import java.awt.BorderLayout; import java.awt.Button; import java.awt.Font;

import java.awt.Frame; import java.awt.GridLayout; import java.awt.Panel; import java.awt.TextField;

import java.awt.event.ActionEvent; import java.awt.event.ActionListener; import java.awt.event.WindowAdapter; import java.awt.event.WindowEvent; import java.awt.event.WindowListener;

class Numpan extends Panel implements ActionListener{

Button n0,n1,n2,n3,n4,n5,n6,n7,n8,n9,point,equal; Button plus,minus,multiply, divide;

Button m\_plus,m\_minus,clear,advanced; TextField display;

String op1,op2,result; String op\_flag; String data;

double dop1,dop2,dresult; boolean flag\_advanced=true;

public Numpan(TextField display) { this.display = display; setLayout(new GridLayout(0,4));

n0 = new Button("0"); n0.setActionCommand("zero"); n0.addActionListener(this);

n1 = new Button("1"); n1.setActionCommand("one"); n1.addActionListener(this);

n2 = new Button("2"); n2.setActionCommand("two"); n2.addActionListener(this);

n3 = new Button("3"); n3.setActionCommand("three"); n3.addActionListener(this);

n4 = new Button("4"); n4.setActionCommand("four"); n4.addActionListener(this);

n5 = new Button("5"); n5.setActionCommand("five"); n5.addActionListener(this);

n6 = new Button("6"); n6.setActionCommand("six"); n6.addActionListener(this);

n7 = new Button("7"); n7.setActionCommand("seven"); n7.addActionListener(this);

n8 = new Button("8"); n8.setActionCommand("eight"); n8.addActionListener(this);

n9 = new Button("9"); n9.setActionCommand("nine"); n9.addActionListener(this);

point = new Button("."); point.setActionCommand("point"); point.addActionListener(this);

equal = new Button("="); equal.setActionCommand("equal"); equal.addActionListener(this);

plus = new Button("+"); plus.setActionCommand("plus"); plus.addActionListener(this);

minus = new Button("-"); minus.setActionCommand("minus"); minus.addActionListener(this);

multiply = new Button("x"); multiply.setActionCommand("multiply"); multiply.addActionListener(this);

divide = new Button("/"); divide.setActionCommand("divide"); divide.addActionListener(this);

m\_plus = new Button("M+"); m\_plus.setActionCommand("m\_plus"); m\_plus.addActionListener(this);

m\_minus = new Button("M-"); m\_minus.setActionCommand("m\_minus"); m\_minus.addActionListener(this);

clear = new Button("C"); clear.setActionCommand("clear"); clear.addActionListener(this);

advanced = new Button("ADV"); advanced.setActionCommand("advanced"); advanced.addActionListener(this);

add(m\_plus); add(m\_minus); add(clear); add(advanced); add(n1); add(n2);

add(n3);

add(plus);

add(n4);

add(n5);

add(n6);

add(minus);

add(n7);

add(n8);

add(n9);

add(multiply);

add(point);

add(n0);

add(equal);

add(divide);

}

public String getDisplayText(){

return display.getText().toString();

}

public void setDisplay(String text){ display.setText(text);

}

public void clearDisplay(){ System.out.println("Clear Called"); setDisplay("");

data = "";

}

public void changeAdvanced(boolean toAdvanced){ if(toAdvanced){

plus.setLabel("sin");

plus.setActionCommand("sin"); //System.out.println("cos in"); minus.setLabel("cos"); minus.setActionCommand("cos"); //System.out.println("cos out"); multiply.setLabel("tan"); multiply.setActionCommand("tan"); divide.setLabel("log"); divide.setActionCommand("log");

}

else{

plus.setLabel("+");

plus.setActionCommand("plus"); minus.setLabel("-"); minus.setActionCommand("minus"); multiply.setLabel("x"); multiply.setActionCommand("multiply"); divide.setLabel("/"); divide.setActionCommand("divide");

