " + s1.endsWith("y"));

}

}

Output :

S1 = Bhagirath

S1 lenth = 9

S1 lowercase = bhagirath

S1 uppercase = BHAGIRATH

S1 replace a with z = Bhzgirzth

S1 indexOf('e')= -1

S1 lastindexof('e') = -1

S2 = ViewSonic

S1 and S2 trim = BhagirathViewSonic

S1 and S2 equals = false

S1 and S2 equals ignoring case = false

S1 and S2 compareTo = -20

S1 and S2 concate = BhagirathViewSonic

S1 substring(n) = rath

S1 substring(n,m) = rat

S1 toString() = Bhagirath

S1.valueOf(variable) = 3

Start with false

Start with false

Creating a function

import javax.swing.\*;

public class ExampleMinNumber{

static JFrame frame = new JFrame();

public static void main(String[] args) {

frame.setVisible(true);

frame.setSize(600,600);

butt("Heelo");

}

public static void butt(String str) {

JButton but = new JButton(str);

frame.add(but);

}

}

JAVA Mathematical Functions

-Aviral Srivastava

FLOOR VALUE OF A NUMBER

Return the closest integer to the given number.

Math.floor(int)

NATURAL ALGORITHM OF A NUMBER

Math.log(int)

CEILING VALUE OF A NUMBER

Returns the closest to the positive infinitive.

Math.ceil(int)

ROUNDING FLOAT AND DOUBLE NUMBERS

Rounds of the float and double numbers.

Math.round(float/double)

ABSOLUTE VALUE OF A NUMBER

Returns the absolute value of a number.

Math.abs(int)

MINIMUM CALCULATION

Find the minimum of the provided numbers.

Math.min(value1,value2)

MAXIMUM CALCULATION

Find the maximum of the provided numbers.

Math.max(value1,value2)

SQUARE ROOT

Find the square root of a number.

Math.sqrt(int)

MATH POWER

Find the power of a number.

Math.pow(int,power)

Example:

Math.pow(2,5)

//This shows that 2 is raised to power 5 which is = 32



***String Functions in Java***

* Aviral Srivastava

String Length:

int x = **Str1.length()**;

Ends With Checking:

System.out.println("Ends with a " + s1.endsWith("h")); // Notices cases

Starts With Checking:

System.out.println("Starts with B " + s1.startsWith("B")); // Notices Cases

Replacement:

System.out.println("S1 replace B with G = " + s1.replace('B','G'));

Equaling:

String s1 = "Bhagirath";

String s2 = "Bhagirath";

System.out.println("S1 and S2 equals = " + s1.equals(s2)); // Notices case

Equaling Ignoring Case:

String s1 = "Bhagirath";

String s2 = "bhagirath";

System.out.println("S1 and S2 equals ignoring case = " + s1.equalsIgnoreCase(s2));

Sub-String extraction:

System.out.println("Bhagirath substring(5) = " + s1.substring(5)); // Extracts 5 characters after from left of the Bhagi***rath***

System.out.println("Bhagirath substring(5,7) = " + s1.substring(5,7)); // Extracts in the following way:

* Extracts 5 character after: Bhagi***rath***
* Calculates 7-5 = 2
* Removes the difference (2) from the right: Bhagi***ra***th
* Returns the result: ***ra***

Switch Case Statement in Java

public class TestSwitchCase {

public static void main(String[] args) {

int tx = 5;

switch(tx){

case 1 : System.out.println("1 case won"); break;

case 2 : System.out.println("2 case won"); break;

case 3 : System.out.println("3 case won"); break;

case 4 : System.out.println("4 case won"); break;

case 5 : System.out.println("5 case won"); break;

case 6 : System.out.println("6 case won"); break;

case 7 : System.out.println("7 case won"); break;

case 8 : System.out.println("8 case won"); break;

case 9 : System.out.println("9 case won"); break;

case 10 : System.out.println("10 case won"); break;

}}}

JAVA

Swing Objects

-Aviral Srivastava

A General Format

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

**// Program here**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

JFrames:

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class SimpleExample extends JPanel {

static JFrame frame;

public static void main(String s[]) {

SimpleExample panel = new SimpleExample();

frame = new JFrame("SimpleExample");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.pack();

frame.setVisible(true);

}

}

import java.awt.event.\*;

import javax.swing.\*;

public class CDemo extends JPanel{

static JFrame frame;

public CDemo() {

}

public static void main(String s[]) {

CDemo panel = new CDemo();

frame = new JFrame("Title");

JFrame.setDefaultLookAndFeelDecorated(true);

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

JButton:

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

// Create the buttons.

**JButton button1 = new JButton("Button 1");**

**button1.setMnemonic('h');**

**add(button1);**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}



JRadio Buttons:

import java.awt.event.\*;

import javax.swing.\*;

public class SimpleExample extends JPanel {

static JFrame frame;

**static String metal= "Radio Button name";**

**JRadioButton metalButton;**

public SimpleExample() {

**metalButton = new JRadioButton(metal);**

**metalButton.setMnemonic('o');**

// Register a listener for the radio buttons.

**add(metalButton);**

}

public static void main(String s[]) {

SimpleExample panel = new SimpleExample();

frame = new JFrame("Title");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}



JCheck Box:

import java.awt.event.\*;

import javax.swing.\*;

public class SimpleExample extends JPanel {

static JFrame frame;

static String metal= "Check Box name";

JCheckBox metalButton;

public SimpleExample() {

// Create the buttons.

**metalButton = new JCheckBox(metal);**

**metalButton.setMnemonic('o');**

**add(metalButton);**

}

public static void main(String s[]) {

SimpleExample panel = new SimpleExample();

frame = new JFrame("Title");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

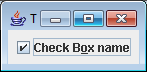
frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}



JToolTips:

import java.awt.event.\*;

import javax.swing.\*;

public class SimpleExample extends JPanel {

static JFrame frame;

static String metal= "Radio Button name";

JCheckBox metalButton;

public SimpleExample() {

// Create the buttons.

**metalButton = new JCheckBox(metal);**

**metalButton.setMnemonic('o');**

**metalButton.setToolTipText("Click this button.");**

**add(metalButton);**

}

public static void main(String s[]) {

SimpleExample panel = new SimpleExample();

frame = new JFrame("Title");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}



JMenus

import java.awt.event.\*;

import javax.swing.\*;

public class SimpleExample extends JPanel {

static JFrame frame;

static String metal= "Radio Button name";

public SimpleExample() {

// Create the buttons.

//Where the GUI is created:

