

Interface Gráfica em Java

MC302 EF

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Motivação

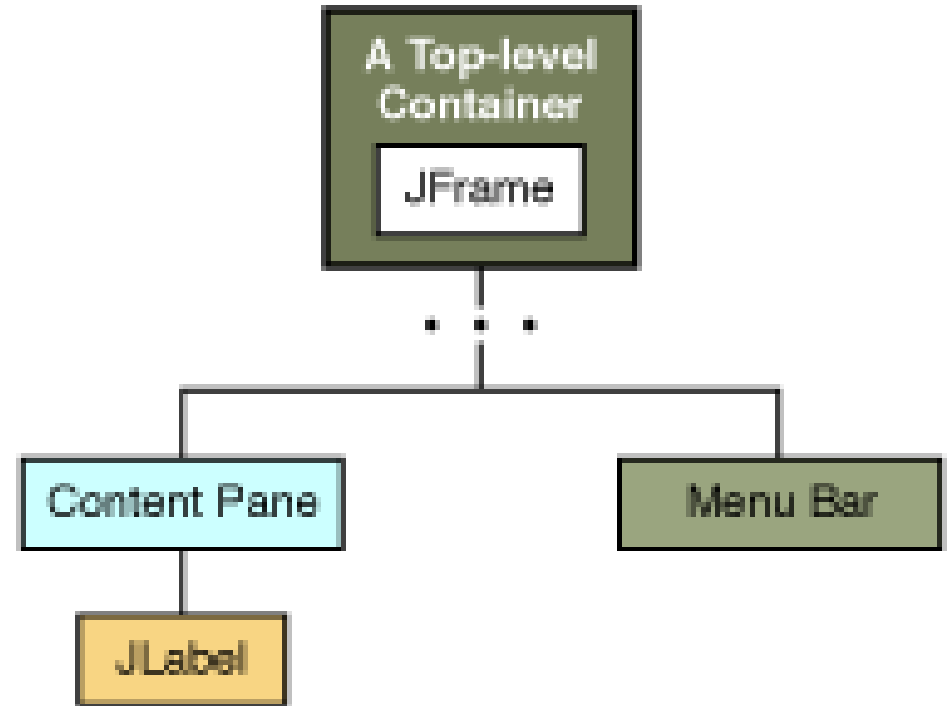
- Por que utilizar?
 - Quando o usuário precisa entrar muitos dados no programa.
 - O programa precisa exibir muitos dados ou algo gráfico para o usuário.
 - graphical user interface (GUI)
 - Command line interface (CLI)
 - Estudar na disciplinas de IHC.
 - Usabilidade

Swing

- O que é?
- AWT

Containers

- JFrame
- JDialog
- JApplet



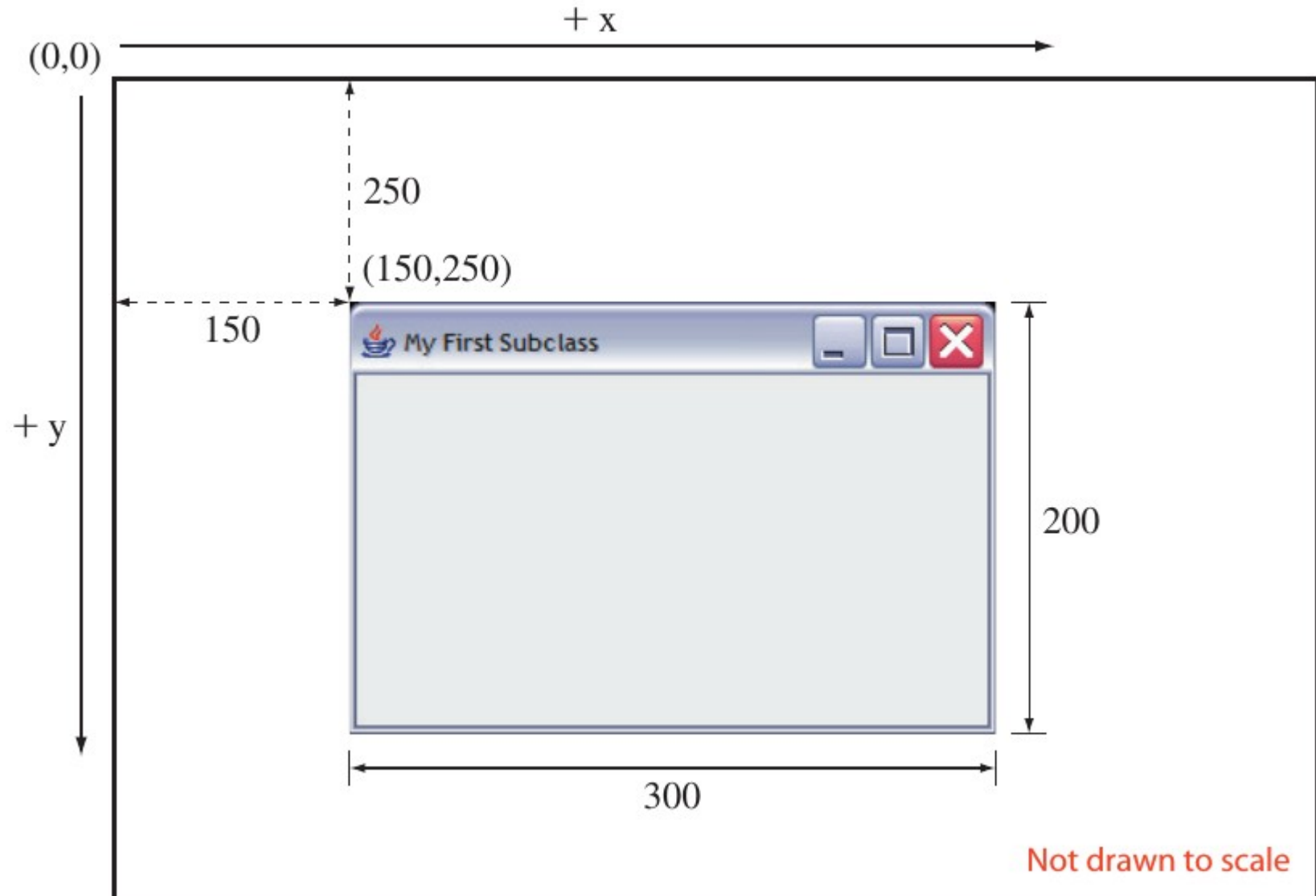
Hello World

```
package br.unicamp.disciplina.mc302.ef.visual;

public class HelloWorld {

    public static void main(String[] args) {
        javax.swing.JFrame myWindow;
        myWindow = new javax.swing.JFrame ();
        myWindow.setSize(300, 200);
        myWindow.setTitle("My First Java Program");
        myWindow.setVisible(true);
    }
}
```