}

}

@Override

public void actionPerformed(ActionEvent e) {

data = getDisplayText();

switch(e.getActionCommand()){

case "zero": setDisplay(data+"0"); break;

case "one": setDisplay(data+"1"); break;

case "two": setDisplay(data+"2"); break;

case "three": setDisplay(data+"3"); break;

case "four": setDisplay(data+"4"); break;

case "five": setDisplay(data+"5"); break;

case "six": setDisplay(data+"6"); break;

case "seven": setDisplay(data+"7"); break;

case "eight": setDisplay(data+"8"); break;

case "nine": setDisplay(data+"9"); break;

case "plus":

op1 = data; op\_flag = "plus"; clearDisplay(); break;

case "minus": op1 = data;

op\_flag = "minus"; clearDisplay(); break;

case "multiply": op1 = data;

op\_flag = "multiply"; clearDisplay(); break;

case "divide": op1 = data;

op\_flag = "divide"; clearDisplay(); break;

case "clear": clearDisplay(); break;

case "advanced": if(flag\_advanced){

changeAdvanced(true); flag\_advanced = false;

}

else{

changeAdvanced(false); flag\_advanced = true;

}

break;

case "sin":

op1 = data; setDisplay(String.valueOf(Math.sin(Double.valueOf(op1)))); break;

case "cos":

op1 = data; setDisplay(String.valueOf(Math.cos(Double.valueOf(op1)))); break;

case "tan":

op1 = data; setDisplay(String.valueOf(Math.tan(Double.valueOf(op1)))); break;

case "log":

op1 = data; setDisplay(String.valueOf(Math.log(Double.valueOf(op1)))); break;

case "equal": switch(op\_flag){ case "plus":

op2 = data; clearDisplay();

dop1 = Double.parseDouble(op1); dop2 = Double.parseDouble(op2); dresult = dop1 + dop2;

result = String.valueOf(dresult); setDisplay(result);

op\_flag = ""; break;

case "minus": op2 = data;

clearDisplay();

dop1 = Double.parseDouble(op1); dop2 = Double.parseDouble(op2); dresult = dop1 - dop2;

result = String.valueOf(dresult); setDisplay(result);

op\_flag = ""; break;

case "multiply": op2 = data;

clearDisplay();

dop1 = Double.parseDouble(op1); dop2 = Double.parseDouble(op2); dresult = dop1 \* dop2;

result = String.valueOf(dresult); setDisplay(result);

op\_flag = ""; break;

case "divide":

op2 = data; clearDisplay();

dop1 = Double.parseDouble(op1); dop2 = Double.parseDouble(op2); dresult = dop1 / dop2;

result = String.valueOf(dresult); setDisplay(result);

op\_flag = ""; break;

}

}

}

}

class Calculator extends Frame { TextField display; public Calculator() {

display = new TextField();

display.setFont(new Font("Times New Roman", Font.BOLD, 50)); setLayout(new BorderLayout());

add(new Numpan(display),BorderLayout.CENTER); add(display,BorderLayout.NORTH); setVisible(true);

setSize(500,500);

addWindowListener(new WindowAdapter() { @Override

public void windowClosing(WindowEvent e) { dispose();

}

});

}

}

public class Main {

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

}

}

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import javax.swing.\*;

import java.awt.event.\*;

class Calc implements ActionListener

{

    JFrame f;

    JTextField t;

    JButton b1,b2,b3,b4,b5,b6,b7,b8,b9,b0,bdiv,bmul,bsub,badd,bdec,beq,bdel,bclr;

    static double a=0,b=0,result=0;

    static int operator=0;

    Calc()

    {

        f=new JFrame("Calculator");

        t=new JTextField();