**JMenuBar menuBar;**

**JMenu menu, submenu;**

**JMenuItem menuItem;**

**JRadioButtonMenuItem rbMenuItem;**

**JCheckBoxMenuItem cbMenuItem;**

**//Create the menu bar.**

**menuBar = new JMenuBar();**

**//Build the first menu.**

**menu = new JMenu("A Menu");**

**menu.setMnemonic(KeyEvent.VK\_A);**

**menu.getAccessibleContext().setAccessibleDescription(**

**"The only menu in this program that has menu items");**

**menuBar.add(menu);**

**//a group of JMenuItems**

**menuItem = new JMenuItem("A text-only menu item",**

**KeyEvent.VK\_T);**

**menuItem.setAccelerator(KeyStroke.getKeyStroke(**

**KeyEvent.VK\_1, ActionEvent.ALT\_MASK));**

**menuItem.getAccessibleContext().setAccessibleDescription(**

**"This doesn't really do anything");**

**menu.add(menuItem);**

**menuItem = new JMenuItem("Both text and icon",**

**new ImageIcon("images/middle.gif"));**

**menuItem.setMnemonic(KeyEvent.VK\_B);**

**menu.add(menuItem);**

**menuItem = new JMenuItem(new ImageIcon("images/middle.gif"));**

**menuItem.setMnemonic(KeyEvent.VK\_D);**

**menu.add(menuItem);**

**//a group of radio button menu items**

**menu.addSeparator();**

**ButtonGroup group = new ButtonGroup();**

**rbMenuItem = new JRadioButtonMenuItem("A radio button menu item");**

**rbMenuItem.setSelected(true);**

**rbMenuItem.setMnemonic(KeyEvent.VK\_R);**

**group.add(rbMenuItem);**

**menu.add(rbMenuItem);**

**rbMenuItem = new JRadioButtonMenuItem("Another one");**

**rbMenuItem.setMnemonic(KeyEvent.VK\_O);**

**group.add(rbMenuItem);**

**menu.add(rbMenuItem);**

**//a group of check box menu items**

**menu.addSeparator();**

**cbMenuItem = new JCheckBoxMenuItem("A check box menu item");**

**cbMenuItem.setMnemonic(KeyEvent.VK\_C);**

**menu.add(cbMenuItem);**

**cbMenuItem = new JCheckBoxMenuItem("Another one");**

**cbMenuItem.setMnemonic(KeyEvent.VK\_H);**

**menu.add(cbMenuItem);**

**//a submenu**

**menu.addSeparator();**

**submenu = new JMenu("A submenu");**

**submenu.setMnemonic(KeyEvent.VK\_S);**

**menuItem = new JMenuItem("An item in the submenu");**

**menuItem.setAccelerator(KeyStroke.getKeyStroke(**

**KeyEvent.VK\_2, ActionEvent.ALT\_MASK));**

**submenu.add(menuItem);**

**menuItem = new JMenuItem("Another item");**

**submenu.add(menuItem);**

**menu.add(submenu);**

**//Build second menu in the menu bar.**

**menu = new JMenu("Another Menu");**

**menu.setMnemonic(KeyEvent.VK\_N);**

**menu.getAccessibleContext().setAccessibleDescription(**

**"This menu does nothing");**

**menuBar.add(menu);**

**add(menuBar);**

// Register a listener for the radio buttons.

}

public static void main(String s[]) {

SimpleExample panel = new SimpleExample();

frame = new JFrame("Title");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

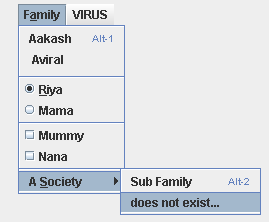
frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}



JComboBox

import java.awt.event.\*;

import javax.swing.\*;

public class SimpleExample extends JPanel {

static JFrame frame;

static String metal= "Radio Button name";

public SimpleExample() {

// Create the buttons.

//Where the GUI is created:

**String[] petStrings = { "Bird", "Cat", "Dog", "Rabbit", "Pig" };**

//Create the combo box, select item at index 4.

//Indices start at 0, so 4 specifies the pig.

**JComboBox petList = new JComboBox(petStrings);**

**petList.setSelectedIndex(4);**

**add(petList);**

// Register a listener for the radio buttons.

}

public static void main(String s[]) {

SimpleExample panel = new SimpleExample();

frame = new JFrame("Title");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

JPassword

import java.awt.event.\*;

import javax.swing.\*;

public class SimpleExample extends JPanel {

static JFrame frame;

static String metal= "Radio Button name";

public SimpleExample() {

// Create the buttons.

**JPasswordField passwordField;**

**//Where the GUI is created:**

**passwordField = new JPasswordField(10);**

**add(passwordField);**

// Register a listener for the radio buttons.

}

public static void main(String s[]) {

SimpleExample panel = new SimpleExample();

frame = new JFrame("Title");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

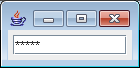
frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}



JProgress Bars

import java.awt.event.\*;

import javax.swing.\*;

public class SimpleExample extends JPanel {

static JFrame frame;

static String metal= "Radio Button name";

public SimpleExample() {

// Create the buttons.

//Where member variables are declared:

**JProgressBar progressBar;**

**//Where the GUI is constructed:**

**progressBar = new JProgressBar(0);**

**progressBar.setValue(100);**

**progressBar.setStringPainted(true);**

**add(progressBar);**

// Register a listener for the radio buttons.

}

public static void main(String s[]) {

SimpleExample panel = new SimpleExample();

frame = new JFrame("Title");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

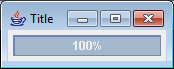
frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}



JText Fields

import java.awt.event.\*;

import javax.swing.\*;

public class SimpleExample extends JPanel {

static JFrame frame;

public SimpleExample() {

**JFormattedTextField damountField = new JFormattedTextField();**

**damountField.setColumns(10);**

**add(damountField);**

}

public static void main(String s[]) {

SimpleExample panel = new SimpleExample();

frame = new JFrame("Title");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

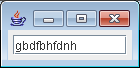
frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}



JSlider

import java.awt.event.\*;

import javax.swing.\*;

public class SimpleExample extends JPanel {

static JFrame frame;

public SimpleExample() {

**JSlider framesPerSecond = new JSlider(JSlider.HORIZONTAL);**

**add(framesPerSecond);**

}

public static void main(String s[]) {

SimpleExample panel = new SimpleExample();

frame = new JFrame("Title");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

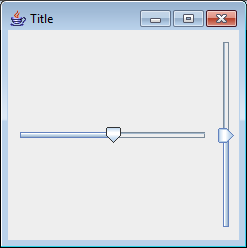
frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}



JText Area

import java.awt.event.\*;

import javax.swing.\*;

public class SimpleExample extends JPanel {

static JFrame frame;

public SimpleExample() {

**JTextArea textArea = new JTextArea(5, 30);**

**add(textArea);**

}

public static void main(String s[]) {

SimpleExample panel = new SimpleExample();

frame = new JFrame("Title");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

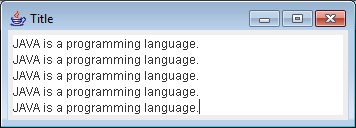
frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}



JColor Chooser

import java.awt.event.\*;

import javax.swing.\*;

public class CDemo extends JPanel{

static JFrame frame;

public CDemo() {

**JLabel banner = new JLabel("Welcome to the Tutorial Zone!",JLabel.CENTER);**

**JColorChooser tcc = new JColorChooser(banner.getForeground());**

**add(tcc);**

}

public static void main(String s[]) {

CDemo panel = new CDemo();

frame = new JFrame("Title");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

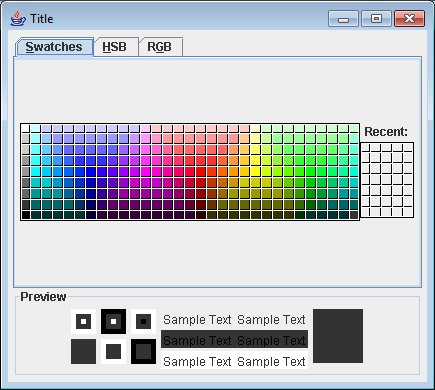
frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}



JFile Saver/Opener

import java.awt.event.\*;

import javax.swing.\*;

public class CDemo extends JPanel{

static JFrame frame;

public CDemo() {

**final JFileChooser fc = new JFileChooser();**

**add(fc);**

}

public static void main(String s[]) {

CDemo panel = new CDemo();

frame = new JFrame("Title");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

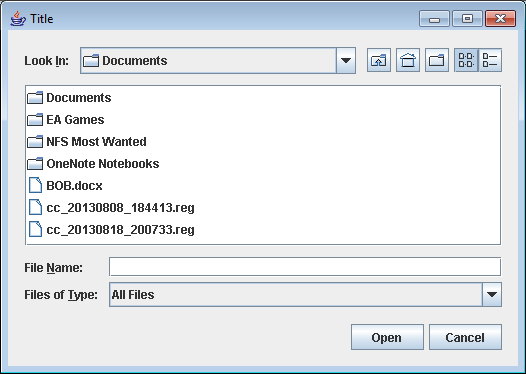
frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}



JLabels

import java.awt.event.\*;

import javax.swing.\*;

public class CDemo extends JPanel{

static JFrame frame;

public CDemo() {

**JLabel label1 = new JLabel("Image and Text",JLabel.CENTER);**

**//Set the position of the text, relative to the icon:**

**label1.setVerticalTextPosition(JLabel.BOTTOM);**

**label1.setHorizontalTextPosition(JLabel.CENTER);**

**JLabel label2 = new JLabel("Text-Only Label");**

**add(label1);**

**add(label2);**

}

public static void main(String s[]) {

CDemo panel = new CDemo();

frame = new JFrame("Title");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

JLists

import java.awt.event.\*;

import javax.swing.\*;

public class CDemo extends JPanel{

static JFrame frame;

public CDemo() {

**String[] petStrings = { "Bird", "Cat", "Dog", "Rabbit", "Pig" };**

**JList list = new JList(petStrings);**

**list.setSelectionMode(ListSelectionModel.SINGLE\_INTERVAL\_SELECTION);**

**list.setLayoutOrientation(JList.HORIZONTAL\_WRAP);**

**list.setVisibleRowCount(-1);**

**JScrollPane listScroller = new JScrollPane(list);**

**add(list);**

**add(listScroller);**

}

public static void main(String s[]) {

CDemo panel = new CDemo();

frame = new JFrame("Title");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}



New List Type

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

// Create the buttons.

