

Java

Swing

Introduction

- Java AWT [Abstract Window Toolkit] contains numerous classes and methods for creating and managing windows.
- Java Swing is built on the AWT.
- Swing Concepts
 - Container
 - Heavyweight : *JFrame, JApplet* etc
 - Lightweight : *JPanel*
 - Component
 - JButton, JLabel etc
- The main package is *javax.swing*.

A Simple Swing

- Two ways to create a simple swing application
- *By creating an object of JFrame class*
 - **Example: SimpleFrame1.java**
- *By extending the JFrame class*
 - **Example: SimpleFrame2.java**

JFrame with simple components

- *Simple JFrame*
 - With a JLabel
 - With a JButton
 - With **default Layout**
 - **Example: LabelFrame1.java**
- *Simple JFrame*
 - With a JLabel
 - With a JButton
 - With **FlowLayout**
 - **Example: LabelFrame2.java**

Event Handling

- Events are generated when user do some actions with the components. (button click)
- Event handling are same for Swing and AWT.
- The interface which is generally used for event handling is known as ActionListener.
- The class that implements the **ActionListener** interface must implement the following method.
 - public void actionPerformed (ActionEvent ae)
- Components registered to handle event by
 - addActionListener (ActionListener al)
- **Example: EventFrame(1-3).java**

Some Component

- *JLabel*
 - **Example: TestJLabelFrame.java**
- *JTextField* and *JPasswordField*
 - **Example: TestJTextFieldFrame.java**
- *JButton*
 - **Example: TestJButtonFrame.java**

Some Component

- *JCheckBox*
 - **Example: TestJCheckBoxFrame.java**
- *JRadioButton*
 - **Example: TestJRadioButtonFrame.java**
- *JComboBox*
 - **Example: TestJComboBoxFrame.java**

Keyboard and Mouse

- In Swing we can also detect key and mouse events.
- For key event handling the interface is **KeyListener**.
- The name of the functions are:
 - *keyTyped, keyPressed* and *keyReleased*
- For mouse event handling the interface is **MouseListener**.
- The name of the functions are:
 - *mouseClicked, mousePressed, mouseReleased, mouseEntered* and *mouseExited*
- **Example:**
TestKeyListener.java, TestMouseListener.java

End