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CS F213 - Object Oriented Programming

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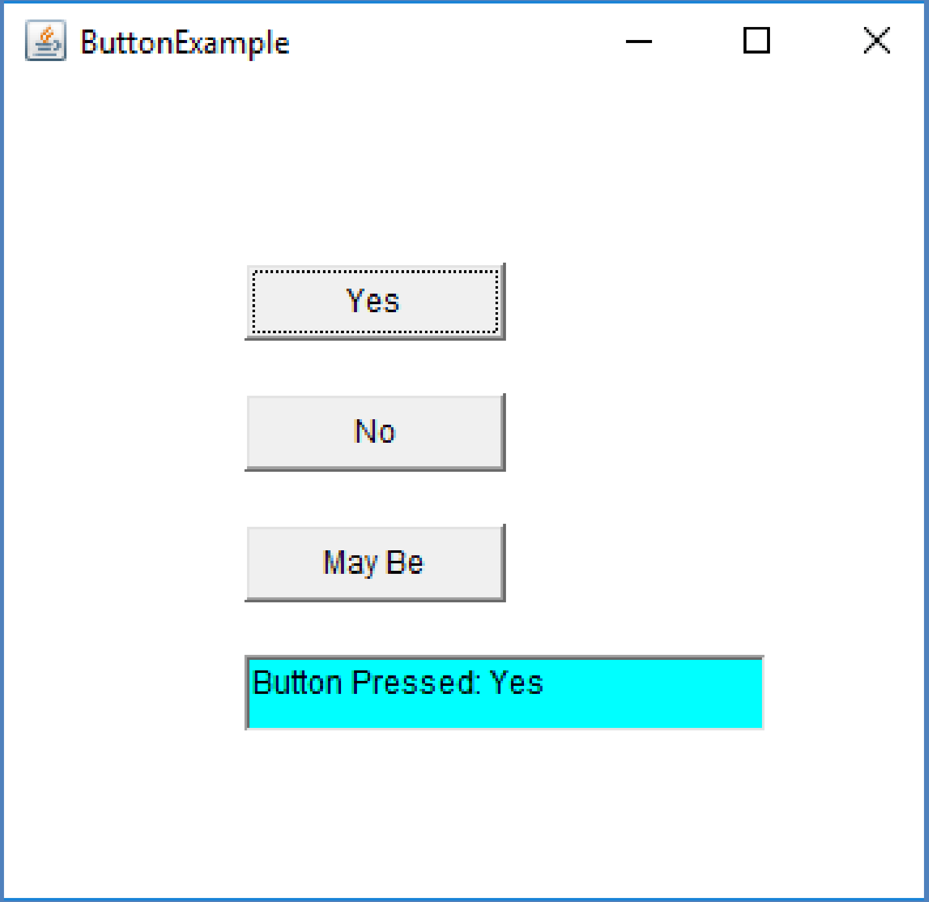
https://github.com/JenniferRanjani/Object-Oriented-Programming-with-Java

Screen Shot



Button Pressed: Yes

Handling Buttons

```
public class test implements ActionListener {
       Frame f;
       TextField tf = new TextField();
       Button b[] = new Button[3];
       test(){
        f = new Frame("ButtonExample");
        Button y = new Button("Yes");
        Button n = new Button("No");
        Button m = new Button("May Be");

        b[0]=(Button) f.add(y);
        b[1]=(Button) f.add(n);
        b[2]=(Button) f.add(m);

        for(int i = 0;i<3;i++)
        {
               b[i].setBounds(100,100+i*50,100,30);
        }
```

Handling Buttons

```
        for(int i =0;i<3;i++)
         {
               b[i].addActionListener(this);
         }
         tf.setBackground(Color.cyan);
         tf.setBounds(100,250,200,30);
          f.add(tf);
         f.setSize(300,300);
         f.setVisible(true);
}
```