String[] dataStrings = { "Bird", "Cat", "Dog", "Rabbit", "Pig","Butter Fly", "Moth", "Catter Pillar", "Tiger", "Lion", "Fish", "Hilsa", "Whale", "Dolphin", "Shark", "Riya", "Avi", "Akku", "Mama", "Nani", "Nana", "Mausi", "Mamma", "Papa", "Mausa" };

JList list = new JList(dataStrings); //data has type Object[]

*list.setSelectionMode(ListSelectionModel.SINGLE\_INTERVAL\_SELECTION);*

*list.setLayoutOrientation(JList.HORIZONTAL\_WRAP);*

list.setVisibleRowCount(-1);

JScrollPane listScroller = new JScrollPane(list);

listScroller.setPreferredSize(new Dimension(250, 80));

add(listScroller);

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

JToggle Button

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

// Create the buttons.

**JToggleButton button1 = new JToggleButton("Button 1");**

**button1.setMnemonic('h');**

**add(button1);**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

Grouping JRadio Buttons

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

// Create the buttons.

//In initialization code:

//Create the radio buttons.

JRadioButton birdButton = new JRadioButton("BIRD");

birdButton.setMnemonic(KeyEvent.VK\_B);

birdButton.setActionCommand("BIRD");

birdButton.setSelected(true);

JRadioButton catButton = new JRadioButton("CAT");

catButton.setMnemonic(KeyEvent.VK\_C);

catButton.setActionCommand("CAT");

**ButtonGroup group = new ButtonGroup();**

**group.add(birdButton);**

**group.add(catButton);**

add(birdButton);

add(catButton);

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

JSpinner

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

**String[] petStrings = { "Bird", "Cat", "Dog", "Rabbit", "Pig" };**

**SpinnerListModel monthModel = new SpinnerListModel(petStrings);**

**JSpinner spinner = new JSpinner(monthModel);**

**add(spinner);**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}



JScroll Pane

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

//In a container that uses a BorderLayout:

**JTextArea textArea = new JTextArea(5, 30);**

**JScrollPane scrollPane = new JScrollPane(textArea);**

**setPreferredSize(new Dimension(100, 100));**

**add(scrollPane, BorderLayout.CENTER);**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

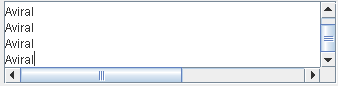
frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}



JTree

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

**JTree tree = new JTree();**

**add(tree);**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

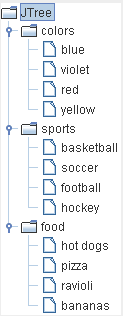
});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

**Input Boxes**

import javax.swing.JOptionPane;

class NEW1

{

public static void main (String args[])

{

String first\_name;

first\_name = JOptionPane.showInputDialog("Family Name");

}

}

**Message Boxes**

***String:***

import javax.swing.JOptionPane;

public class IP1

{

public static void main (String args[])

{

String full\_name;

full\_name = "Hi! It's a Meassage Box";

JOptionPane.showMessageDialog( null, full\_name );

System.exit(0);

}

}

***Numeric:***

import javax.swing.JOptionPane;

public class IP1

{

public static void main (String args[])

{

int z;

String string\_one;

string\_one = JOptionPane.showInputDialog("Enter number:");

int a = **Integer.parseInt(string\_one );**

z=a\*a;

JOptionPane.showMessageDialog( null, "Square = "+z );

System.exit(0);

}

}

***Information Messages:***

import javax.swing.JOptionPane;

public class IP2

{

public static void main (String args[])

{

String full\_name;

full\_name = " Message here ";

JOptionPane.showMessageDialog(null, full\_name);

System.exit(0);

}

}

***Error Messages:***

import javax.swing.JOptionPane;

public class IP2

{

public static void main (String args[])

{

String full\_name;

full\_name = " Message here ";

JOptionPane.showMessageDialog(null, full\_name, "Title Here", JOptionPane.ERROR\_MESSAGE);

System.exit(0);

}

}

***Plain Messages:***

import javax.swing.JOptionPane;

public class IP2

{

public static void main (String args[])

{

String full\_name;

full\_name = " Message here ";

JOptionPane.showMessageDialog(null, full\_name, "Title Here", JOptionPane.PLAIN\_MESSAGE);

System.exit(0);

}

}

***Warning Messages:***

import javax.swing.JOptionPane;

public class IP2

{

public static void main (String args[])

{

String full\_name;

full\_name = " Message here ";

JOptionPane.showMessageDialog(null, full\_name, "Title Here", JOptionPane.WARNING\_MESSAGE);

System.exit(0);

}

}

***Question Message:***

import javax.swing.JOptionPane;

public class IP2

{

public static void main (String args[])

{

String full\_name;

full\_name = " Message here ";

JOptionPane.showMessageDialog(null, full\_name, "Title Here", JOptionPane.QUESTION\_MESSAGE);

System.exit(0);

}

}

JLayered Pane

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

//Program Here

**JLayeredPane layeredPane = new JLayeredPane();**

**layeredPane.setPreferredSize(new Dimension(300, 300));**

**layeredPane.setBorder(BorderFactory.createTitledBorder("Pane Border"));**

**add(layeredPane);**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

JTable

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

// Program here

String[] columnNames = {"First Name","Last Name","Sport","# of Years","Vegetarian"};

Object[][] data = {

{"Kathy", "Smith",

"Snowboarding", new Integer(5), new Boolean(false)},

{"John", "Doe",

"Rowing", new Integer(3), new Boolean(true)},

{"Sue", "Black",

"Knitting", new Integer(2), new Boolean(false)},

{"Jane", "White",

"Speed reading", new Integer(20), new Boolean(true)},

{"Joe", "Brown",

"Pool", new Integer(10), new Boolean(false)}

};

**JTable table = new JTable(data, columnNames);add(table);**

JScrollPane scroll = new JScrollPane(table);

add(scroll);

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

JTabbed Panes

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

// Program here

**JTabbedPane T = new JTabbedPane(JTabbedPane.BOTTOM);**

**T.addTab("Tab1", null);**

**add(T);**

**T.addTab("Tab2", null);**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

Adding Actions to JControls

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

JButton B1 = new JButton("Click Me");

add(B1);

JButton B2 = new JButton("Close");

add(B2);

**B2.addActionListener(new ActionListener() {**

**public void actionPerformed(ActionEvent e) {**

//Action Here

**}});**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

JToolBar

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

setPreferredSize(new Dimension(500, 500));

**JToolBar a = new JToolBar("Title Here");**

**a.setPreferredSize(new Dimension(400, 30));**

**a.setFloatable(true);**

**add(a);**

JButton b1 = new JButton("Exit");

a.add(b1);

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

JOptionPanes Choice

import javax.swing.\*;

public class ConfirmDialogExample {

public static void main(String[] args) {

int choice = JOptionPane.showConfirmDialog(null, "Erase your hard disk?");

**if (choice ==** JOptionPane.YES\_OPTION) {

JOptionPane.showMessageDialog(null, "Disk erased!");

} else {

JOptionPane.showMessageDialog(null, "Cancelled.");

}

}

}

Simple General Format

import java.awt.\*;

import javax.swing.\*;

public class FlowLayoutExample {

public static void main(String[] args) {

JFrame frame = new JFrame();

frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

frame.setSize(new Dimension(320, 75));

frame.setTitle("Flow layout");

frame.setLayout(new FlowLayout());

frame.add(new JLabel("Type your ZIP Code: "));

frame.add(new JTextField(5));

frame.add(new JButton("Submit"));

frame.setVisible(true);

