



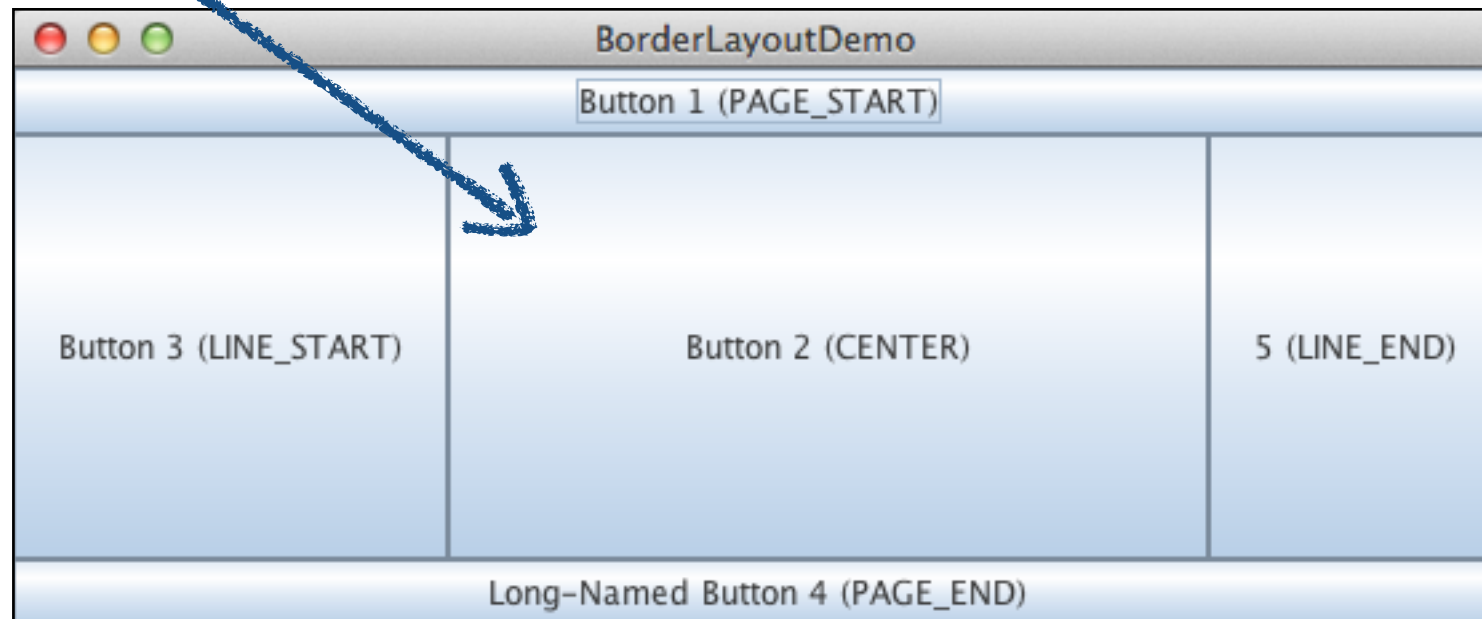
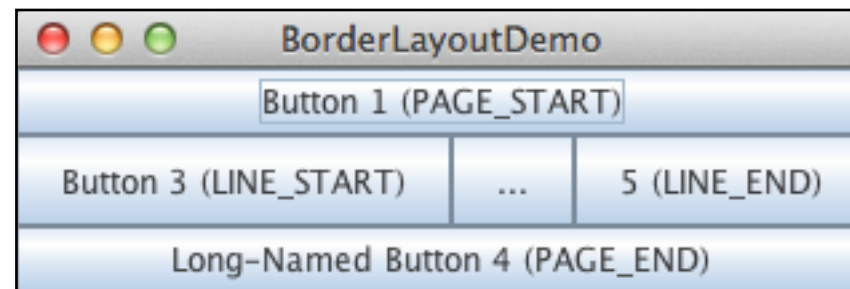


# Layout Managers

- Border Layout  default layout for all content panes
- Box Layout
- Flow Layout  default layout for JPanel
- Grid Bag Layout  the most flexible and complex layout manager
- Grid Layout
- Group Layout  used by GUI builder apps

