1.请编写一个swing图形界面程序，设计一个计算器，要求如下：  
(1) 支持+、-、\*、/ 和%等常用运算符；  
(2) 支持sin、cos、max、min、pow和sqrt等常用函数；  
(3) 支持十进制、八进制、十六进制和二进制之间的转换。

**import** javax.swing.\*;

**import** java.awt.\*;

**import** java.awt.event.\*;

@SuppressWarnings("serial")

**public** **class** Hello **extends** JFrame **implements** ActionListener {

**double** previousnum, currentnum, res;

**boolean** end, add, mul, sub, div, mod, sin, cos, tan, max, min,exp, pow, sqrt, Hex, Oct, Bin;

JTextField jtextfield = **new** JTextField("0");

JButton button[] = **new** JButton[30];

JPanel panel0 = **new** JPanel();

JPanel panel1 = **new** JPanel();

**public** Hello() {

setTitle("calculator");

setResizable(**false**);

setBounds(100, 100, 400, 300);

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

add(panel0, "North");

jtextfield.setEditable(**false**);

jtextfield.setColumns(20);

jtextfield.setHorizontalAlignment(JTextField.*RIGHT*);

panel0.add(jtextfield);

GridLayout gridlayout = **new** GridLayout(5, 0);

gridlayout.setVgap(5);

gridlayout.setHgap(5);

panel1.setLayout(gridlayout);

add(panel1, "Center");

button[0] = **new** JButton("1");

button[1] = **new** JButton("2");

button[2] = **new** JButton("3");

button[3] = **new** JButton("sin");

button[3].setMargin(**new** Insets(0, 0, 0, 0));

button[4] = **new** JButton("Oct");

button[4].setMargin(**new** Insets(0, 0, 0, 0));

button[5] = **new** JButton("+");

button[6] = **new** JButton("4");

button[7] = **new** JButton("5");

button[8] = **new** JButton("6");

button[9] = **new** JButton("cos");

button[9].setMargin(**new** Insets(0, 0, 0, 0));

button[10] = **new** JButton("Hex");

button[10].setMargin(**new** Insets(0, 0, 0, 0));

button[11] = **new** JButton("-");

button[12] = **new** JButton("7");

button[13] = **new** JButton("8");

button[14] = **new** JButton("9");

button[15] = **new** JButton("max");

button[15].setMargin(**new** Insets(0, 0, 0, 0));

button[16] = **new** JButton("Bin");

button[16].setMargin(**new** Insets(0, 0, 0, 0));

button[17] = **new** JButton("\*");

button[18] = **new** JButton("0");

button[19] = **new** JButton(".");

button[20] = **new** JButton("=");

button[21] = **new** JButton("min");

button[21].setMargin(**new** Insets(0, 0, 0, 0));

button[22] = **new** JButton("pow");

button[22].setMargin(**new** Insets(0, 0, 0, 0));

button[23] = **new** JButton("/");

button[24] = **new** JButton("AC");

button[22].setMargin(**new** Insets(0, 0, 0, 0));

button[25] = **new** JButton("C");

button[26] = **new** JButton("exp");

button[27] = **new** JButton("tan");

button[29] = **new** JButton("%");

button[28] = **new** JButton("sqrt");

**for** (JButton x : button) {

panel1.add(x);

x.addActionListener(**this**);

}

JLabel ll = **new** JLabel();

ll.setPreferredSize(**new** Dimension(10, 0));

add(ll, "West");

JLabel rl = **new** JLabel();

rl.setPreferredSize(**new** Dimension(10, 0));

add(rl, "East");

setVisible(**true**);

}

**public** **void** number(**int** i) {

String s = String.*valueOf*(i);

**if** (end) {

jtextfield.setText("0");

end = **false**;

}

**if** ((jtextfield.getText()).equals("0")) {

jtextfield.setText(s);

} **else** {

String str = jtextfield.getText() + s;

jtextfield.setText(str);

}

}

**public** **void** answer() {

String s = "";

currentnum = Double.*parseDouble*(jtextfield.getText());

**if** (add)

res = previousnum + currentnum;

**else** **if** (mul)

res = previousnum \* currentnum;

**else** **if** (sub)

res = previousnum - currentnum;

**else** **if** (div)

res = previousnum / currentnum;

**else** **if** (mod)

res = previousnum % currentnum;

**else** **if** (sin)

res = Math.*sin*(Math.*toRadians*(currentnum));

**else** **if** (cos)

res = Math.*cos*(Math.*toRadians*(currentnum));

**else** **if** (tan)

res = Math.*tan*(Math.*toRadians*(currentnum));

**else** **if** (Oct)

s = Integer.*toOctalString*((**int**) previousnum);

**else** **if** (Hex)

s = Integer.*toHexString*((**int**) previousnum);

**else** **if** (Bin)

s = Integer.*toBinaryString*((**int**) previousnum);

**else** **if** (max)

res = Math.*max*(previousnum, currentnum);

**else** **if** (min)

res = Math.*min*(previousnum, currentnum);

**else** **if** (pow)

res = Math.*pow*(previousnum, currentnum);

**else** **if** (exp)

res = Math.*exp*(currentnum);

**else** **if** (sqrt)

res = Math.*sqrt*(currentnum);

**if** (!(Oct || Hex || Bin))

s = String.*valueOf*(res);

jtextfield.setText(s);

end = **true**;

}

**public** **void** actionPerformed(ActionEvent e) {

**if** (e.getSource() == button[0])

number(1);