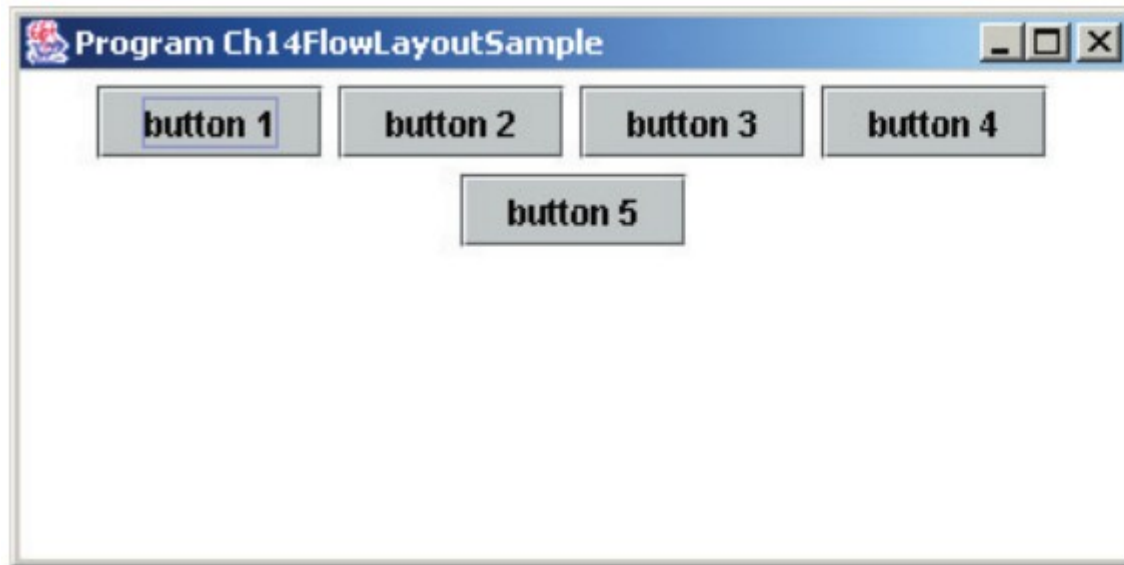
Dimensões



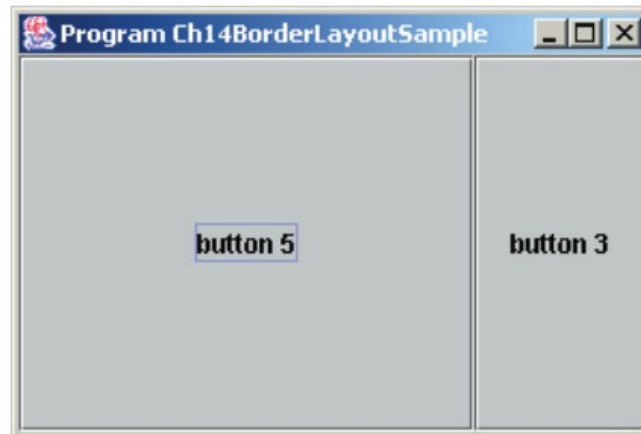
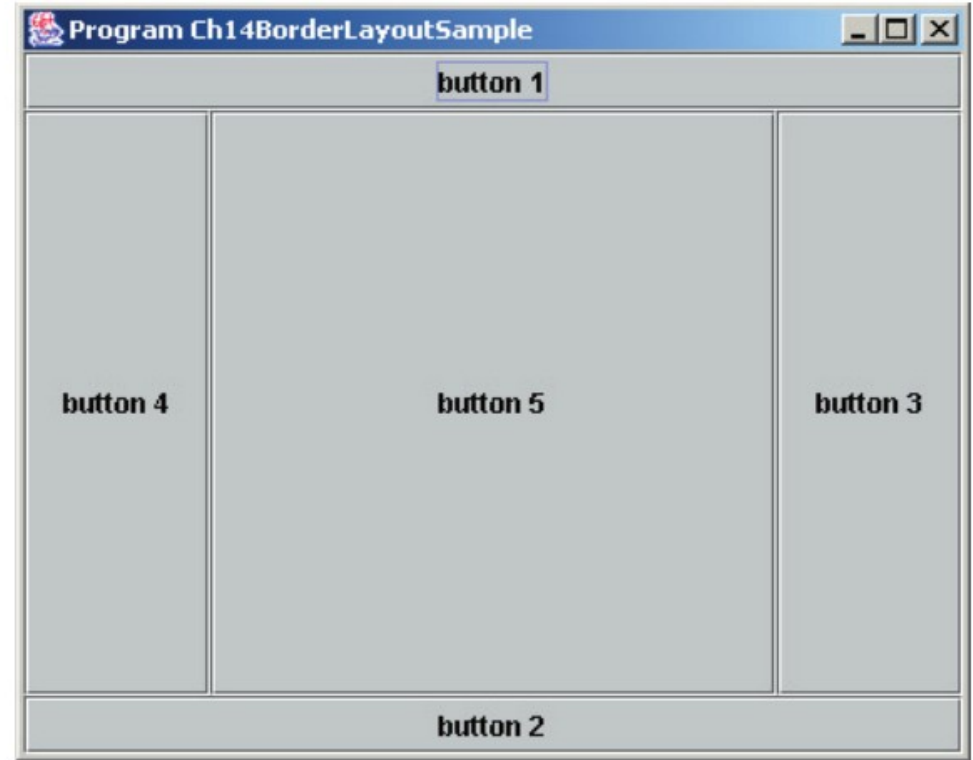
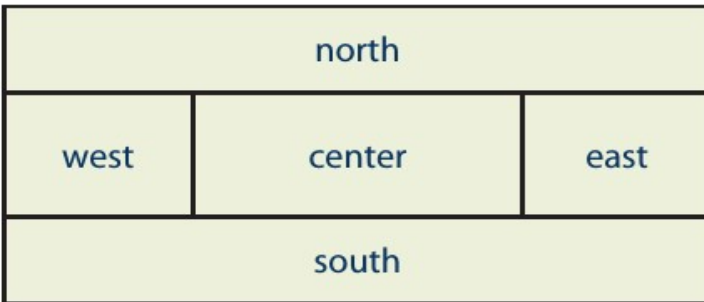
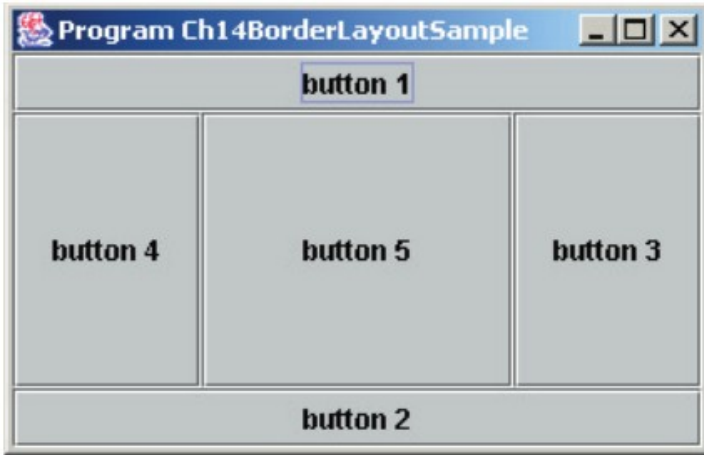
Gerenciador de Layout

