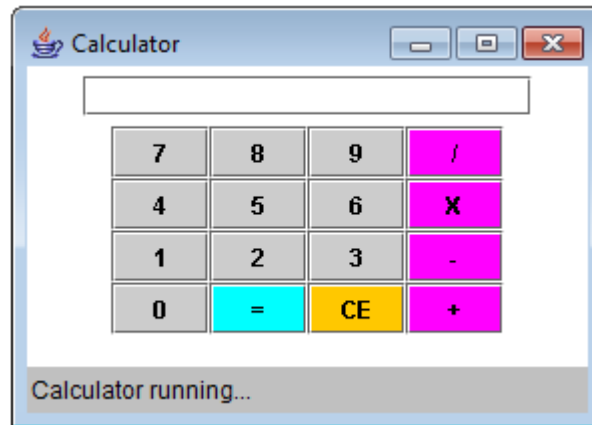


Calculator

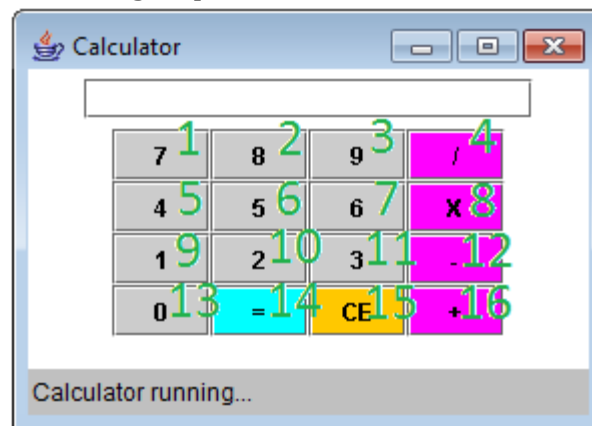
The point of the assignment is to make this user interface using a GRID LAYOUT.



If you create the actionCommand of each button to be the same as it's label, the actionPerformed method should work.

Add colours too, but they may be different than those shown.

The buttons should be added to the grid panel in the order shown:



Starter code:

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;
import java.applet.Applet;

public class Calculator extends Applet implements ActionListener
{
    JTextField screen;
    int total = -1;
    char sign = '+';

    public void init ()
    {
        resize (280, 150);
        screen = new JTextField (20);

        Panel grid = new Panel (new GridLayout (4, 4));

        JButton b7 = new JButton ("7");
```

```

        b7.setActionCommand ("7");
        b7.addActionListener (this);
        grid.add (b7);

        //add the other 15 buttons here.

        //leave at the bottom.
        add (screen);
        add (grid);
    }

    public void actionPerformed (ActionEvent e)
    {
        if (e.getActionCommand ().equals ("CE"))
        {
            screen.setText ("");
            total = -1;
        }
        else if (e.getActionCommand ().equals ("/"))
        {
            signUpdate ();
            sign = '/';
        }
        else if (e.getActionCommand ().equals ("X"))
        {
            signUpdate ();
            sign = '*';
        }
        else if (e.getActionCommand ().equals ("-"))
        {
            signUpdate ();
            sign = '-';
        }
        else if (e.getActionCommand ().equals ("+"))
        {
            signUpdate ();
            sign = '+';
        }
        else if (e.getActionCommand ().equals ("="))
        {
            calculate ();
            screen.setText (total + "");
            total = -1;
        }
        else
        {
            screen.setText (screen.getText () + e.getActionCommand ());
        }
    }

    public void signUpdate ()
    {
        if (total == -1)
            total = Integer.parseInt (screen.getText ());
        else
            calculate ();
        screen.setText ("");
    }

    public void calculate ()
    {
        if (sign == '+')
            total = total + Integer.parseInt (screen.getText ());
        else if (sign == '-')
            total = total - Integer.parseInt (screen.getText ());
        else if (sign == '*')
            total = total * Integer.parseInt (screen.getText ());
        else if (sign == '/')
            total = total / Integer.parseInt (screen.getText ());
    }
}

```