Cheatography

Java Swing/GUI Cheat Sheet

by NeonKnightOA via cheatography.com/24399/cs/6049/

Cheat Sheet based on:

Swing/GUI Cheat Sheet at Williams College
http://eventfuljava.cs.williams.edu/s04/handouts/SwingGUICheatSheet.html

Displaying a Swing component

Construct and initialize the component.

button = new JButton ("ButtonLabel");

Add it to the content pane of the window or to a JPanel that is added to the display.

getContentPane().add (button);

Import javax.swing. *and sometimes also java.awt.* at the beginning of the class creating the components.

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

Getting events from GUI component

Declare that the class handling the event implements the appropriate listener interface.

implements ActionListener

Define the method that the listener interface requires.

public void actionPerformed (ActionEvent event)

Add a listener appropriate for the component to the component.

button.addActionListener (this);

Import java.awt.event. *(and occasionally javax.swing.event.)* at the beginning of the class that is the listener.

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

Finding out which component sent the event

When the listener method is called, you can find out which component sent the event by calling getSource() on the event:

```
public void actionPerformed (ActionEvent event) {
  Object theButton = event.getSource();
  if (theButton == framedCircleButton) {
    // Create a framed circle
  }
}
```

If a method returns a String, remember to compare the result using the equals method, not ==:

aMenu.getSelectedItem().equals ("A value");

Containers

JPanel constructor:	new JPanel ()
Define the type of layout:	void setLayout (LayoutManager lm)
Add an object to a container: (FlowLayout or GridLayout)	void add (Component c)
Add an object to a container: (BorderLayout)	void add (Component c, int position)

Both JPanel and the object obtained by sending getContentPane() to a WindowController object are containers (and have type Container). These methods are available for all containers.
For BorderLayouts, position may be eitherBorderLayout.NORTH, BorderLayout.SOUTH, BorderLayout.EAST, BorderLayout.WEST, or BorderLayout.CENTER.

Layout Managers

BorderLayout constructor:	new BorderLayout ()
FlowLayout constructor:	new FlowLayout ()
GridLayout constructor:	new GridLayout (int rows, int cols) new GridLayout (int rows, int cols, int colSpacing, int rowSpacing)

BorderLayout is the default layout for WindowController, whereas FlowLayout is default for JPanel.

GUI Components - General

The following methods can be applied to any Component:

void setFont (Font f)
void setForeground (Color c)
void setBackground (Color c)

To construct a font use:

new Font (String name, int style, int size)

Style can be one of the following:

Font.BOLD
Font.ITALIC
Font.PLAIN
Font.BOLD+Font.ITALIC

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GUI Components - JButton

Constructor:	new JButton (String s)
General Methods:	String getText ( ) void setText (String s)
Listener Interface:	ActionListener
Adding the listener:	void addActionListener (ActionListener al)
Listening Method:	void actionPerformed (ActionEvent e)

GUI Components - JComboBox

Constructor and Initialization:	new JComboBox ( ) void addItem (Object item)
General Methods:	Object getSelectedItem ( ) String text= (String)menu.getSelectedItem(); int getSelectedIndex ( )
Listener Interface:	ItemListener ActionListener
Adding the listener:	void addItemListener (ItemListener il) void addActionListener (ActionListener al)
Listening Method:	void itemStateChanged (ItemEvent e) void actionPerformed (ActionEvent e)

About methods:

getSelectedItem ( ) returns the selected item

(String) menu.getSelectedItem ( ); is a typecast which treats the above returned value as a String

int getSelectedIndex ( ) returns the index of the selected item.

About the listeners:

This component can hear the user making a menu selection dependong on the chosen interface. Be consistent in your choice of listener interface, adding method, and listening method.

GUI Components - JLabel

Constructors:	new JLabel (String s) new JLabel (String s, int align)
General Methods:	void setText (String s) String getText ( )
Listener Interface:	No listeners available.

align can be either JLabel.RIGHT, JLabel.LEFT or JLabel.CENTER.

GUI Components - JSlider

Constructor:	new JSlider (int orientation, int minimum, int maximum, int initialValue)
General Methods:	void setValue (int newVal) int getValue ( )
Listener Interface:	ChangeListener
Adding the Listener:	addChangeListener (ChangeListener al)
Listening Method:	void stateChanged (ChangeEvent e)

orientation can be either JSlider.HORIZONTAL or JSlider.VERTICAL.

GUI Components - JTextField

Constructors:	new JTextField (String s)
General Methods:	void setText (String s) String getText ( )
Listener Interface:	ActionListener
Adding the Listener:	addActionListener (ActionListener al)
Listening Method:	void actionPerformed (ActionEvent e)

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