**上海电力学院**

**《面向对象程序设计(Java)》实验报告**



**（2018/2019 学年第2学期）**

**实验名称**实验6 Java 图形用户界面设计试验（2）

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## §6 Java Swing 编程实验(II)

### §6.1实验目的、内容及性质

实验目的：学会使用Swing高级控件，事件编程等。

实验性质：综合、必做

实验学时：4学时

### §6.2问题及思考

1. JTable、JTree控件的使用
2. JPanel,JScrollPane,JTabbedPane,JDesktopPane等控件区别与使用？
3. 事件编程核心
4. 什么是子窗体如何使用子窗体？

### §6.3实验指导

**1、事件编程基本步骤**

基本组成：

1)、事件源 EventSource:能够触发事件控件 如：JButton，JTextField,JFrame,

JComboBox,....

2)、事件 Event:ActionEvent,KeyEvent,WindowEvent,TextEvent,...

3、)事件侦听者Listener(接口)

ActionListener,WindowListener,...

class A implements ActionListener{

public void actionPerformed(ActionEvent e){

....

}

}

A lis=new A();

4)、事件处理函数

public void actionPerformed(ActionEvent e){

....

}

流程：事件源触发事件-->事件源侦听者接收事件-->自动调用相应事件处理函数.

事件处理编程模板：

class MyFrm extends JFrame **implements ActionListener**{

JButton btn=new JButton("OK");

...

public MyFrm(){

...

**btn.addActionListner(this);//添加侦听者**

...

}

**public void actionPerformed(ActionEvent e){//事件处理函数**

....

if(e.getSource()==btn){

}

}

}

6、MouseEvent事件

class MyLis implements MouseListener{

public void mouseClicked(MouseEvent e) {

}

public void mouseEntered(MouseEvent e) {

}

public void mouseExited(MouseEvent e) {

}

public void mousePressed(MouseEvent e) {

}

public void mouseReleased(MouseEvent e) {

}

}

注意：

1)、事件适配器 当一个事件处理方法大于或等于2个，Java中都定义一个事件适配器类

适配器类实现了事件接口所有的抽象方法。如MouseListener--->MouseAdapter类

class MyLis extends MouseAdapter{

public void mouseClicked(MouseEvent e) {

System.out.println("mouseClicked");

}

}

2)、匿名类

private void txt1\_MouseClicked(MouseEvent e){

System.out.println("mouseClicked");

}

txt1**.**addMouseListener(**new MouseAdapter(){**

**public void mouseClicked(MouseEvent e){**

**txt1\_MouseClicked(e);**

**}**

**}**);

**2、常见事件**

事件源 事件 事件侦听者 事件处理方法

--------------------------------------------------------------------------------------------

**JTextField**

**JComboBox ActionEvent ActionListener actionPerformed(ActionEvent e)**

**JMenuItem**

-------------------------------------------------------------------------------------------

JCheckBox,

JRadioButton ItemEvent ItemListener itemStateChanged(ItemEvent e)

JComboBox

--------------------------------------------------------------------------------------------**JList ListSelectionEvent ListSelectionListener valueChanged()**

--------------------------------------------------------------------------------------------

JProgressBar ChangeEvent ChangeListener stateChanged(ChangeEvent e)

JTabbedPane

-------------------------------------------------------------------------------------------  **KeyEvent KeyListener keyPressed(KeyEvent e)**

**keyReleased(KeyEvent e)**

**keyTyped(KeyEvent e)**

-------------------------------------------------------------------------------------------- MouseEvent MouseListener mouseClicked(MouseEvent e)

mouseEntered(MouseEvent e)

mouseExited(MouseEvent e)

mousePressed(MouseEvent e)

mouseReleased(MouseEvent e)

-------------------------------------------------------------------------------------------- **WindowEvent WindowListener windowActivated(WindowEvent e)**

**windowClosed(WindowEvent e)**

**windowClosing(WindowEvent e)**

**windowDeactivated(WindowEvent e)**

**windowDeiconified(WindowEvent e)**

**windowIconified(WindowEvent e)**

**windowOpened(WindowEvent e)**

**3、高级控件**

1)、JTable 表格

String []cols={"学号","姓名","出生日期","院系"};

String [][]rows=new String[20][4];

JTable table=new JTable(rows,cols);

JScrollPane jsp=new JScrollPane(table);//表格控件先放在滚动面板中

注意：表格刷新问题

String [][]r2=new String[40][4];

**table.setModel(new DefaultTableModel(r2,cols));**

2)、JTree控件

DefaultMutableTreeNode top=new DefaultMutableTreeNode("院系");

top.add(new DefaultMutableTreeNode("数学系"));

DefaultMutableTreeNode zws= new DefaultMutableTreeNode("中文系");

top.add(zws);

zws.add(new DefaultMutableTreeNode("现代文学"));

tree=new JTree(top);