Handling Buttons

```
public void actionPerformed(ActionEvent e)
{
   for (int j=0;j<3;j++)
   {
        if(e.getSource() == b[j])
               tf.setText("Button Pressed: "+b[j].getLabel());
   }
}

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

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Layout Manager

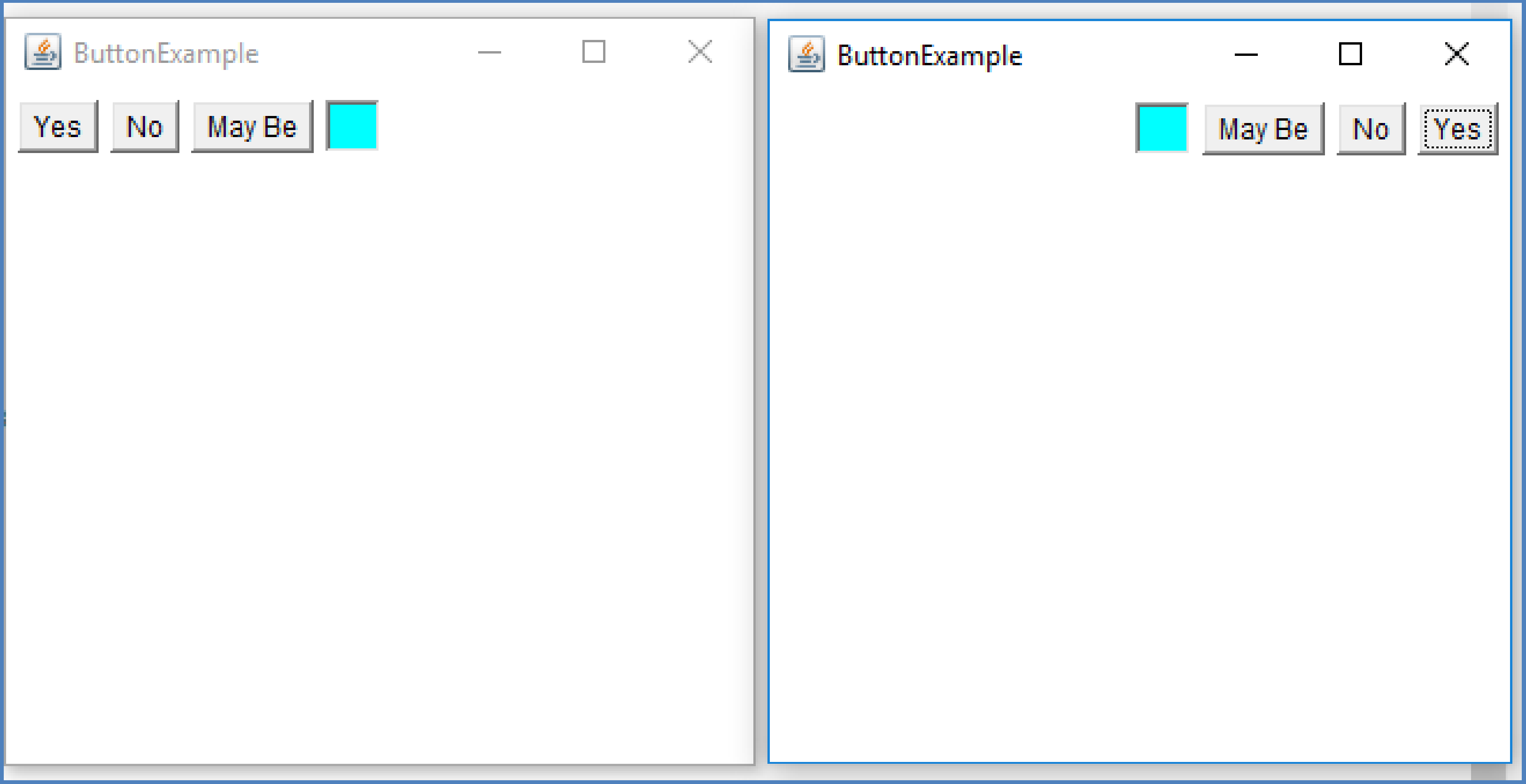
Need for Layout Manager

- It is tedious to lay out large number of components manually
- The layout manager is used every time the container is resized or sized for the first time
- Each Container object has a layout manager associated with it
- Pass null for setLayout() method if the default layout is to be disabled and the components are to be positioned manually.

Flow Layout

- Direction of the layout is defined by component orientation: LEFT_TO_RIGHT or RIGHT_TO_LEFT
- FlowLayout can be aligned as
  - FlowLayout.LEFT
  - FlowLayout.RIGHT
  - FlowLayout.CENTER
  - FlowLayout.LEADING