}

}

JInternal Frames

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

**JInternalFrame jif = new JInternalFrame();**

**jif.setPreferredSize(new Dimension(300, 300));**

**jif.setVisible(true);**

**add(jif);**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.setPreferredSize(new Dimension(500, 600));

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

Windows Skin

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class SimpleExample extends JPanel {

static JFrame frame;

public SimpleExample() {

//Program code here

**try {**

**UIManager.setLookAndFeel("com.sun.java.swing.plaf.windows.WindowsLookAndFeel");**

**frame.pack();**

**}**

**catch (Exception exc) {**

**}}**

**public void updateState() {**

**String lnfName = UIManager.getLookAndFeel().getClass().getName();**

**}**

public static void main(String s[]) {

SimpleExample panel = new SimpleExample();

frame = new JFrame("SimpleExample");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}}

Applet General Format

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

import java.applet.Applet;

public class WriteFile extends Applet{

public void init(){

}

}

private void formKeyPressed(java.awt.event.KeyEvent evt) {

int key = evt.getKeyCode();

if(key == KeyEvent.VK\_UP) {

System.exit(0); // TODO add your handling code here:

}

Adding Mouse Listeners

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

// Program here

JButton but = new JButton();

add(but);

but.addMouseListener(new java.awt.event.MouseAdapter() {

public void mouseClicked(java.awt.event.MouseEvent evt) {

System.out.println("You clicked the button, using a MouseListenr");

}

});

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

Adding Mouse Motion Listeners

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

// Program here

JButton but = new JButton();

add(but);

but.addMouseMotionListener(new java.awt.event.MouseMotionAdapter() {

public void mouseMoved(java.awt.event.MouseEvent evt) {

System.out.println("You clicked the button, using a MouseListenr");

}

});

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

Adding Key Listeners

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

// Program here

JButton but = new JButton();

add(but);

but.addKeyListener(new java.awt.event.KeyAdapter() {

public void keyTyped(java.awt.event.KeyEvent evt) {

System.out.println("You clicked the button, using a MouseListenr");

}

});

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

Inserting Image

import java.awt.Graphics;

import java.awt.Image;

import java.awt.event.\*;

import java.io.File;

import java.io.IOException;

import java.util.logging.Level;

import java.util.logging.Logger;

import javax.imageio.ImageIO;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {}

public void paint(Graphics g) {

try {

Image image;

image = ImageIO.read(new File("src/duke.gif"));

g.drawImage(image, 50, 50, frame);

} catch (IOException ex) {

Logger.getLogger(NewJFrame.class.getName()).log(Level.SEVERE, null, ex);

}}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

frame.setSize(300, 300);

}

}

Fading Image Animation

import java.awt.AlphaComposite;

import java.awt.Dimension;

import java.awt.Graphics;

import java.awt.Graphics2D;

import java.awt.Image;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.io.File;

import java.io.IOException;

import java.util.logging.Level;

import java.util.logging.Logger;

import javax.imageio.ImageIO;

import javax.swing.ImageIcon;

import javax.swing.JFrame;

import javax.swing.JPanel;

import javax.swing.SwingUtilities;

import javax.swing.Timer;

import sun.security.krb5.internal.crypto.g;

class Surface extends JPanel implements ActionListener {

private Image img;

private Timer timer;

private float alpha = 1f;

public Surface() {

loadImage();

setSurfaceSize();

initTimer();

}

private void loadImage() {

try {

Image image = null;

img = ImageIO.read(new File("src/duke.gif"));

} catch (IOException ex) {

Logger.getLogger(NewJFrame.class.getName()).log(Level.SEVERE, null, ex);

}

}

private void setSurfaceSize() {

int h = img.getHeight(this);

int w = img.getWidth(this);

setPreferredSize(new Dimension(w, h));

}

private void initTimer() {

timer = new Timer(20, this);

timer.start();

}

private void doDrawing(Graphics g) {

Graphics2D g2d = (Graphics2D) g;

g2d.setComposite(AlphaComposite.getInstance(AlphaComposite.SRC\_OVER,

alpha));

g2d.drawImage(img, 0, 0, null);

}

@Override

public void paintComponent(Graphics g) {

super.paintComponent(g);

doDrawing(g);

}

@Override

public void actionPerformed(ActionEvent e) {

alpha += -0.01f;

if (alpha <= 0) {

alpha = 0;

timer.stop();

}

repaint();

}

}

public class MoveBall extends JFrame {

public MoveBall() {

initUI();

}

private void initUI() {

setTitle("Fade out");

add(new Surface());

pack();

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

setLocationRelativeTo(null);

}

public static void main(String[] args) {

SwingUtilities.invokeLater(new Runnable() {

@Override

public void run() {

MoveBall fo = new MoveBall();

fo.setVisible(true);

}

});

}

}

URL’s and JEditor Panes

java.net.URL helpURL = NewJFrame.class.getResource("js1.html");

if (helpURL != null) {

try {

jEditorPane1.setPage(helpURL);

} catch (IOException e) {

System.err.println("Attempted to read a bad URL: " + helpURL);

}

} else {

System.err.println("Couldn't find file: TextSamplerDemoHelp.html");

}

GETTING MESSAGE BOXES VALUES IN JAVA

int result = JOptionPane.showConfirmDialog(null, "The file has not been saved, do you want to save it now ?", "File not saved", 1);

if(result == JOptionPane.YES\_OPTION){

jDialog1.setVisible(true);

jDialog1.pack();

}

Creating a cursor

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class TestBlankCursor extends JFrame implements MouseMotionListener{

Cursor blankCursor = null;

TestBlankCursor(){

super("TestBlankCursor");

blankCursor = Toolkit.getDefaultToolkit().createCustomCursor(Toolkit.getDefaultToolkit().createImage("src/cur1.png"), new Point(0, 0), "blankCursor"); // blank.png is any tranparent image.

setVisible(true);

setSize(400, 400);

addMouseMotionListener(this);

}

public void mouseMoved(MouseEvent me){ setCursor(blankCursor); }

public void mouseDragged(MouseEvent me){}

public static void main(String args[]) { new TestBlankCursor(); }

}

Getting the mouse button clicked

int sap = evt.getModifiers();

if(sap == InputEvent.BUTTON1\_MASK){

System.out.println("You left clicked");

}

else if(sap == InputEvent.BUTTON2\_MASK){

System.out.println("You pressed the scrolling button");

}

else if(sap == InputEvent.BUTTON3\_MASK){

System.out.println("You right clicked");

}

***JAVA 2D: Graphics***

***-Aviral Srivastava***

A General Format

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

}

public void paint(Graphics g) {

g.<<Program>> //

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.setPreferredSize(new Dimension(300,300));

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

Creating an Oval/Circle

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

}

public void paint(Graphics g) {

**g.drawOval(colunmn, row, width, height);**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.setPreferredSize(new Dimension(300,300));

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

Filling a Oval/Circle

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

}

public void paint(Graphics g) {

**g.fillOval(colunmn, row, width, height);**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.setPreferredSize(new Dimension(300,300));

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

Creating a Rectangle/Square

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

}

public void paint(Graphics g) {

**g.drawRect(column, row, width, height);**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.setPreferredSize(new Dimension(300,300));

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

Filling a Square/Rectangle

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

}

public void paint(Graphics g) {

**g.fillRect(column, row, width, height);**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.setPreferredSize(new Dimension(300,300));

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

Draw Strings

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

}

public void paint(Graphics g) {

g.setColor(Color.RED);

**g.drawString("String", column, row);**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.setPreferredSize(new Dimension(300,300));

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

Creating Polygons

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

}

public void paint(Graphics g) {

**Polygon poly = new Polygon();**

**poly.addPoint(column, row);**

**poly.addPoint(column, row);**

**poly.addPoint(column, row);**

**g.fillPolygon(poly);**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.setPreferredSize(new Dimension(300,300));

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

Creating an Arc

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

import java.awt.font.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

}

public void paint(Graphics g) {

**g.drawArc(100, 100, 90, 90, 90, 90);**

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.setPreferredSize(new Dimension(300,300));

