import java.awt.BorderLayout; import java.awt.Dimension;

import java.awt.GridBagConstraints; import java.awt.GridBagLayout; import java.awt.Insets;

import java.awt.event.ActionEvent; import java.awt.event.ActionListener; import javax.swing.JButton;

import javax.swing.JFrame; import javax.swing.JPanel; import javax.swing.JTextField;

public class CalculatorUI extends JFrame implements ActionListener { private JButton buttons[];

private JPanel buttonPanel; private JTextField inputField;

private String operand1, operand2, operator; public CalculatorUI() {

setSize(400, 300); buttonPanel = new JPanel(); inputField = new JTextField();

inputField.setPreferredSize(new Dimension(320, 30)); inputField.setEditable(false);

buttons = new JButton[15]; for (int i = 0; i < 10; i++) {

buttons[i] = new JButton(String.valueOf(i));

}

buttons[10] = new JButton("+"); buttons[11] = new JButton("-"); buttons[12] = new JButton("\*"); buttons[13] = new JButton("/"); buttons[14] = new JButton("=");

for (int i = 0; i < 15; i++)

buttons[i].addActionListener(this);

GridBagLayout layout = new GridBagLayout(); buttonPanel.setLayout(layout);

int x = 0, y = 0;

GridBagConstraints c = new GridBagConstraints(); c.fill = GridBagConstraints.BOTH;

c.insets = new Insets(5, 5, 5, 5); for (int i = 1; i < 10; i++) {

if (x == 3) {

x = 0; y++;

}

c.gridx = x; c.gridy = y;

buttonPanel.add(buttons[i], c); x++;

}

c.gridx = 1;

c.gridy = 3; buttonPanel.add(buttons[0], c); c.gridx = 0;

c.gridy = 3; buttonPanel.add(buttons[12], c); c.gridx = 2;

c.gridy = 3; buttonPanel.add(buttons[13], c); c.gridx = 3;

c.gridy = 3; buttonPanel.add(buttons[14], c);

c.gridx = 3;

c.gridy = 0;

c.gridheight = 2; buttonPanel.add(buttons[10], c); c.gridx = 3;

c.gridy = 2;

c.gridheight = 1; buttonPanel.add(buttons[11], c); operand1 = operand2 = operator = "";

setVisible(true);

add(inputField, BorderLayout.NORTH); add(buttonPanel, BorderLayout.CENTER); setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

//revalidate(); pack();

}

public static void main(String args[]) { new CalculatorUI();

}

@Override

public void actionPerformed(ActionEvent e) {

// TODO Auto-generated method stub String input = e.getActionCommand();

if(input .equals("+")|| input.equals("-")

|| input.equals("\*") || input.equals("/")) { if(operand1!="")

{

operator = input;

}

}

else if(input.equals("=")) {

if(operand2 != "") {

double val1 = Double.parseDouble(operand1); double val2 = Double.parseDouble(operand2); double result = 0.0;

switch (operator) { case "+":

result = val1 + val2; break;

case "-":

result = val1 - val2; break;

case "\*":

result = val1 \* val2; break;

case "/":

result = val1 / val2; break;

}

System.out.println(result);

operand1 = operand2 = operator = ""; inputField.setText(String.valueOf(result));

}

}

else {

if(!operator.equals("")) {

operand2 = operand2 + "" + input;

inputField.setText(operand2);

}

else {

operand1 = operand1 + "" + input; inputField.setText(operand1);

}

}

}

}