- `java.awt.FlowLayout`
- `java.awt.GridLayout`
- `java.awt.GridBagLayout`
- `java.awt.BorderLayout`
- `java.awt.CardLayout`
- `javax.swing.GroupLayout`
- `javax.swing.SpringLayout`
- `javax.swing.BoxLayout`

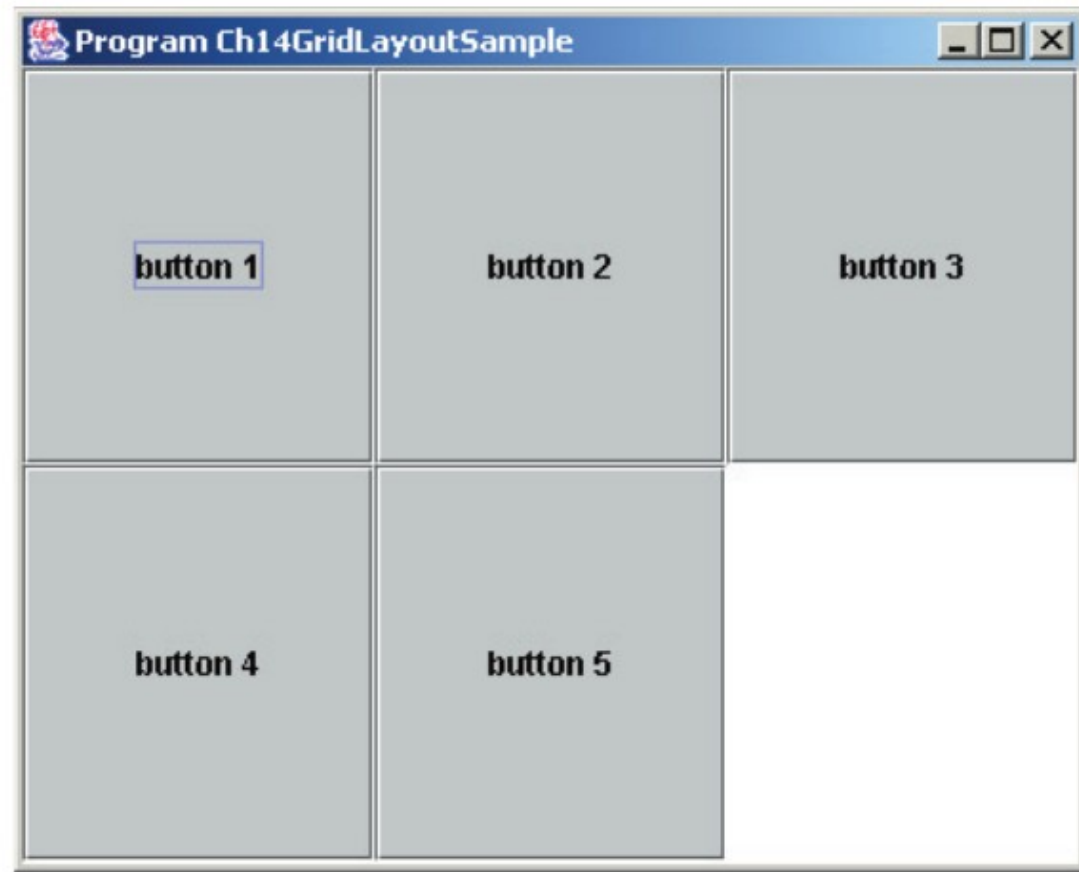
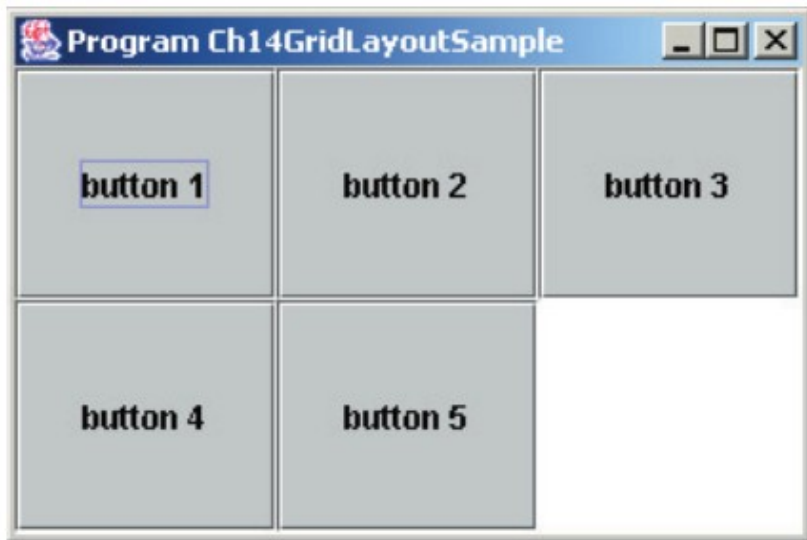
Flow Layout