  - FlowLayout.TRAILING

FlowLayout.LEADING
(Difference based on Component Orientation)



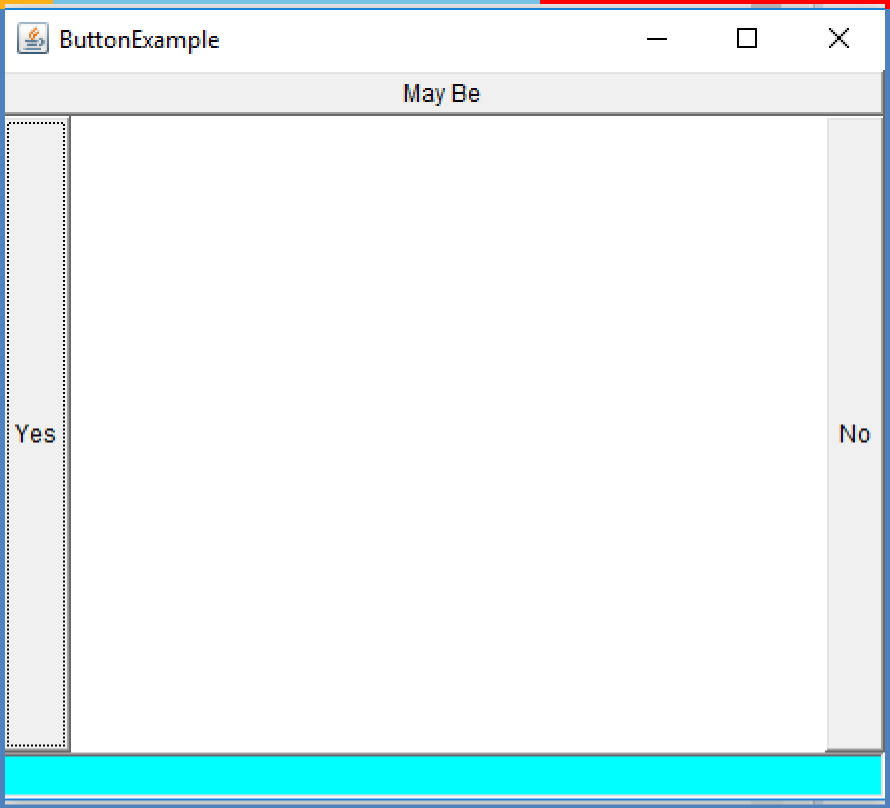
Left to Right

Right to Left

Border Layout

- Has four narrow fixed, fixed width components at the edges and one large area in the center
- The regions are specified as
  - BorderLayout.CENTER
  - BorderLayout.EAST
  - BorderLayout.WEST
  - BorderLayout.NORTH
  - BorderLayout.SOUTH
- void add(Component comref, Object region)

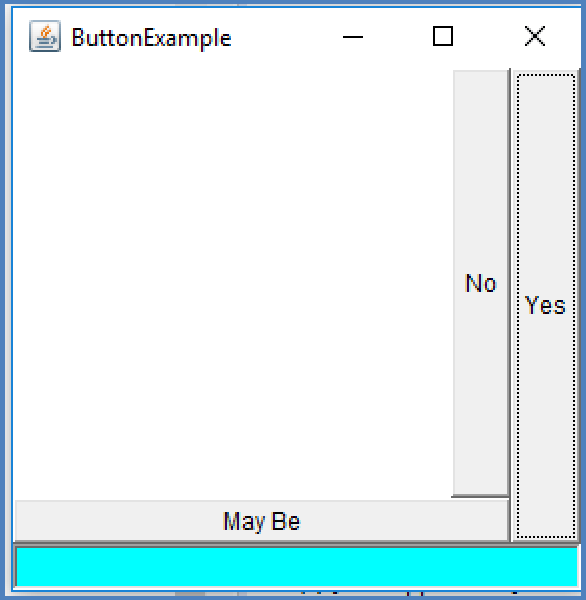
Border Layout - Example



What will happen if we try to add more components in the same region?

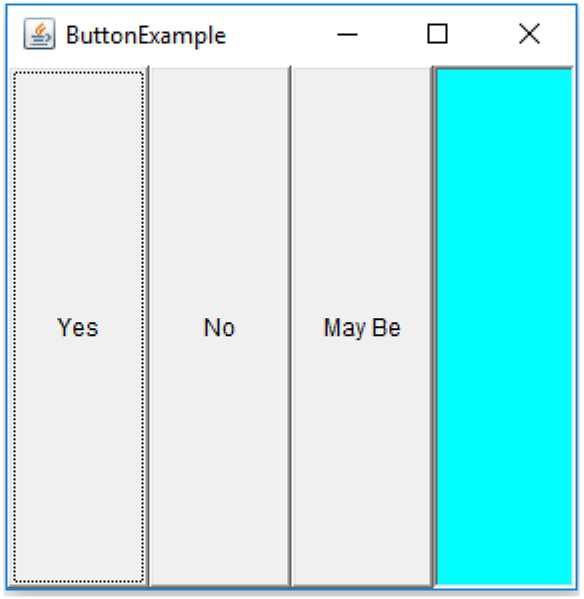
Review Question

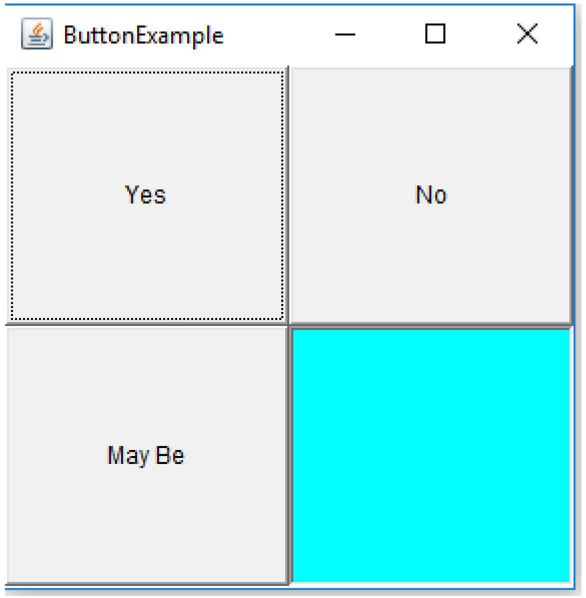
- Will adding two frames work?
- If not, what is the solution?



Grid Layout

- Lays the components in a two dimensional grid





No argument constructor

Two argument constructor

Review Question

- Design the mine sweeper game using 25 buttons arranged in a 5 x 5 grid layout.