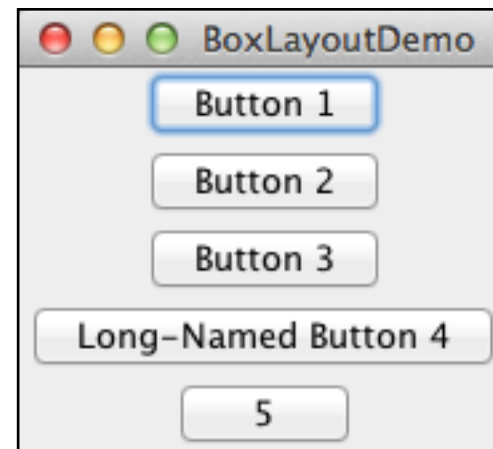
# Border Layout

center area is only  
one that expands  
in both dimensions

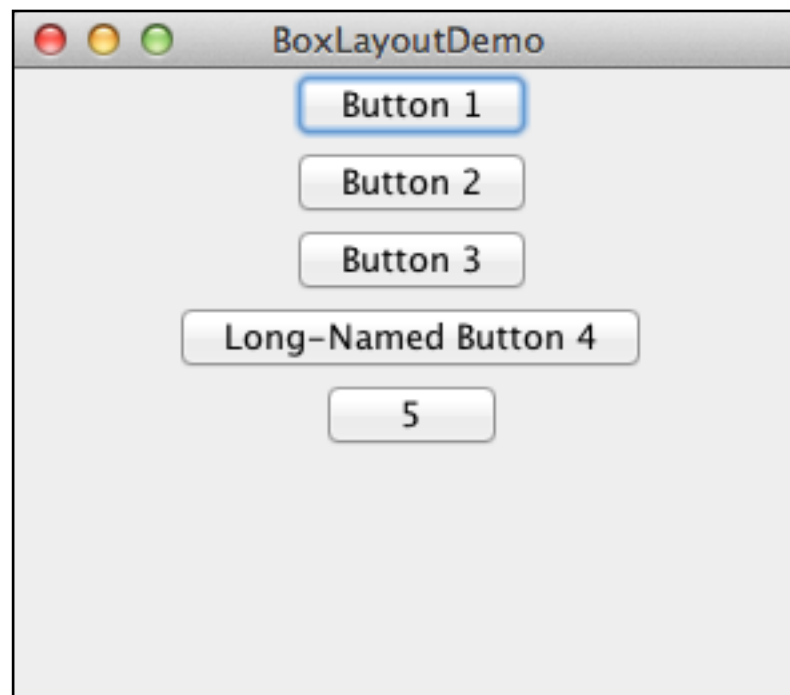


# Box Layout

Puts components  
in a single row or  
column



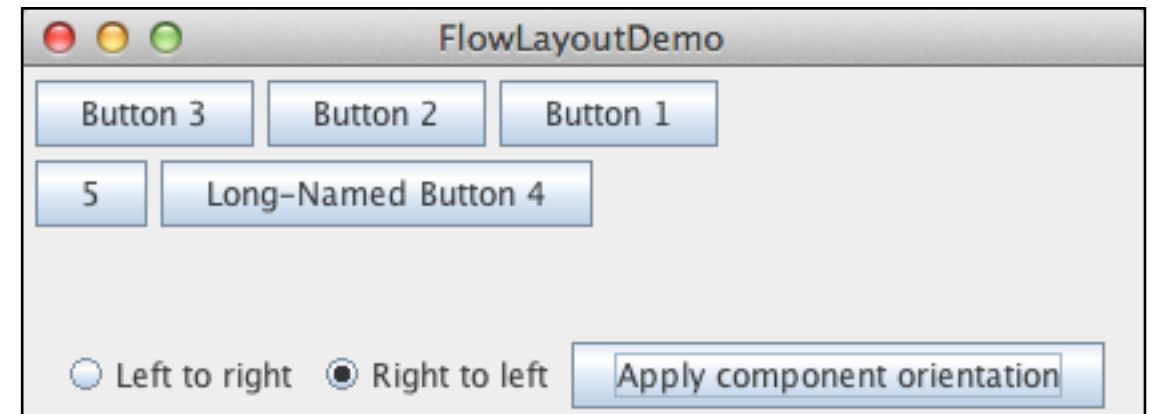
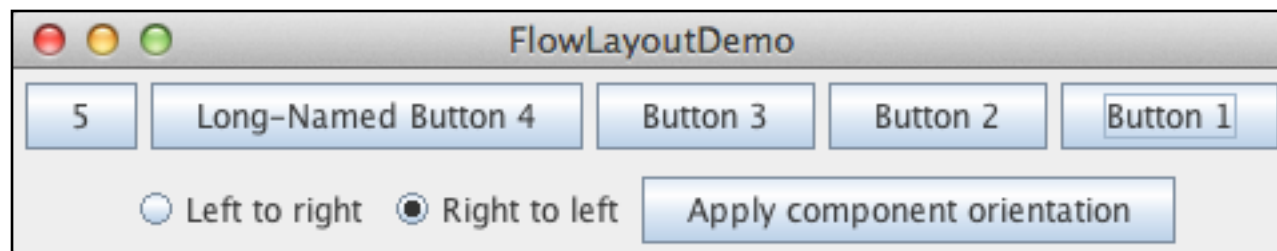
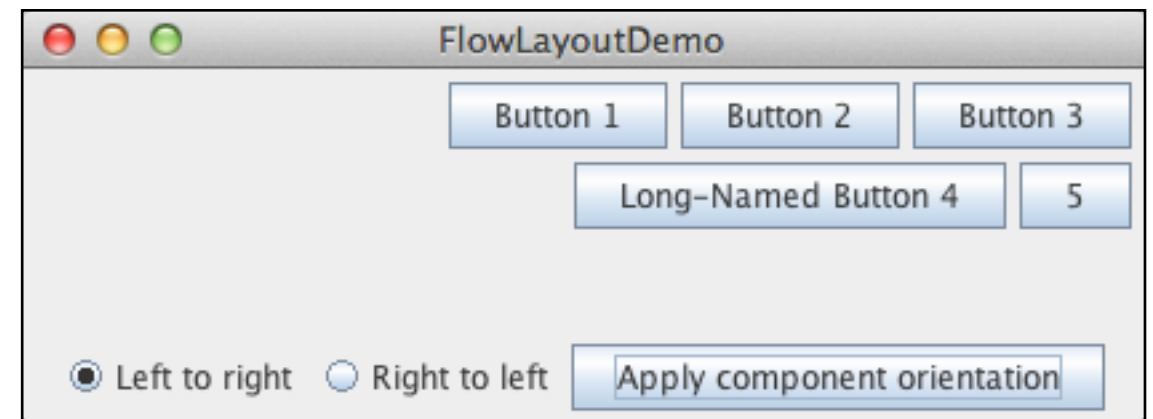
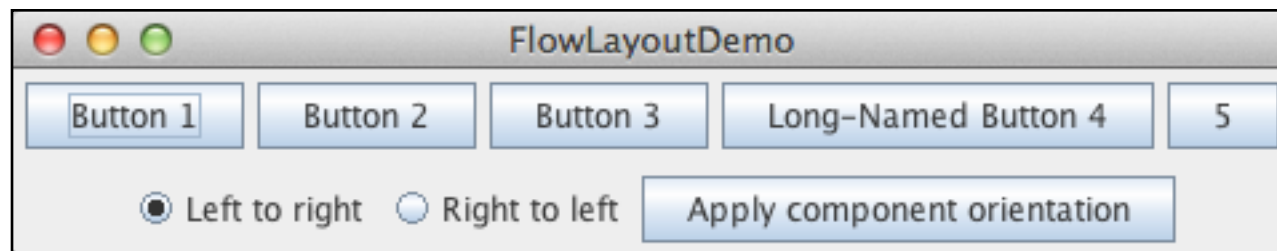
Respects  
components'  
requested  
maximum sizes