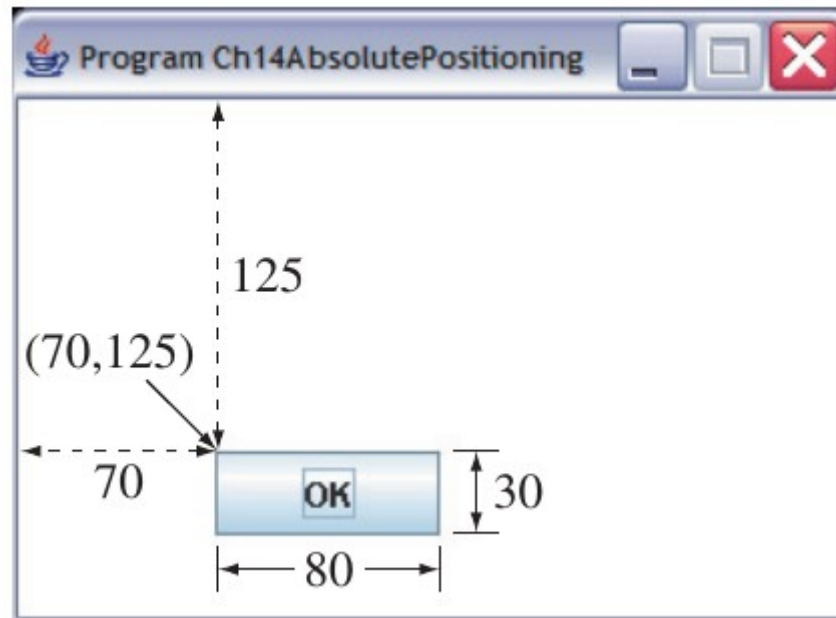
Border Layout



Grid Layout



Posicionamento Absoluto



