import javax.swing.\*;

import java.awt.\*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

public class Calculator extends JFrame implements ActionListener {

// Create a frame

private JFrame frame;

// Create a textfield

private JTextField textfield;

// Store operator and operands

private String operator;

private double firstNumber;

private double secondNumber;

// Constructor

public Calculator() {

// Create a frame

frame = new JFrame("Calculator");

frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

frame.setSize(400, 600);

// Create a textfield

textfield = new JTextField();

textfield.setFont(new Font("Arial", Font.BOLD, 50));

textfield.setHorizontalAlignment(JTextField.RIGHT);

frame.add(textfield, BorderLayout.NORTH);

// Create number buttons and some operators

String[] buttonLabels = {

"7", "8", "9", "/",

"4", "5", "6", "\*",

"1", "2", "3", "-",

"0", ".", "=", "+"

};

JPanel panel = new JPanel();

panel.setLayout(new GridLayout(4, 4));

for (String label : buttonLabels) {

JButton button = new JButton(label);

button.setFont(new Font("Arial", Font.BOLD, 50));

button.addActionListener(this);

panel.add(button);

}

frame.add(panel);

// Set the frame visibility

frame.setVisible(true);

}

// Perform action on button click

@Override

public void actionPerformed(ActionEvent e) {

String command = e.getActionCommand();

// Numbers

if ((command.charAt(0) >= '0' && command.charAt(0) <= '9') || command.equals(".")) {

textfield.setText(textfield.getText() + command);

}

// Operators

else if (command.charAt(0) == '+') {

firstNumber = Double.parseDouble(textfield.getText());

operator = "+";

textfield.setText("");

} else if (command.charAt(0) == '-') {

firstNumber = Double.parseDouble(textfield.getText());

operator = "-";

textfield.setText("");

} else if (command.charAt(0) == '\*') {

firstNumber = Double.parseDouble(textfield.getText());

operator = "\*";

textfield.setText("");

} else if (command.charAt(0) == '/') {

firstNumber = Double.parseDouble(textfield.getText());

operator = "/";

textfield.setText("");

}

// Equals button

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

secondNumber = Double.parseDouble(textfield.getText());

switch (operator) {

case "+" -> textfield.setText(String.valueOf(firstNumber + secondNumber));

case "-" -> textfield.setText(String.valueOf(firstNumber - secondNumber));

case "\*" -> textfield.setText(String.valueOf(firstNumber \* secondNumber));

case "/" -> textfield.setText(String.valueOf(firstNumber / secondNumber));

}

}

}

public static void main(String[] args) {

new Calculator();

}

}