// Java program to create a simple calculator

// with basic +, -, /, \* using java swing elements

import java.awt.event.\*;

import javax.swing.\*;

import java.awt.\*;

class calculator extends JFrame implements ActionListener {

// create a frame

static JFrame f;

// create a textfield

static JTextField l;

// store oprerator and operands

String s0, s1, s2;

// default constrcutor

calculator()

{

s0 = s1 = s2 = "";

}

// main function

public static void main(String args[])

{

// create a frame

f = new JFrame("calculator");

try {

// set look and feel

UIManager.setLookAndFeel(UIManager.getSystemLookAndFeelClassName());

}

catch (Exception e) {

System.err.println(e.getMessage());

}

// create a object of class

calculator c = new calculator();

// create a textfield

l = new JTextField(16);

// set the textfield to non editable

l.setEditable(false);

// create number buttons and some operators

JButton b0, b1, b2, b3, b4, b5, b6, b7, b8, b9, ba, bs, bd, bm, be, beq, beq1;

// create number buttons

b0 = new JButton("0");

b1 = new JButton("1");

b2 = new JButton("2");

b3 = new JButton("3");

b4 = new JButton("4");

b5 = new JButton("5");

b6 = new JButton("6");

b7 = new JButton("7");

b8 = new JButton("8");

b9 = new JButton("9");

// equals button

beq1 = new JButton("=");

// create operator buttons

ba = new JButton("+");

bs = new JButton("-");

bd = new JButton("/");

bm = new JButton("\*");

beq = new JButton("C");

// create . button

be = new JButton(".");

// create a panel

JPanel p = new JPanel();

// add action listeners

bm.addActionListener(c);

bd.addActionListener(c);

bs.addActionListener(c);

ba.addActionListener(c);

b9.addActionListener(c);

b8.addActionListener(c);

b7.addActionListener(c);

b6.addActionListener(c);

b5.addActionListener(c);

b4.addActionListener(c);

b3.addActionListener(c);

b2.addActionListener(c);

b1.addActionListener(c);

b0.addActionListener(c);

be.addActionListener(c);

beq.addActionListener(c);

beq1.addActionListener(c);

// add elements to panel

p.add(l);

p.add(ba);

p.add(b1);

p.add(b2);

p.add(b3);

p.add(bs);

p.add(b4);

p.add(b5);

p.add(b6);

p.add(bm);

p.add(b7);

p.add(b8);

p.add(b9);

p.add(bd);

p.add(be);

p.add(b0);

p.add(beq);

p.add(beq1);

// set Background of panel

p.setBackground(Color.blue);

// add panel to frame

f.add(p);

f.setSize(200, 220);

f.show();

}

public void actionPerformed(ActionEvent e)

{

String s = e.getActionCommand();

// if the value is a number

if ((s.charAt(0) >= '0' && s.charAt(0) <= '9') || s.charAt(0) == '.') {

// if operand is present then add to second no

if (!s1.equals(""))

s2 = s2 + s;

else

s0 = s0 + s;

// set the value of text

l.setText(s0 + s1 + s2);

}

else if (s.charAt(0) == 'C') {

// clear the one letter

s0 = s1 = s2 = "";

// set the value of text

l.setText(s0 + s1 + s2);

}

else if (s.charAt(0) == '=') {

double te;

// store the value in 1st

if (s1.equals("+"))

te = (Double.parseDouble(s0) + Double.parseDouble(s2));

else if (s1.equals("-"))

te = (Double.parseDouble(s0) - Double.parseDouble(s2));

else if (s1.equals("/"))

te = (Double.parseDouble(s0) / Double.parseDouble(s2));

else

te = (Double.parseDouble(s0) \* Double.parseDouble(s2));

// set the value of text

l.setText(s0 + s1 + s2 + "=" + te);

// convert it to string

s0 = Double.toString(te);

s1 = s2 = "";

}

else {

// if there was no operand

if (s1.equals("") || s2.equals(""))

s1 = s;

// else evaluate

else {

double te;

// store the value in 1st

if (s1.equals("+"))

te = (Double.parseDouble(s0) + Double.parseDouble(s2));

else if (s1.equals("-"))

te = (Double.parseDouble(s0) - Double.parseDouble(s2));

else if (s1.equals("/"))

te = (Double.parseDouble(s0) / Double.parseDouble(s2));

else

te = (Double.parseDouble(s0) \* Double.parseDouble(s2));

// convert it to string

s0 = Double.toString(te);

// place the operator

s1 = s;

// make the operand blank

s2 = "";

}

// set the value of text

l.setText(s0 + s1 + s2);

}

}

}