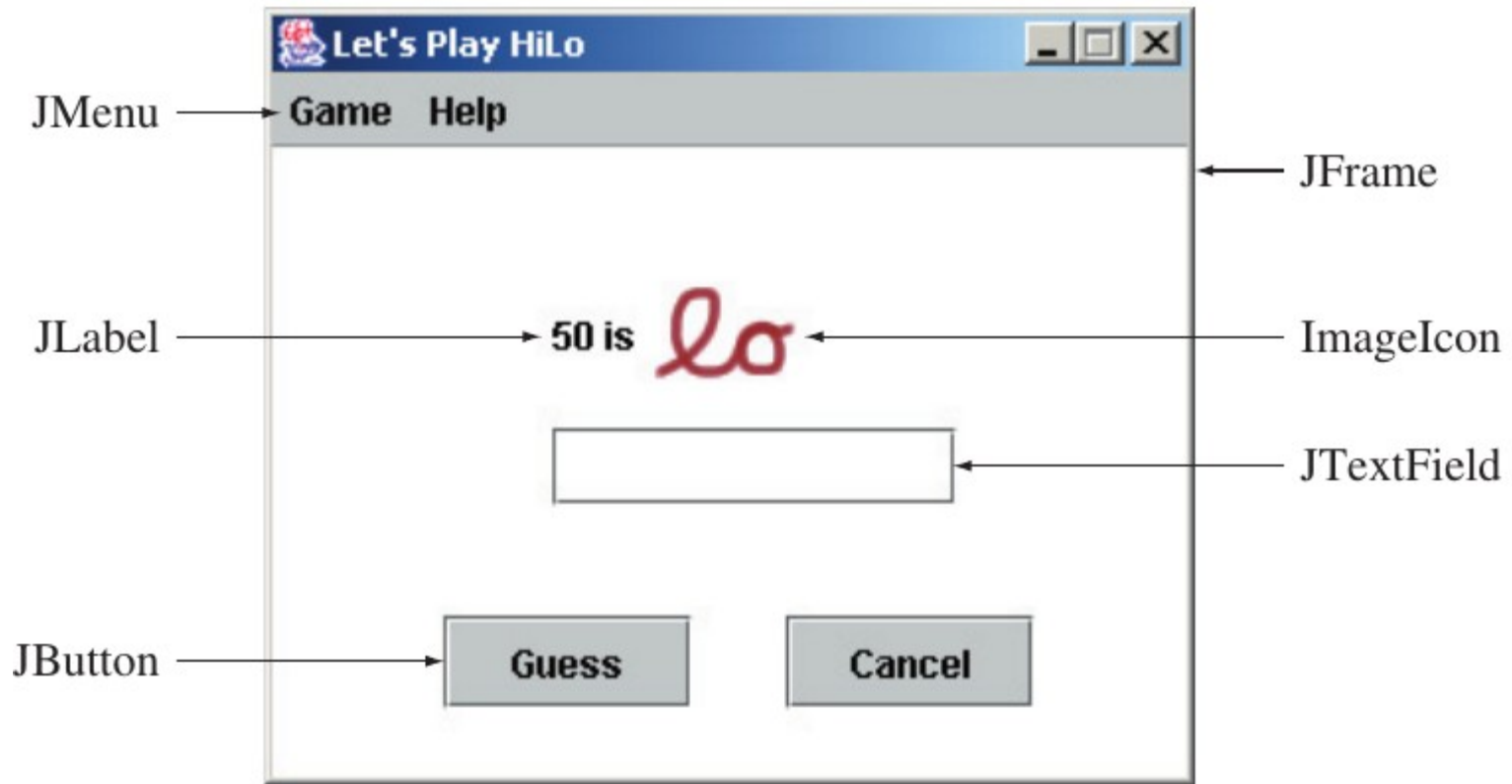
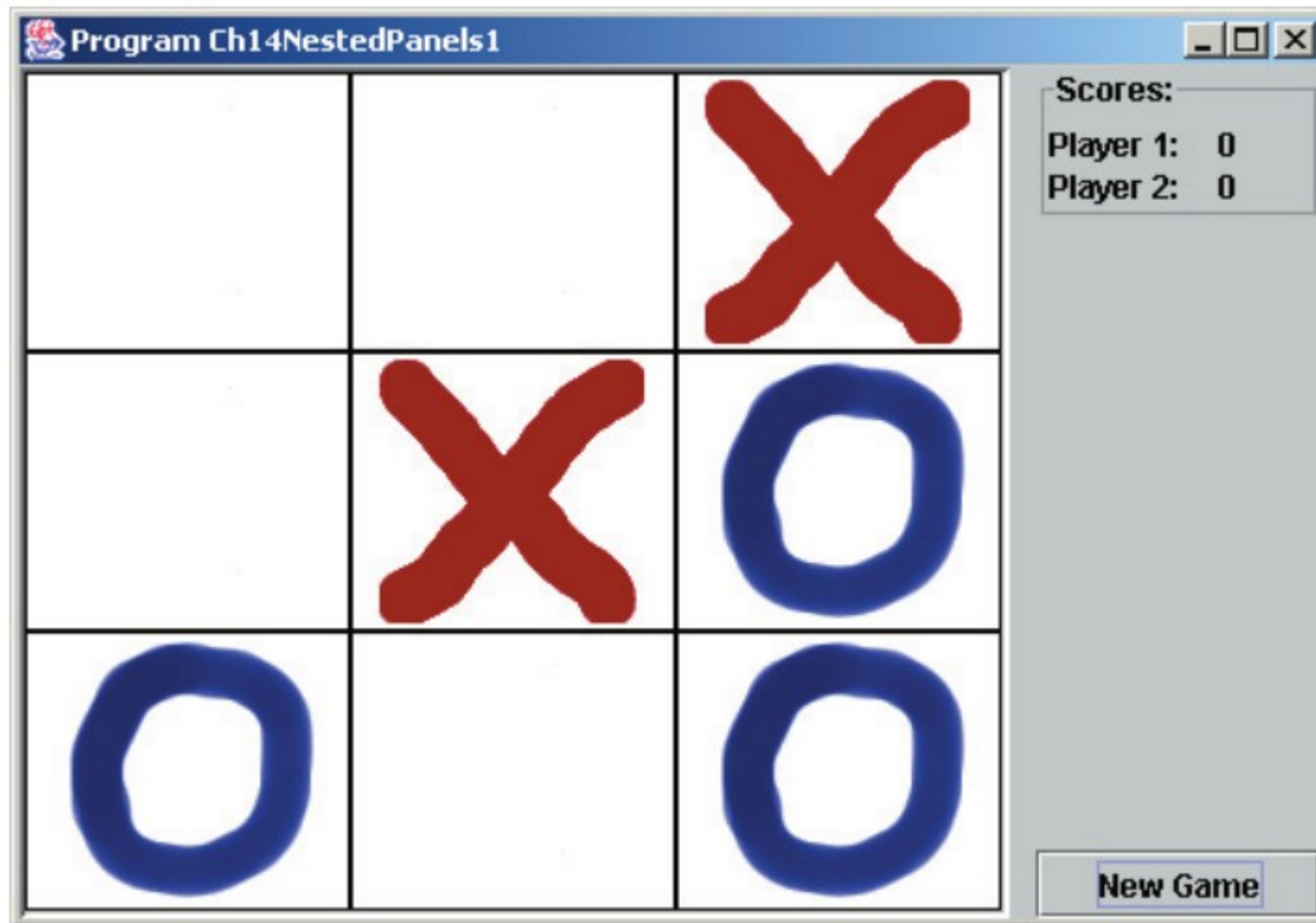
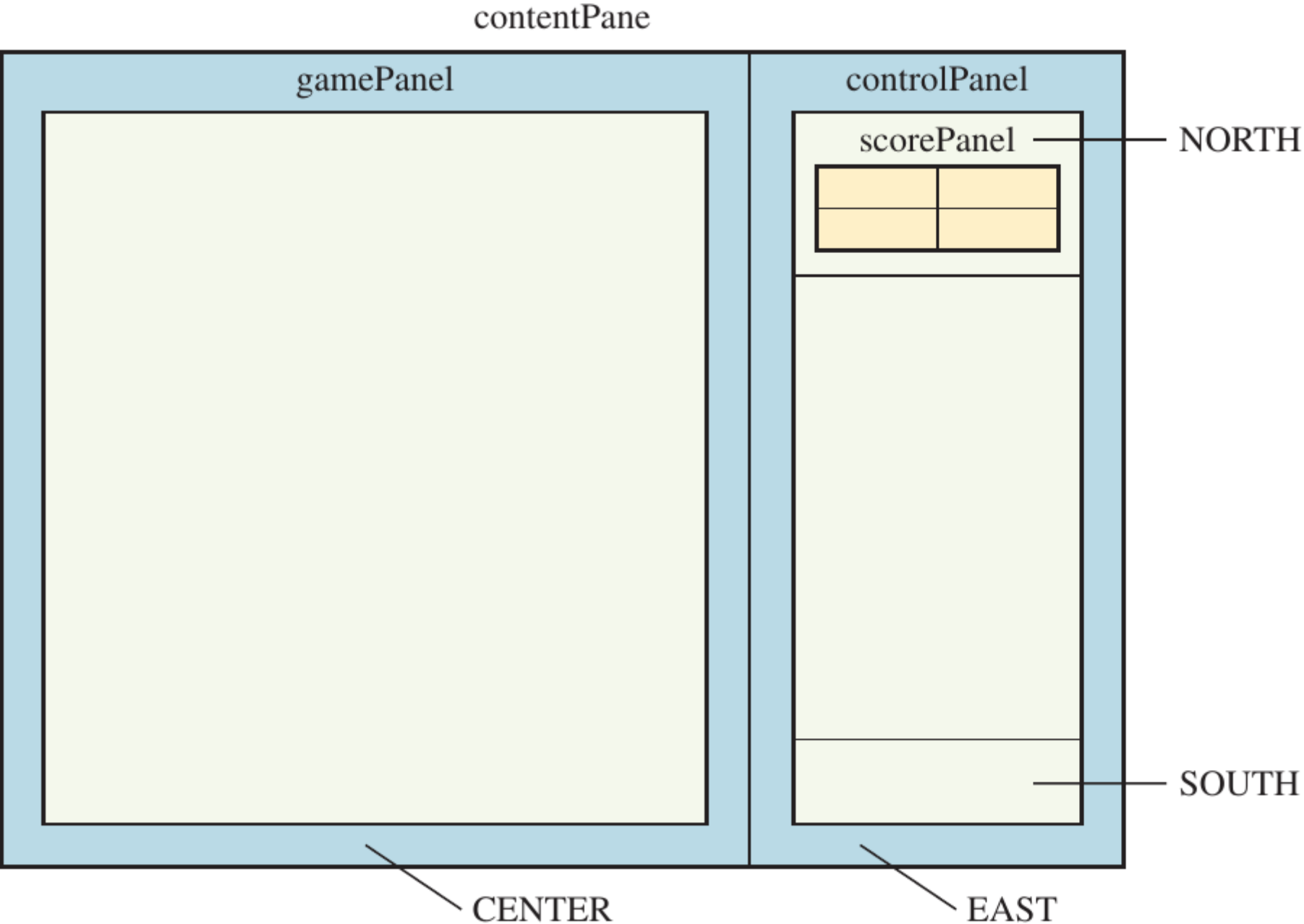


