```java
/**
 * Creado por : Mon Mar 24 20:27:00 CET 2008
 * Autor : Parras
 */




import javax.swing.*;
import java.awt.*;
import java.awt.event.*;

public class Calculadora extends JFrame implements ActionListener  {

    boolean nuevo = true;
    float   resultado_total = 0.0f;
    String  ultimo = "=";
    Label pantalla = null;
    Button b;
    JPanel panel, panel2;

    public Calculadora() {
        setTitle("Calculadora");

        setSize(200, 200);

        Pantalla();

        Teclado();
    }

    private void Pantalla() {

        panel = new JPanel();
        panel.setLayout(new GridLayout(1, 1));
        pantalla = new Label();

        pantalla.setText("0");
        pantalla.setAlignment(Label.RIGHT);
        pantalla.setForeground(Color.black);
        pantalla.setBackground(Color.white);

        panel.add(pantalla);
        add("North", panel);
    }

    public void Teclado () {
        panel2 = new JPanel();
        panel2.setLayout(new GridLayout(4, 4));

        addBoton("7", Color.blue);
```

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        addBoton("8", Color.blue);
        addBoton("9", Color.blue);
        addBoton("/", Color.red);
        addBoton("C", Color.red);

        addBoton("4", Color.blue);
        addBoton("5", Color.blue);
        addBoton("6", Color.blue);
        addBoton("*", Color.red);
        addBoton("sqrt", Color.red);

        addBoton("1", Color.blue);
        addBoton("2", Color.blue);
        addBoton("3", Color.blue);
        addBoton("-", Color.red);
        addBoton("AC", Color.red);

        addBoton("0", Color.blue);
        addBoton("+/-", Color.red);
        addBoton(".", Color.red);
        addBoton("+", Color.red);
        addBoton("=", Color.red);

        add("Center", panel2);
    }

    private void addBoton(String n, Color color) {
        b = new Button(n);

        b.setForeground(color);

        panel2.add(b);

        b.addActionListener( this );
    }


    public void actionPerformed(ActionEvent event) {

        String digit  = event.getActionCommand();
        String s      = pantalla.getText();

        // Logic based in a source of Santiago Pavón

        float  valor = 0;
        try {
            valor = new Float(s).floatValue();
        } catch (Exception e) {
            if (!digit.equals("C")) return;
        }

        if ("0123456789".indexOf(digit) != -1) {

            if (nuevo) {
                nuevo = false;
```

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            pantalla.setText(digit);
        } else {
            pantalla.setText(s + digit);
        }

    } else if (digit.equals(".")) {

        if (nuevo) {
            nuevo = false;
            pantalla.setText("0.");
        } else {
            pantalla.setText(s + digit);
        }

    } else if (digit.equals("sqrt")) {

        valor = (float)Math.sqrt(valor);
        pantalla.setText(String.valueOf(valor));
        nuevo = true;

    } else if (digit.equals("+/-")) {

        valor = -valor;
        pantalla.setText(String.valueOf(valor));
        nuevo = true;

    } else if (digit.equals("C")) {

        resultado_total  = 0;
        pantalla.setText("0");
        ultimo = "=";
        nuevo = true;

    } else {

        char c = ultimo.charAt(0);

        switch (c) {
            case '=': resultado_total  = valor; break;
            case '+': resultado_total += valor; break;
            case '-': resultado_total -= valor; break;
            case '*': resultado_total *= valor; break;
            case '/': resultado_total /= valor; break;
        }
    ultimo = digit;
    nuevo = true;
    pantalla.setText(String.valueOf(resultado_total));
  }
}


public static void main(String[] args) {
  Calculadora cal = new Calculadora();
  Rectangle bounds = cal.getBounds();
  Dimension size = cal.getSize();
```

```
  cal.setLocation((int) (bounds.getX() + (bounds.getWidth() - size.getWidth()) / 2),
     (int) (bounds.getY() + (bounds.getHeight() - size.getHeight()) / 2));
  cal.setVisible(true);

}
}
```