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

Filling Gradient

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {

}

@Override

public void paint(Graphics g) {

**Graphics2D g2 = (Graphics2D)g;**

**GradientPaint gp = new GradientPaint(75, 75, Color.black, 95, 95, Color.red, true);**

g2.setPaint(gp);

g2.fillOval(100, 100, 120, 100);

}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.setPreferredSize(new Dimension(300,300));

frame.addWindowListener(new WindowAdapter() {

@Override

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

}

}

Inserting Image

import java.awt.Graphics;

import java.awt.Image;

import java.awt.event.\*;

import java.io.File;

import java.io.IOException;

import java.util.logging.Level;

import java.util.logging.Logger;

import javax.imageio.ImageIO;

import javax.swing.\*;

public class BUTTON extends JPanel {

static JFrame frame;

public BUTTON() {}

public void paint(Graphics g) {

try {

Image image;

image = ImageIO.read(new File("src/duke.gif"));

g.drawImage(image, 50, 50, frame);

} catch (IOException ex) {

Logger.getLogger(NewJFrame.class.getName()).log(Level.SEVERE, null, ex);

}}

public static void main(String s[]) {

BUTTON panel = new BUTTON();

frame = new JFrame("Button Example");

frame.addWindowListener(new WindowAdapter() {

public void windowClosing(WindowEvent e) {System.exit(0);}

});

frame.getContentPane().add("Center", panel);

frame.pack();

frame.setVisible(true);

frame.setSize(300, 300);

}

}

Flipping Images

Graphics g = panel1.getGraphics();

Graphics2D g2d = (Graphics2D)g;

try {

image = ImageIO.read(new File("src/java\_logo.gif"));

g2d.drawImage(image, 50, 50, panel1);

} catch (IOException ex) {

Logger.getLogger(LearningFlip.class.getName()).log(Level.SEVERE, null, ex);

}

AffineTransform tx = AffineTransform.getScaleInstance(-1, 1);

tx.translate(-image.getWidth(null), 0);

AffineTransformOp op = new AffineTransformOp(tx,

AffineTransformOp.TYPE\_BICUBIC);

image = op.filter(image, null);

g2d.drawImage(image, 50, 50, panel1);

Learning super graphics

-Aviral Srivastava

Creating a rectangle on drag

import java.awt.Graphics;

import java.awt.Graphics2D;

import java.awt.geom.Rectangle2D;

public class SimpleCreate extends javax.swing.JFrame {

**int x = 100;**

**int y = 100;**

**int height = 100;**

**int width = 100;**

**Graphics g;**

**Graphics2D g2d;**

public SimpleCreate() {

initComponents();

}

**public void paint(Graphics g){**

**g2d = (Graphics2D)g;**

**super.paintComponents(g);**

**g2d.fillRect(x, y, width, height);**

**}**

/\*\*

\* This method is called from within the constructor to initialize the form.

\* WARNING: Do NOT modify this code. The content of this method is always

\* regenerated by the Form Editor.

\*/

@SuppressWarnings("unchecked")

// <editor-fold defaultstate="collapsed" desc="Generated Code">

private void initComponents() {

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

addMouseMotionListener(new java.awt.event.MouseMotionAdapter() {

public void mouseDragged(java.awt.event.MouseEvent evt) {

formMouseDragged(evt);

}

});

addMouseListener(new java.awt.event.MouseAdapter() {

public void mousePressed(java.awt.event.MouseEvent evt) {

formMousePressed(evt);

}

public void mouseReleased(java.awt.event.MouseEvent evt) {

formMouseReleased(evt);

}

});

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGap(0, 690, Short.MAX\_VALUE)

);

layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGap(0, 446, Short.MAX\_VALUE)

);

pack();

}// </editor-fold>

**private void formMousePressed(java.awt.event.MouseEvent evt) {**

**released = false;**

**x = evt.getX();**

**y = evt.getY();**

**repaint();**

**}**

**private void formMouseDragged(java.awt.event.MouseEvent evt) {**

**width = evt.getX()-x;**

**height = evt.getY()-y;**

**repaint();**

**}**

public static void main(String args[]) {

/\* Set the Nimbus look and feel \*/

//<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

/\* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.

\* For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html

\*/

try {

for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {

if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());

break;

}

}

} catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(SimpleCreate.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(SimpleCreate.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(SimpleCreate.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(SimpleCreate.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

}

//</editor-fold>

/\* Create and display the form \*/

java.awt.EventQueue.invokeLater(new Runnable() {

public void run() {

new SimpleCreate().setVisible(true);

}

});

}

// Variables declaration - do not modify

// End of variables declaration

}

Dragging a rectangle

import java.awt.\*;

import java.awt.geom.Rectangle2D;

public class SimpleDrag extends javax.swing.JFrame {

**Graphics g;**

**Graphics2D g2d;**

**int width = 100;**

**int height = 100;**

**int x = 100;**

**int y = 100;**

**int mx;**

**int my;**

public SimpleDrag() {

initComponents();

}

**public void paint(Graphics g){**

**g2d = (Graphics2D)g;**

**super.paintComponents(g);**

**g2d.fillRect(x, y, width, height);**

@SuppressWarnings("unchecked")

// <editor-fold defaultstate="collapsed" desc="Generated Code">

private void initComponents() {

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

addMouseMotionListener(new java.awt.event.MouseMotionAdapter() {

public void mouseDragged(java.awt.event.MouseEvent evt) {

formMouseDragged(evt);

}

});

addMouseListener(new java.awt.event.MouseAdapter() {

public void mousePressed(java.awt.event.MouseEvent evt) {

formMousePressed(evt);

}

});

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGap(0, 795, Short.MAX\_VALUE)

);

layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGap(0, 437, Short.MAX\_VALUE)

);

pack();

}

**private void formMousePressed(java.awt.event.MouseEvent evt) {**

**mx = evt.getX()-x;**

**my = evt.getY()-y;**

**}**

**private void formMouseDragged(java.awt.event.MouseEvent evt) {**

**x = evt.getX()-mx;**

**y = evt.getY()-my;**

**repaint();**

**}**

public static void main(String args[]) {

try {

for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {

if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());

break;

}

}

} catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(SimpleDrag.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(SimpleDrag.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(SimpleDrag.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(SimpleDrag.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

}

//</editor-fold>

java.awt.EventQueue.invokeLater(new Runnable() {

public void run() {

new SimpleDrag().setVisible(true);

}

});

}

}

A Simple non-blinking animation

import java.awt.Graphics;

import java.awt.Robot;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import javax.swing.Timer;

public class SimpleAnimation extends javax.swing.JFrame {

**int x;**

**int y;**

**int width = 100;**

**int height = 100;**

**Graphics g;**

**Robot robo;**

**Timer tim;**

**ActionListener updater;**

/

public SimpleAnimation() {

initComponents();

}

@Override

**public void paint(Graphics g){**

**super.paintComponents(g);**

**g.fillOval(x, y, width, height);**

**updater= new ActionListener() {**

**public void actionPerformed(ActionEvent event) {**

**x = x+1;**

**y = y+1;**

**repaint();**

**}**

**};**

**}**

@SuppressWarnings("unchecked")

// <editor-fold defaultstate="collapsed" desc="Generated Code">

private void initComponents() {

jButton1 = new javax.swing.JButton();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

jButton1.setText("jButton1");

jButton1.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton1ActionPerformed(evt);

}

});

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()

.addContainerGap(701, Short.MAX\_VALUE)

.addComponent(jButton1)

.addContainerGap())

);

layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addContainerGap()

.addComponent(jButton1)

.addContainerGap(418, Short.MAX\_VALUE))

);

pack();

}// </editor-fold>

**private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {**

**tim = new javax.swing.Timer(10, updater);**

**tim.start();**

**}**

try {

for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {

if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());

break;

}

}

} catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(SimpleAnimation.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(SimpleAnimation.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(SimpleAnimation.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(SimpleAnimation.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