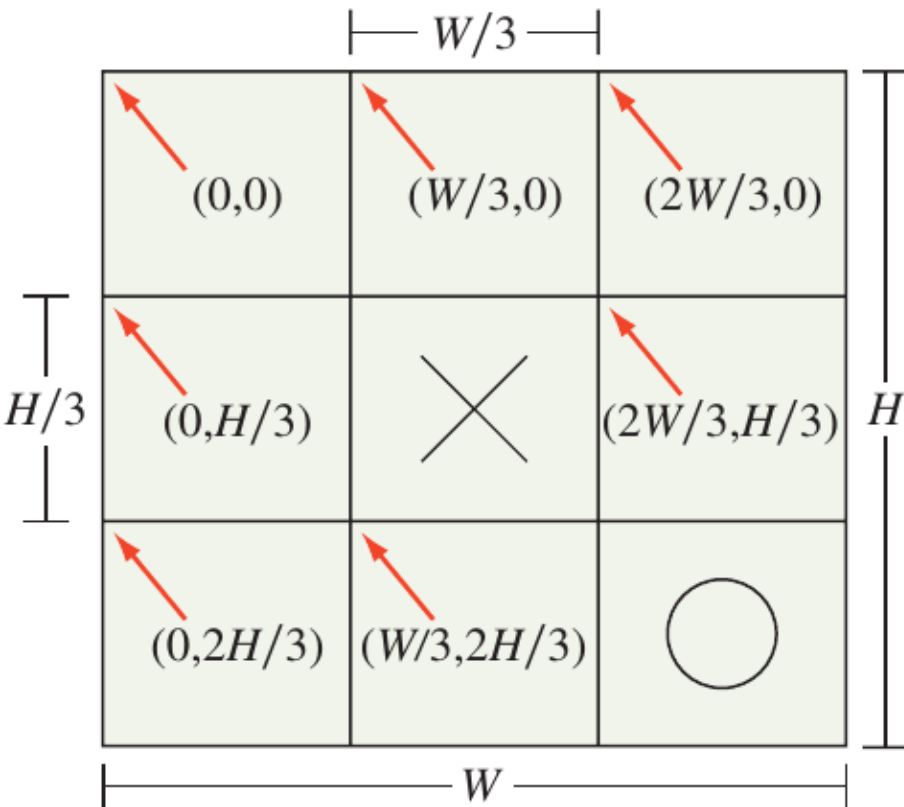
Figure 14.1 Various GUI objects from the javax.swing package.

Como fazer esta tela?

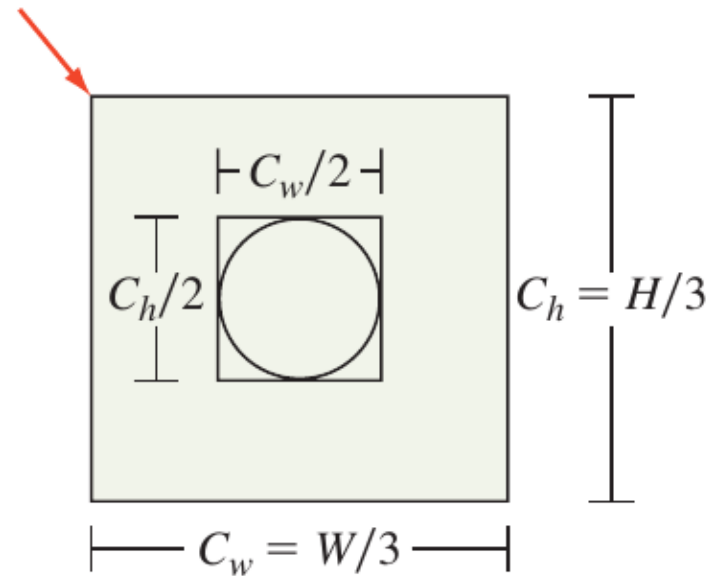




Como Posicionar a Imagem



(C_x, C_y) [for example $(C_x, C_y) = (2W/3, 2H/3)$]

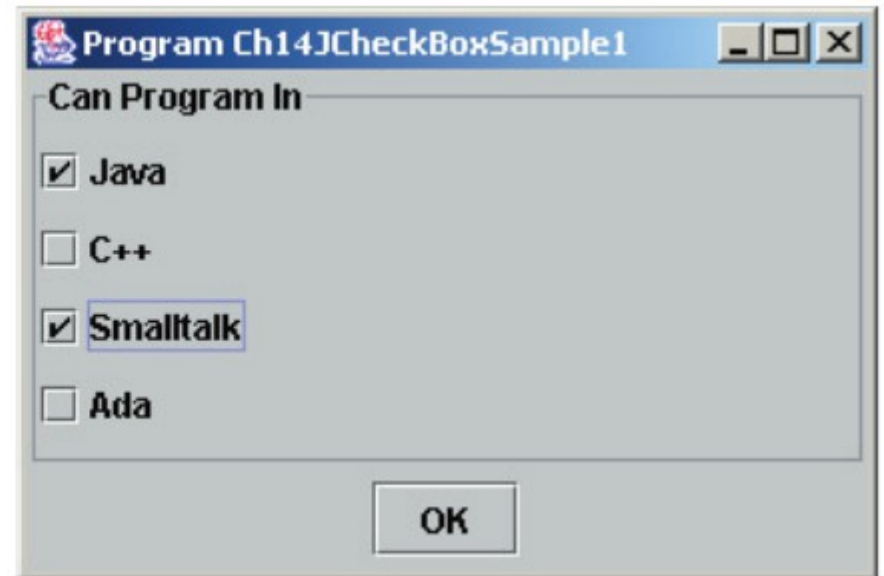
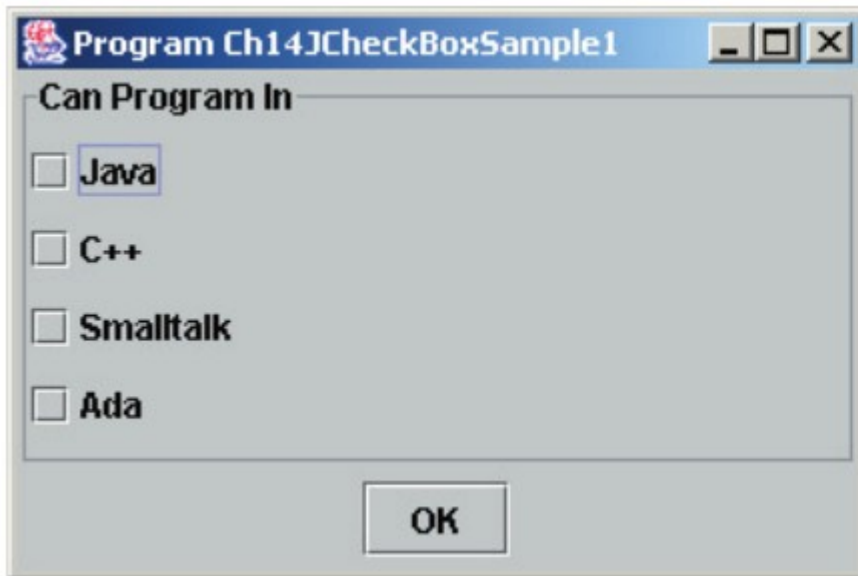


```
g.drawOval(C_x + C_w/4, C_y + C_h/4, C_w/2, C_h/2);
```