Lets you align  
components

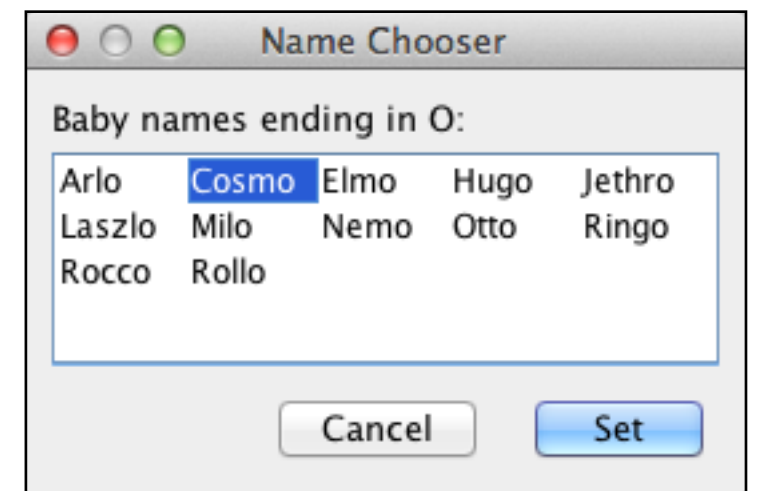
# Flow Layout

Simply lays out components in a single row,  
starts new row if container is not sufficiently wide



# Combining Layouts

- Name Chooser dialog box uses two instances of BorderLayout
  - Top part – a top-to-bottom box layout places a label above a scroll pane
  - Bottom part – a left-to-right box layout places two buttons next to each other
- A BorderLayout combines the two parts and ensures that excess space is given to the scroll pane.



# Java Tutorial Note on Layout Managers

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**Note:** This lesson covers writing layout code by hand, which can be challenging. If you are not interested in learning all the details of layout management, you might prefer to use the GroupLayout layout manager combined with a builder tool to lay out your GUI. One such builder tool is the NetBeans IDE. Otherwise, if you want to code by hand and do not want to use GroupLayout, then GridBagLayout is recommended as the next most flexible and powerful layout manager.

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# NetBeans GUI Builder Demo

1. Create a New Java Project (CelsiusConverter)
2. Add a JFrame Form (CelsiusConverterGUI)

3. Make the GUI look like this:



4. Add event listener to Convert button
5. Add action performed:

```
//Parse degrees Celsius as a double and convert to Fahrenheit.  
int tempFahr = (int)((Double.parseDouble(tempTextField.getText()))  
                * 1.8 + 32);  
fahrenheitLabel.setText(tempFahr + " Fahrenheit");
```