}

//</editor-fold>

/\* Create and display the form \*/

java.awt.EventQueue.invokeLater(new Runnable() {

public void run() {

new SimpleAnimation().setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.JButton jButton1;

// End of variables declaration

}

**My Method Of Flipping**

* **and** 

Graphics2D g2d = (Graphics2D)g;

BufferedImage img;

try {

img = ImageIO.read(new File("src/java\_image3.png"));

int width = img.getWidth();

int height = img.getHeight();

g2d.translate(100, 300);

g2d.scale(1, -1);

g2d.drawImage(img, null, 100, 100);

} catch (Exception e) {

}

* **and** 

**Graphics2D g2d = (Graphics2D)g;**

**BufferedImage img;**

**try {**

**img = ImageIO.read(new File("src/java\_image3.png"));**

**int width = img.getWidth();**

**int height = img.getHeight();**

**g2d.translate(100, 300);**

**g2d.scale(-1, 1);**

**g2d.drawImage(img, null, 100, 100);**

**} catch (Exception e) {**

**}**

Get Image Width and Height

Graphics g = panel1.getGraphics();

Graphics2D g2d = (Graphics2D)g;

BufferedImage bimg;

try {

bimg = ImageIO.read(new File("src/Picture1.png"));

int width = bimg.getWidth();

int height = bimg.getHeight();

g2d.drawImage(bimg, null, width, height);

} catch (IOException ex) {

Logger.getLogger(NewJFrame.class.getName()).log(Level.SEVERE, null, ex);

}

Using Affine Rotation

Rectangle rect = new Rectangle(50,100,100,100);

Graphics g = panel1.getGraphics();

Graphics2D g2d = (Graphics2D)g;

**AffineTransform tx = new AffineTransform();**

int z = jSlider1.getValue();

double angle = Math.toRadians(z);

**tx.setToRotation(angle, 100, 150);**

**g2d.setTransform(tx);**

g2d.clearRect(0, 0, 1000, 1000);

g2d.draw(rect);

tx.setToRotation(0, 200, 200);

g2d.setTransform(tx);

g2d.drawLine(100,100,100,200);

g2d.drawLine(50,150,150,150);

jLabel2.setText(""+z);

Using Affine Shearing

g = panel1.getGraphics();

g2d = (Graphics2D)g;

**at = new AffineTransform();**

**at.setToShear(0, 1);**

**g2d.setTransform(at);**

try {

bimg = ImageIO.read(new File("src/Picture1.png"));

width = bimg.getWidth();

height = bimg.getHeight();

g2d.drawImage(bimg, null, 0, 0);

} catch (IOException ex) {

Logger.getLogger(NewJFrame.class.getName()).log(Level.SEVERE, null, ex);

}

Creation without blinking

import java.awt.\*;

import java.awt.geom.AffineTransform;

import java.awt.geom.GeneralPath;

import java.awt.geom.Rectangle2D;

public class NewJFrame extends javax.swing.JFrame {

Graphics g;

Graphics2D g2d;

int x = 200;

int y = 200;

int x1 = 100;

int y1 = 100;

int width = 100;

int height = 100;

int value1, value2;

AffineTransform AT = new AffineTransform();

Rectangle2D rect = new Rectangle2D.Double(x, y, 100, 100);

Rectangle2D rect2 = new Rectangle2D.Double(x1, y1, 100, 100);

public NewJFrame() {

initComponents();

}

public void paint(Graphics g) {

g2d = (Graphics2D)g;

super.paintComponents(g);

g2d.setStroke(new BasicStroke(2));

AT.rotate(Math.toRadians(value2), x+(width/2), y+(height/2));

g2d.setTransform(AT);

g2d.draw(rect);

AT.setToRotation(0, 200, 200);

g2d.setTransform(AT);

AT.rotate(Math.toRadians(value1), x1+(width/2), y1+(height/2));

g2d.setTransform(AT);

g2d.draw(rect2);

AT.setToRotation(0, 200, 200);

g2d.setTransform(AT);

}

// <editor-fold defaultstate="collapsed" desc="Generated Code">

private void initComponents() {

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

setTitle("Rotate 2 objects in 2 different directions");

addKeyListener(new java.awt.event.KeyAdapter() {

public void keyPressed(java.awt.event.KeyEvent evt) {

formKeyPressed(evt);

}

});

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGap(0, 867, Short.MAX\_VALUE)

);

layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGap(0, 493, Short.MAX\_VALUE)

);

pack();

}// </editor-fold>

private void formKeyPressed(java.awt.event.KeyEvent evt) {

int keyCode = evt.getKeyCode();

if(keyCode == 39){

value1+=1;

value2-=1;

repaint();

}

else if(keyCode == 37){

value1-=1;

value2+=1;

repaint();

}

}

/\*\*

\* @param args the command line arguments

\*/

public static void main(String args[]) {

/\* Set the Nimbus look and feel \*/

//<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

/\* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.

\* For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html

\*/

try {

for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {

if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());

break;

}

}

} catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(NewJFrame.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(NewJFrame.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(NewJFrame.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(NewJFrame.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

}

//</editor-fold>

/\* Create and display the form \*/

java.awt.EventQueue.invokeLater(new Runnable() {

public void run() {

new NewJFrame().setVisible(true);

}

});

}

// Variables declaration - do not modify

// End of variables declaration

}

Animation without blinking

import java.awt.Graphics;

import java.awt.Graphics2D;

import java.awt.Robot;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import javax.swing.Timer;

/\*

\* To change this license header, choose License Headers in Project Properties.

\* To change this template file, choose Tools | Templates

\* and open the template in the editor.

\*/

/\*\*

\*

\* @author Aakash

\*/

public class SimpleAnimation extends javax.swing.JFrame {

int x;

int y;

int width = 100;

int height = 100;

Graphics g;

Robot robo;

Timer tim;

ActionListener updater;

// jds

public SimpleAnimation() {

initComponents();

}

@Override

public void paint(Graphics g){

super.paintComponents(g);

g.fillOval(x, y, width, height);

updater= new ActionListener() {

public void actionPerformed(ActionEvent event) {

x = x+1;

y = y+1;

repaint();

}

};

}

/\*\*

\* This method is called from within the constructor to initialize the form.

\* WARNING: Do NOT modify this code. The content of this method is always

\* regenerated by the Form Editor.

\*/

@SuppressWarnings("unchecked")

// <editor-fold defaultstate="collapsed" desc="Generated Code">

private void initComponents() {

jButton1 = new javax.swing.JButton();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

setTitle("Simple animation");

jButton1.setText("jButton1");

jButton1.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton1ActionPerformed(evt);

}

});

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(javax.swing.GroupLayout.Alignment.TRAILING, layout.createSequentialGroup()

.addContainerGap(701, Short.MAX\_VALUE)

.addComponent(jButton1)

.addContainerGap())

);

layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)

.addGroup(layout.createSequentialGroup()

.addContainerGap()

.addComponent(jButton1)

.addContainerGap(418, Short.MAX\_VALUE))

);

pack();

}// </editor-fold>

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

tim = new javax.swing.Timer(10, updater);

tim.start();

}

/\*\*

\* @param args the command line arguments

\*/

public static void main(String args[]) {

/\* Set the Nimbus look and feel \*/

//<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

/\* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.