Programação Dirigida a Eventos

- Método tratador de evento
 - Action event
 - Change State event
 - Item event
- Event source
- Event listener

JCheckBox



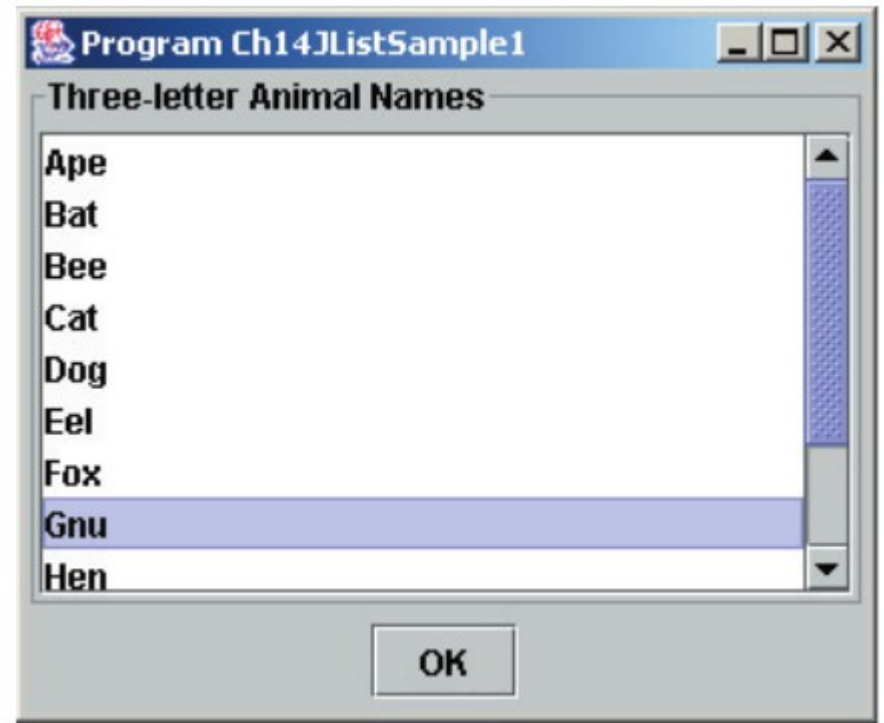
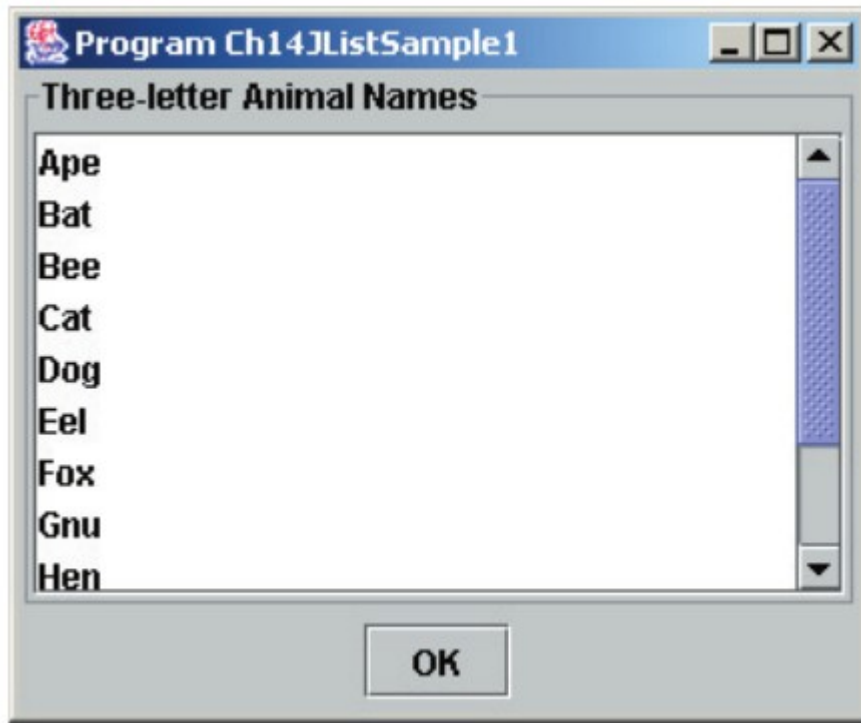
JRadioButton