**else** **if** (e.getSource() == button[1])

number(2);

**else** **if** (e.getSource() == button[2])

number(3);

**else** **if** (e.getSource() == button[6])

number(4);

**else** **if** (e.getSource() == button[7])

number(5);

**else** **if** (e.getSource() == button[8])

number(6);

**else** **if** (e.getSource() == button[12])

number(7);

**else** **if** (e.getSource() == button[13])

number(8);

**else** **if** (e.getSource() == button[14])

number(9);

**else** **if** (e.getSource() == button[18])

number(0);

**else** **if** (e.getSource() == button[19]){

**if** (jtextfield.getText().indexOf('.') < 0)

jtextfield.setText(jtextfield.getText() + ".");

}

**else** **if** (e.getSource() == button[20])

answer();

**else** **if** (e.getSource() == button[25] || e.getSource() == button[24])

jtextfield.setText("");

**else** {

add = **false**;

mul = **false**;

sub = **false**;

div = **false**;

sin = **false**;

cos = **false**;

max = **false**;

min = **false**;

Hex = **false**;

Oct = **false**;

Bin = **false**;

**if** (e.getSource() == button[5])

add = **true**;

**else** **if** (e.getSource() == button[11])

sub = **true**;

**else** **if** (e.getSource() == button[17])

mul = **true**;

**else** **if** (e.getSource() == button[23])

div = **true**;

**else** **if** (e.getSource() == button[3])

sin = **true**;

**else** **if** (e.getSource() == button[9])

cos = **true**;

**else** **if** (e.getSource() == button[15])

max = **true**;

**else** **if** (e.getSource() == button[21])

min = **true**;

**else** **if** (e.getSource() == button[10])

Hex = **true**;

**else** **if** (e.getSource() == button[4])

Oct = **true**;

**else** **if** (e.getSource() == button[16])

Bin = **true**;

**else** **if** (e.getSource() == button[22])

pow = **true**;

**else** **if** (e.getSource() == button[29])

mod = **true**;

**else** **if** (e.getSource() == button[26])

exp = **true**;

**else** **if** (e.getSource() == button[28])

sqrt = **true**;

**else** **if** (e.getSource() == button[27])

tan = **true**;

previousnum = Double.*parseDouble*(jtextfield.getText());

end = **true**;

}

}

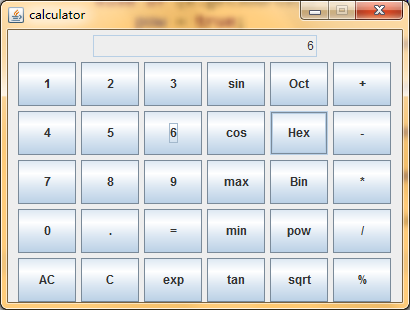
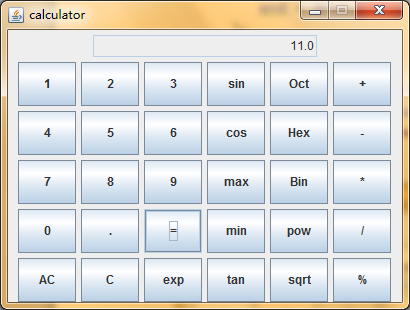
**public** **static** **void** main(String args[]) {

@SuppressWarnings("unused")

Hello calculator = **new** Hello();

}

}

2.编写一个swing图形界面程序能将多行文本框中的内容保存到一个文本文件，也能将一个文本文件的内容显示到这个多行文本框中。

**import** javax.swing.\*;

**import** java.awt.\*;

**import** java.awt.event.\*;

**import** java.io.\*;

**public** **class** text {

**private** **static** **final** String *dir* = "D://javaworkspace1//HelloWorld//src//a.txt";

**public** **static** **void** main(String args[]) {

JFrame frame = **new** JFrame();

FlowLayout flow = **new** FlowLayout();

**final** JTextArea jtextarea = **new** JTextArea(10, 30);

JButton write = **new** JButton("write");

JButton read = **new** JButton("read");

JPanel textpanel = **new** JPanel();

JPanel buttons = **new** JPanel();

Container contentPane = frame.getContentPane();

contentPane.add(textpanel, "Center");

contentPane.add(buttons, "North");

textpanel.add(jtextarea);

buttons.setLayout(flow);

buttons.add(read);

buttons.add(write);

frame.setTitle("text I/O");

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

frame.setVisible(**true**);

frame.pack();

read.addActionListener(**new** ActionListener() {

**public** **void** actionPerformed(ActionEvent event) {

**try** {

Reader reader = **new** FileReader(*dir*);

jtextarea.read(reader, **null**);

} **catch** (Exception e) {

// **TODO** 自动生成的 catch 块

e.printStackTrace();

}

}

});

write.addActionListener(**new** ActionListener() {

**public** **void** actionPerformed(ActionEvent event) {

BufferedWriter bw = **null**;

**try** {

OutputStream os = **new** FileOutputStream(*dir*);

bw = **new** BufferedWriter(**new** OutputStreamWriter(os));

**for** (String value : jtextarea.getText().split("\n")) {

bw.write(value);

bw.newLine();

}

} **catch** (IOException e1) {

e1.printStackTrace();

} **finally** {

**if** (bw != **null**) {

**try** {

bw.close();

} **catch** (IOException e1) {

e1.printStackTrace();

}

}

}

}

});

}

}