\* For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html

\*/

try {

for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {

if ("Windows".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());

break;

}

}

} catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(SimpleAnimation.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(SimpleAnimation.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(SimpleAnimation.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(SimpleAnimation.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

}

//</editor-fold>

/\* Create and display the form \*/

java.awt.EventQueue.invokeLater(new Runnable() {

public void run() {

new SimpleAnimation().setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.JButton jButton1;

// End of variables declaration

}

Java 3D

-Aviral Srivastava

Creating Universe

import com.sun.j3d.utils.universe.SimpleUniverse;

public class Java3D001{

public Java3D001(){

SimpleUniverse universe = new SimpleUniverse(null);

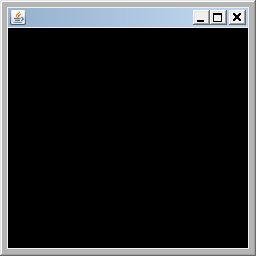
}

public static void main(String[] args){

new Java3D001();

}

}



Creating a simple cube

import com.sun.j3d.utils.universe.SimpleUniverse;

import com.sun.j3d.utils.geometry.ColorCube;

import javax.media.j3d.BranchGroup;

public class Java3D002{

public Java3D002(){

SimpleUniverse universe = new SimpleUniverse(null);

universe.getViewingPlatform().setNominalViewingTransform();

BranchGroup branchGroup = new BranchGroup();

branchGroup.addChild(new ColorCube(0.2));

universe.addBranchGraph(branchGroup);

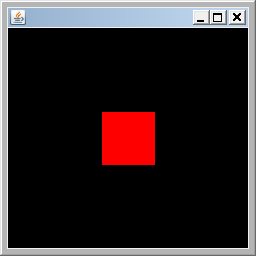
}

public static void main(String[] args){

new Java3D002();

}

}



Rotation on X, Y and Z axis

import com.sun.j3d.utils.geometry.ColorCube;

import com.sun.j3d.utils.universe.SimpleUniverse;

import javax.media.j3d.BranchGroup;

import javax.media.j3d.Transform3D;

import javax.media.j3d.TransformGroup;

public class Java3D002{

public Java3D002(){

SimpleUniverse universe = new SimpleUniverse(null);

universe.getViewingPlatform().setNominalViewingTransform(); // important for viewing

BranchGroup branchGroup = new BranchGroup();

Transform3D rotate = new Transform3D();

rotate.rotX(Math.PI/4.0d);

TransformGroup objRotate = new TransformGroup(rotate);

objRotate.addChild(new ColorCube(0.4));

branchGroup.addChild(objRotate);

universe.addBranchGraph(branchGroup);

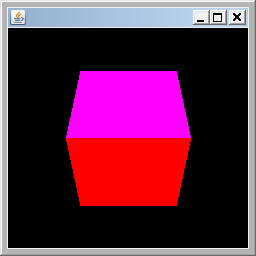
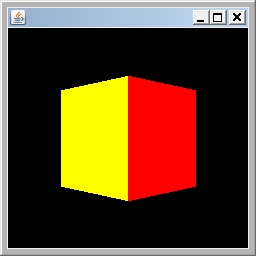
}

public static void main(String[] args){

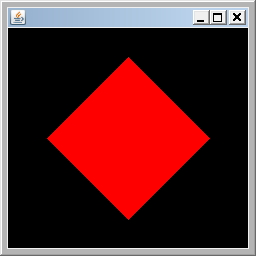
new Java3D002();

}

}

**Rotation on X axis Rotation on Y axis**



**Rotation on Z axis**

My Animation Discoveries

Using Timers in Java

-Aviral Srivastava

Moving an object on right on a screen

import java.awt.Graphics;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

/\*

\* To change this template, choose Tools | Templates

\* and open the template in the editor.

\*/

/\*

\* NewJFrame.java

\*

\* Created on Mar 8, 2014, 9:48:12 AM

\*/

/\*\*

\*

\* @author Aakash

\*/

public class NewJFrame extends javax.swing.JFrame {

public int x=20;

javax.swing.Timer tim;

/\*\* Creates new form NewJFrame \*/

public NewJFrame() {

initComponents();

}

/\*\* This method is called from within the constructor to

\* initialize the form.

\* WARNING: Do NOT modify this code. The content of this method is

\* always regenerated by the Form Editor.

\*/

@SuppressWarnings("unchecked")

// <editor-fold defaultstate="collapsed" desc="Generated Code">

private void initComponents() {

jToolBar1 = new javax.swing.JToolBar();

panel1 = new java.awt.Panel();

jButton1 = new javax.swing.JButton();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

jToolBar1.setFloatable(false);

jToolBar1.setRollover(true);

org.jdesktop.layout.GroupLayout panel1Layout = new org.jdesktop.layout.GroupLayout(panel1);

panel1.setLayout(panel1Layout);

panel1Layout.setHorizontalGroup(

panel1Layout.createParallelGroup(org.jdesktop.layout.GroupLayout.LEADING)

.add(0, 548, Short.MAX\_VALUE)

);

panel1Layout.setVerticalGroup(

panel1Layout.createParallelGroup(org.jdesktop.layout.GroupLayout.LEADING)

.add(0, 319, Short.MAX\_VALUE)

);

jToolBar1.add(panel1);

jButton1.setText("Start");

jButton1.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton1ActionPerformed(evt);

}

});

org.jdesktop.layout.GroupLayout layout = new org.jdesktop.layout.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(org.jdesktop.layout.GroupLayout.LEADING)

.add(layout.createSequentialGroup()

.addContainerGap()

.add(layout.createParallelGroup(org.jdesktop.layout.GroupLayout.LEADING)

.add(jToolBar1, org.jdesktop.layout.GroupLayout.DEFAULT\_SIZE, 550, Short.MAX\_VALUE)

.add(jButton1))

.addContainerGap())

);

layout.setVerticalGroup(

layout.createParallelGroup(org.jdesktop.layout.GroupLayout.LEADING)

.add(layout.createSequentialGroup()

.add(14, 14, 14)

.add(jButton1)

.addPreferredGap(org.jdesktop.layout.LayoutStyle.UNRELATED)

.add(jToolBar1, org.jdesktop.layout.GroupLayout.DEFAULT\_SIZE, 321, Short.MAX\_VALUE)

.addContainerGap())

);

pack();

}// </editor-fold>

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

final Graphics g = panel1.getGraphics();

**ActionListener updater = new ActionListener() {**

**public void actionPerformed(ActionEvent event) {**

**x+=2;**

**g.clearRect(x-2,20,30,31);**

**g.drawRect(x,20,30,30);**

**repaint();**

**if(x==150) {**

**tim.stop();**

**}**

**}**

**};**

**tim = new javax.swing.Timer(10, updater);**

**tim.start();**

}

/\*\*

\* @param args the command line arguments

\*/

public static void main(String args[]) {

java.awt.EventQueue.invokeLater(new Runnable() {

public void run() {

new NewJFrame().setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.JButton jButton1;

private javax.swing.JToolBar jToolBar1;

private java.awt.Panel panel1;

// End of variables declaration

}

***Timers***

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

/\*

\* To change this template, choose Tools | Templates

\* and open the template in the editor.

\*/

/\*

\* NewJFrame.java

\*

\* Created on Mar 7, 2014, 6:47:32 PM

\*/

/\*\*

\*

\* @author Aakash

\*/

public class NewJFrame extends javax.swing.JFrame {

/\*\* Creates new form NewJFrame \*/

public NewJFrame() {

initComponents();

}

/\*\* This method is called from within the constructor to

\* initialize the form.

\* WARNING: Do NOT modify this code. The content of this method is

\* always regenerated by the Form Editor.

\*/

@SuppressWarnings("unchecked")

// <editor-fold defaultstate="collapsed" desc="Generated Code">

private void initComponents() {

jButton1 = new javax.swing.JButton();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

jButton1.setText("Start Timer");

jButton1.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton1ActionPerformed(evt);

}

});

org.jdesktop.layout.GroupLayout layout = new org.jdesktop.layout.GroupLayout(getContentPane());

getContentPane().setLayout(layout);

layout.setHorizontalGroup(

layout.createParallelGroup(org.jdesktop.layout.GroupLayout.LEADING)

.add(layout.createSequentialGroup()

.addContainerGap()

.add(jButton1)

.addContainerGap(org.jdesktop.layout.GroupLayout.DEFAULT\_SIZE, Short.MAX\_VALUE))

);

layout.setVerticalGroup(

layout.createParallelGroup(org.jdesktop.layout.GroupLayout.LEADING)

.add(layout.createSequentialGroup()

.addContainerGap()

.add(jButton1)

.addContainerGap(196, Short.MAX\_VALUE))

);

pack();

}// </editor-fold>

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

**ActionListener updater = new ActionListener() {**

**public void actionPerformed(ActionEvent event) {**

**System.exit(0);**

**}**

**};**

**javax.swing.Timer tim = new javax.swing.Timer(10000, updater);**

**tim.start();**

}

/\*\*

\* @param args the command line arguments

\*/

public static void main(String args[]) {

java.awt.EventQueue.invokeLater(new Runnable() {

public void run() {

new NewJFrame().setVisible(true);