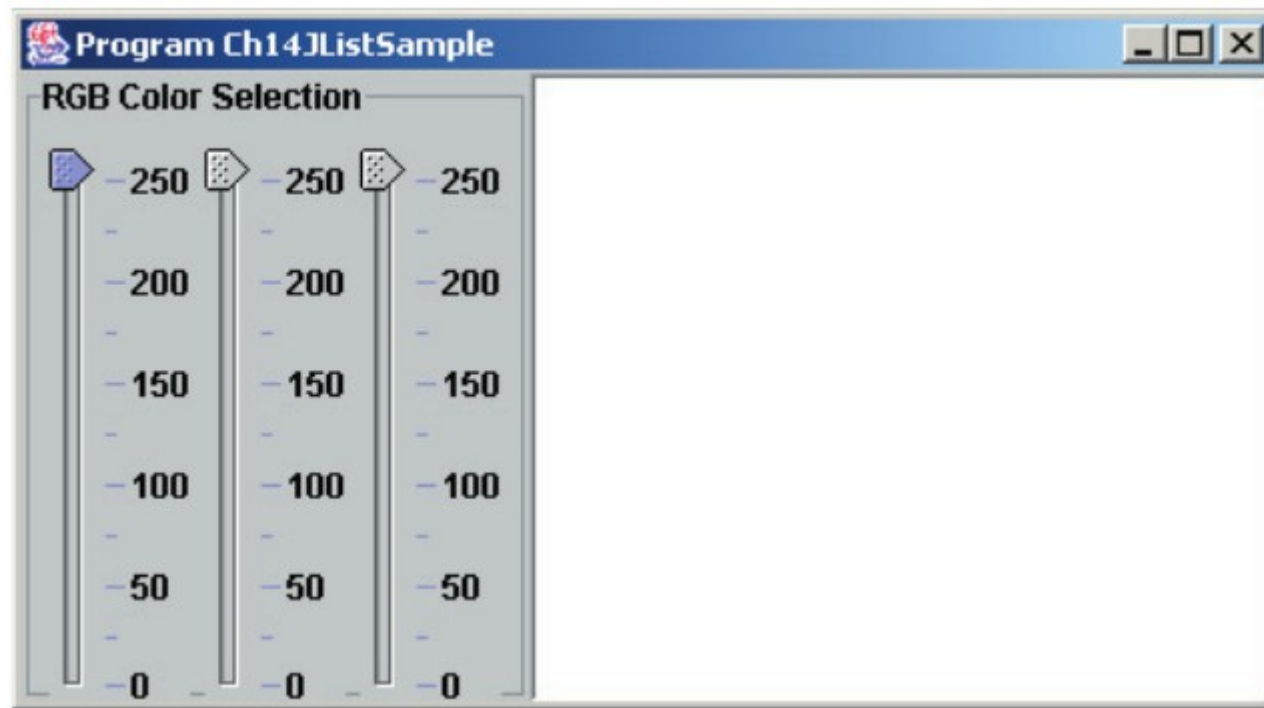
JComboBox



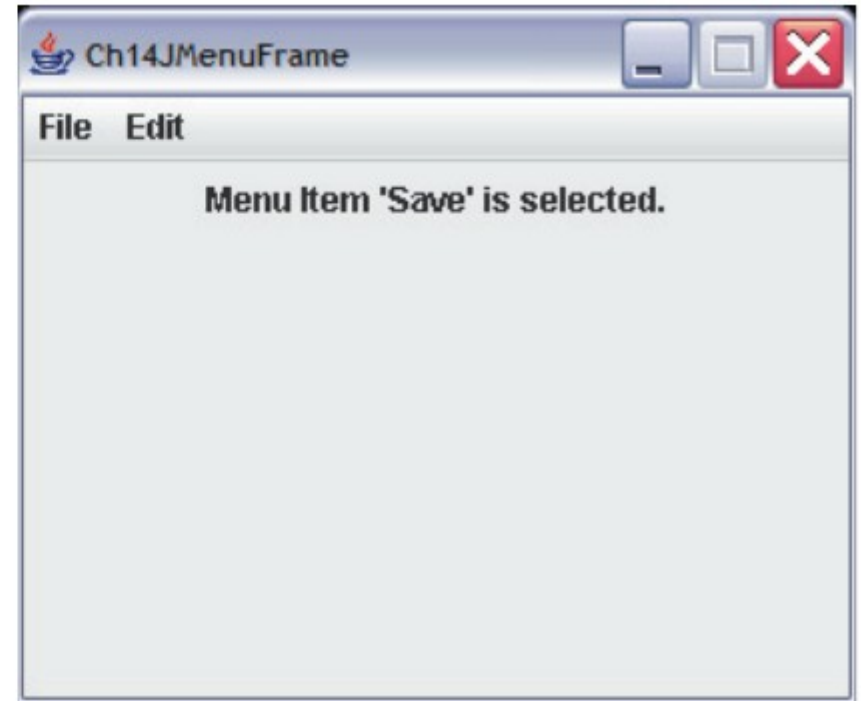
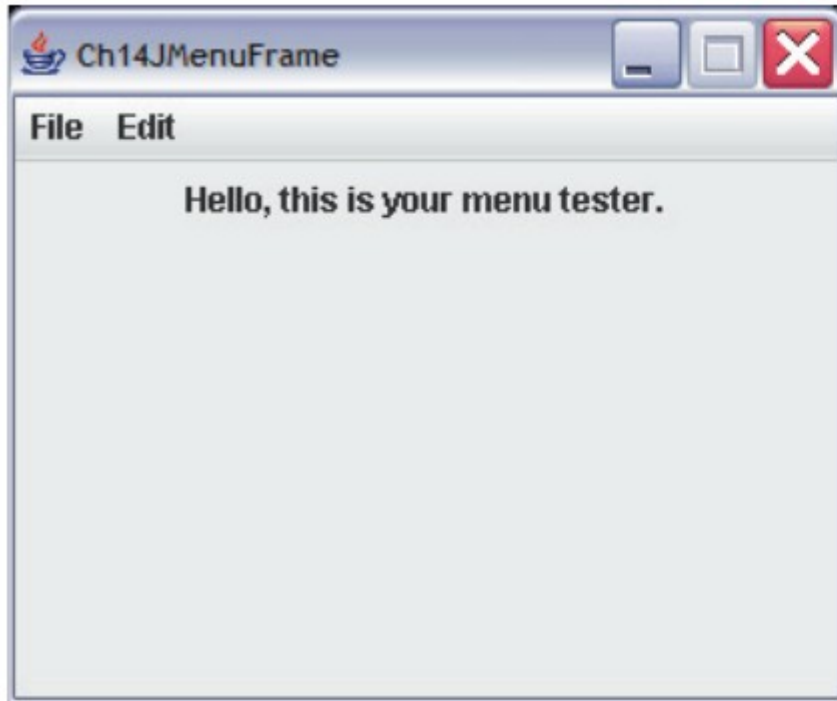
JList



JSlider



JMenu



Classes

- Algumas classes vistas nos exemplos:
 - ActionEvent
 - ActionListener
 - BorderFactory
 - BorderLayout
 - ButtonGroup
 - ChangeEvent
 - ChangeListener
 - Container
 - FlowLayout
 - GridLayout
 - ImageIcon
 - ItemEvent
 - ItemListener
 - JTextArea
 - JTextField
 - MouseEvent
 - JButton
 - JCheckBox
 - JComboBox
 - JFrame
 - JLabel
 - JList
 - JMenu
 - JMenuBar
 - JMenuItem
 - JOptionPane
 - JPanel
 - JRadioButton
 - JScrollPane
 - JSlider
 - MouseListener
 - MouseMotionListener

Referências

C. Thomas Wu. **An Introduction to Object-Oriented Programming with Java**. 2010. 5 ed. McGraw-Hill: New York. Capítulo 5. Capítulo 14.

Swing Básico. Java Noroeste.

http://javanoroeste.com.br/javanoroeste/novo/artigos/swing_basico.html