        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");

        b0=new JButton("0");

        bdiv=new JButton("/");

        bmul=new JButton("\*");

        bsub=new JButton("-");

        badd=new JButton("+");

        bdec=new JButton(".");

        beq=new JButton("=");

        bdel=new JButton("Delete");

        bclr=new JButton("Clear");

        t.setBounds(30,40,280,30);

        b7.setBounds(40,100,50,40);

        b8.setBounds(110,100,50,40);

        b9.setBounds(180,100,50,40);

        bdiv.setBounds(250,100,50,40);

        b4.setBounds(40,170,50,40);

        b5.setBounds(110,170,50,40);

        b6.setBounds(180,170,50,40);

        bmul.setBounds(250,170,50,40);

        b1.setBounds(40,240,50,40);

        b2.setBounds(110,240,50,40);

        b3.setBounds(180,240,50,40);

        bsub.setBounds(250,240,50,40);

        bdec.setBounds(40,310,50,40);

        b0.setBounds(110,310,50,40);

        beq.setBounds(180,310,50,40);

        badd.setBounds(250,310,50,40);

        bdel.setBounds(60,380,100,40);

        bclr.setBounds(180,380,100,40);

        f.add(t);

        f.add(b7);

        f.add(b8);

        f.add(b9);

        f.add(bdiv);

        f.add(b4);

        f.add(b5);

        f.add(b6);

        f.add(bmul);

        f.add(b1);

        f.add(b2);

        f.add(b3);

        f.add(bsub);

        f.add(bdec);

        f.add(b0);

        f.add(beq);

        f.add(badd);

        f.add(bdel);

        f.add(bclr);

        f.setLayout(null);

        f.setVisible(true);

        f.setSize(350,500);

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

        f.setResizable(false);

        b1.addActionListener(this);

        b2.addActionListener(this);

        b3.addActionListener(this);

        b4.addActionListener(this);

        b5.addActionListener(this);

        b6.addActionListener(this);

        b7.addActionListener(this);

        b8.addActionListener(this);

        b9.addActionListener(this);

        b0.addActionListener(this);

        badd.addActionListener(this);

        bdiv.addActionListener(this);

        bmul.addActionListener(this);

        bsub.addActionListener(this);

        bdec.addActionListener(this);

        beq.addActionListener(this);

        bdel.addActionListener(this);

        bclr.addActionListener(this);

    }

    public void actionPerformed(ActionEvent e)

    {

        if(e.getSource()==b1)

            t.setText(t.getText().concat("1"));

        if(e.getSource()==b2)

            t.setText(t.getText().concat("2"));

        if(e.getSource()==b3)

            t.setText(t.getText().concat("3"));

        if(e.getSource()==b4)

            t.setText(t.getText().concat("4"));

        if(e.getSource()==b5)

            t.setText(t.getText().concat("5"));

        if(e.getSource()==b6)

            t.setText(t.getText().concat("6"));

        if(e.getSource()==b7)

            t.setText(t.getText().concat("7"));

        if(e.getSource()==b8)

            t.setText(t.getText().concat("8"));

        if(e.getSource()==b9)

            t.setText(t.getText().concat("9"));

        if(e.getSource()==b0)

            t.setText(t.getText().concat("0"));

        if(e.getSource()==bdec)

            t.setText(t.getText().concat("."));

        if(e.getSource()==badd)

        {

            a=Double.parseDouble(t.getText());

            operator=1;

            t.setText("");

        }

        if(e.getSource()==bsub)

        {

            a=Double.parseDouble(t.getText());

            operator=2;

            t.setText("");

        }

        if(e.getSource()==bmul)

        {

            a=Double.parseDouble(t.getText());

            operator=3;

            t.setText("");

        }

        if(e.getSource()==bdiv)

        {

            a=Double.parseDouble(t.getText());

            operator=4;

            t.setText("");

        }

        if(e.getSource()==beq)

        {

            b=Double.parseDouble(t.getText());

            switch(operator)

            {

                case 1: result=a+b;

                    break;

                case 2: result=a-b;

                    break;

                case 3: result=a\*b;

                    break;

                case 4: result=a/b;

                    break;

                default: result=0;

            }

            t.setText(""+result);

        }

        if(e.getSource()==bclr)

            t.setText("");

        if(e.getSource()==bdel)

        {

            String s=t.getText();

            t.setText("");

            for(int i=0;i<s.length()-1;i++)

            t.setText(t.getText()+s.charAt(i));

        }

    }

    public static void main(String...s)

    {

        new Calc();

    }

}