}

});

}

// Variables declaration - do not modify

private javax.swing.JButton jButton1;

// End of variables declaration

}

Most effective method of Animation using threads

import java.awt.Graphics;

import java.awt.Graphics2D;

import java.awt.RenderingHints;

import javax.swing.JFrame;

import javax.swing.JPanel;

@SuppressWarnings("serial")

public class Game extends JPanel {

int x = 0;

int y = 0;

private void moveBall() {

x = x + 1;

y = y + 1;

}

@Override

public void paint(Graphics g) {

super.paint(g);

Graphics2D g2d = (Graphics2D) g;

g2d.setRenderingHint(RenderingHints.KEY\_ANTIALIASING,

RenderingHints.VALUE\_ANTIALIAS\_ON);

g2d.fillOval(x, y, 30, 30);

}

public static void main(String[] args) throws InterruptedException {

JFrame frame = new JFrame("Mini Tennis");

Game game = new Game();

frame.add(game);

frame.setSize(300, 400);

frame.setVisible(true);

frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

while (true) {

game.moveBall();

game.repaint();

Thread.sleep(10);

} } }

Copying a file using Java

import java.io.\*;

import java.nio.file.Files;

import java.util.logging.Level;

import java.util.logging.Logger;

public class Main {

public static void main(String[] args) {

**File source = new File("D:/abc.txt");**

**File dest = new File("E:/abc.txt");**

try {

**Files.copy(source.toPath(), dest.toPath());**

} catch (IOException ex) {

Logger.getLogger(Main.class.getName()).log(Level.SEVERE, null, ex);

}

}

}

Deleting a file using java

import java.io.\*;

import java.nio.file.Files;

import java.util.logging.Level;

import java.util.logging.Logger;

public class Main {

public static void main(String[] args) {

**File del = new File("E:/abc.txt");**

try {

**Files.delete(del.toPath());**

} catch (IOException ex) {

Logger.getLogger(Main.class.getName()).log(Level.SEVERE, null, ex);

}

}}

Creating a Directory using Java

import java.io.\*;

import java.nio.file.Files;

import java.util.logging.Level;

import java.util.logging.Logger;

public class Main {

public static void main(String[] args) {

**File newDir = new File("C:/Users/Aakash/Desktop/Folder name");**

**newDir.mkdir();**

}

}

Creating a file using Java

import java.io.\*;

import java.nio.file.Files;

import java.util.logging.Level;

import java.util.logging.Logger;

public class Main {

public static void main(String[] args) {

**PrintWriter writer;**

**try {**

**writer = new PrintWriter("the-file-name.txt", "UTF-8");**

**writer.println("The first line");**

**writer.println("The second line");**

**writer.close();**

} catch (FileNotFoundException ex) {} catch (UnsupportedEncodingException ex) {}

}

}

Running a EXE File using JAVA

import java.io.\*;

import java.nio.file.Files;

import java.util.logging.Level;

import java.util.logging.Logger;

public class Main {

public static void main(String[] args) {

**Runtime runtime = Runtime.getRuntime();**

try {

**runtime.exec("C:/Windows/System32/notepad.exe");**

}

catch(Exception ex) {}

}

}

Renaming a file using Java

import java.io.File;

public class Main {

public static void main(String[] args) {

**File oldName = new File("D:/abc.txt");**

**File newName = new File("D:/java.txt");**

if(**oldName.renameTo(newName)**) {

System.out.println("renamed");

} else {

System.out.println("Error");

}

}

}

Displaying all the files in a directory using Java

import java.io.File;

public class Main {

public static void main(String[] args) {

File oldName = new File("D:/");

String[] a;

**a = oldName.list();**

int len = a.length;

for(int i=0; i<=(len-1); i=i+1) {

System.out.println(a[i]);

}

}

}

Getting total space of a directory

import java.io.File;

public class Main {

public static void main(String[] args) {

File oldName = new File("D:/");

**long bytes = oldName.getTotalSpace();**

long kb = bytes/1024;

long mb = kb/1024;

long gb = mb/1024;

System.out.println("In bytes = "+bytes);

System.out.println("In kilo bytes = "+kb);

System.out.println("In mega bytes = "+mb);

System.out.println("In giga bytes = "+gb);

}

}

Getting free space of a directory

import java.io.File;

public class Main {

public static void main(String[] args) {

File oldName = new File("D:/");

**long bytes = oldName.getFreeSpace();**

long kb = bytes/1024;

long mb = kb/1024;

long gb = mb/1024;

System.out.println("In bytes = "+bytes);

System.out.println("In kilo bytes = "+kb);

System.out.println("In mega bytes = "+mb);

System.out.println("In giga bytes = "+gb);

}

}

Reading a file using java

Charset charset = Charset.forName("US-ASCII");

try (BufferedReader reader = Files.newBufferedReader(file, charset)) {

String line = null;

while ((line = reader.readLine()) != null) {

System.out.println(line);

}

} catch (IOException x) {

System.err.format("IOException: %s%n", x);

}

Opening a file using its default application

try

{

Desktop.getDesktop().open(new File("path/to/localFile"));

}

catch (IOException ex)

{

}

Writing a file in java

String file = "C:/Users/Aakash/Desktop/"+fileName+"."+extension;

File f = new File(file);

try {

BufferedWriter output = new BufferedWriter(new FileWriter(f));

output.write(selectedv);

output.close();

f.createNewFile();

}

catch(Exception e){}

**Playing an Audio File**

\\ more effective way

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

try {

in = new FileInputStream("junk.au");

} catch (FileNotFoundException ex) {

Logger.getLogger(NewJFramew.class.getName()).log(Level.SEVERE, null, ex);

}

try {

as = new AudioStream(in);

} catch (IOException ex) {

Logger.getLogger(NewJFramew.class.getName()).log(Level.SEVERE, null, ex);

}

AudioPlayer.player.start(as);

}

Method 2

try {

String a = "src/spacemusic.au";

URL url = NewJFrame1.class.getResource("spacemusic.au");

as = new AudioStream(url.openStream());

} catch (IOException ex) {

Logger.getLogger(NewJFrame1.class.getName()).log(Level.SEVERE, null, ex);

}

try {

data = as.getData();

} catch (IOException ex) {

Logger.getLogger(NewJFrame1.class.getName()).log(Level.SEVERE, null, ex);

}

ContinuousAudioDataStream cas = new ContinuousAudioDataStream(data);

AudioPlayer.player.start(cas);

Setting the audio volume

// maximum value = 6.0206f, minimum value = -80.0f

AudioInputStream audioInputStream;

try {

audioInputStream = AudioSystem.getAudioInputStream(

new File("junk.au"));

Clip clip = null;

try {

clip = AudioSystem.getClip();

} catch (LineUnavailableException ex) {

Logger.getLogger(NewJFramew.class.getName()).log(Level.SEVERE, null, ex);

}

try {

clip.open(audioInputStream);

} catch (LineUnavailableException ex) {

Logger.getLogger(NewJFramew.class.getName()).log(Level.SEVERE, null, ex);

}

**FloatControl gainControl =**

**(FloatControl) clip.getControl(FloatControl.Type.MASTER\_GAIN);**

**gainControl.setValue(-5.5f); // Reduce volume by 10 decibels.**

clip.start();

} catch (UnsupportedAudioFileException ex) {

Logger.getLogger(NewJFramew.class.getName()).log(Level.SEVERE, null, ex);

} catch (IOException ex) {

Logger.getLogger(NewJFramew.class.getName()).log(Level.SEVERE, null, ex);

}

Playing the tones

public NewJFrame() {

initComponents();

try {

**synthesizer = MidiSystem.getSynthesizer();**

**synthesizer.open();**

**channel = synthesizer.getChannels()[0];**

} catch (MidiUnavailableException ex) {

Logger.getLogger(NewJFrame.class.getName()).log(Level.SEVERE, null, ex);

}

}

private void jButton6ActionPerformed(java.awt.event.ActionEvent evt) {

**channel.noteOn(69, 60);**

// TODO add your handling code here:

}