注意：

tree.addTreeSelectionListener(this);

class MyLis implements TreeSelectionListener{

public void valueChanged(TreeSelectionEvent e) {

String node= e.getPath().getLastPathComponent().toString();

//得到点击节点内容

}

}

3)、分割面板使用

JSplitPane splitpane=

new JSplitPane(JSplitPane.HORIZONTAL\_SPLIT,jsp2,jsp1);

splitpane.setDividerLocation(200);

splitpane.setDividerSize(15);

splitpane.setOneTouchExpandable(true);

4) JTabbedPane 选项卡

JTabbedPane tabpane=new JTabbedPane();

tabpane.addTab("详细信息", jsp1);

tabpane.addTab("增加学生", new JButton("增加"));

5)、JMenu

JMenu m1=new JMenu("文件");

JMenuItem m11=new JMenuItem("新建");

JMenuItem m12=new JMenuItem("打开");

JMenuItem m13=new JMenuItem("退出");

private void initMenu(){

m1.add(m11);m1.add(m12);

m1.addSeparator();

m1.add(m13);

JMenuBar bar=new JMenuBar();

bar.add(m1);

this.setJMenuBar(bar);

}

6)、JToolBar

JToolBar tool;

private void initTool(){

tool=new JToolBar();

tool.add(new JButton("btn1"));

tool.add(new JTextField(5));

tool.add(new JButton("btn2"));

}

7)子窗体 JInternalFrame

class MySubFrm **extends JInternalFrame**{

JButton btn=new JButton("确定");

public MySubFrm(){

setLayout(new FlowLayout());

add(btn);

}

}

在父窗体的中使用JDesktopPane管理子窗体

ex:

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

public class MyFrm extends JFrame implements ActionListener {// 从JFrame继承

JMenu m1 = new JMenu("文件");

JMenuItem m11 = new JMenuItem("新建");

JMenuItem m12 = new JMenuItem("打开");

JMenuItem m13 = new JMenuItem("退出");

JDesktopPane desk=new JDesktopPane();

private void initMenu() {

m1.add(m11);

m1.add(m12);

m1.addSeparator();

m1.add(m13);

JMenuBar bar = new JMenuBar();

bar.add(m1);

**this.setJMenuBar(bar);**

m11.addActionListener(this);

}

public MyFrm() {

initMenu();

this.add(desk);

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

}

public static void main(String arg[]) {

/\* 纯Java样式显示窗体 \*/

JFrame.setDefaultLookAndFeelDecorated(true);

/\* 实例化当前窗体类 \*/

MyFrm frm = new MyFrm();

frm.setSize(700, 500);

frm.setLocation(100, 100);

frm.setVisible(true);

}

public void actionPerformed(ActionEvent e) {

MySubFrm frm=new MySubFrm();

frm.setSize(300,200);

desk.add(frm);

frm.setVisible(true);

}

}

注意：

JInternalFrame(String title):

建立一个不能更改大小、不可关闭、不可最大最小化、

但具有标题的Internal Frame。

JInternalFrame(String title,boolean resizable):

建立一个不可关闭、不可最大最小化、但可变更大小且具有标题的

JInternalFrame(String title,boolean resizable,boolean closable):

建立一个可关闭、可更改大小、且具有标题，但不可

最大化最小化的Internal Frame.

JInternalFrame(String title,boolean resizable,boolean closable,

boolean maximizable,boolean iconifiable):

建立一个可关闭、可更改大小、具有标题、可最大化与最小化的

注意：如何让子窗体只出现一次，不重复出现

JInternalFrame frms[]=desk.getAllFrames();//得到桌面面板中所有子窗体

boolean flag=false;

for(int i=0;i<frms.length;i++)

if(**frms[i].getClass()==MySubFrm.class**){

flag=true;break;

}

if(!flag){

MySubFrm frm=new MySubFrm();

frm.setSize(300,200);

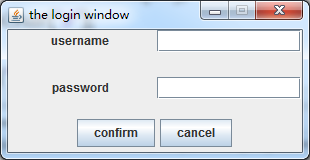
desk.add(frm);

frm.setVisible(true);

}

### §6.4 实践编程

1、完成如下登陆界面， 其中用户名为abc。密码为1234，登陆成功登陆后弹出消息框，“欢迎您，abc 登陆”；如果密码输入错误，弹出对话框，显示“用户名和密码错误”，并清空输入的信息。



Login\_Window类：

package experiment\_6\_4\_1;

import java.awt.\*;

import javax.swing.\*;

import javax.swing.event.\*;

import java.awt.event.\*;

public class Login\_Window extends JFrame{

//declare component

JLabel username,password;

JButton btu\_confirm,btu\_cancle;

JTextField text\_Username,text\_Password;

Login\_Window(){

//set pane

JPanel jp\_west;

JPanel jp\_south;

JPanel jp\_central;

//assign component

username=new JLabel("Username");

password=new JLabel("password");

btu\_cancle=new JButton("Cancle");

btu\_confirm=new JButton("Confirm");

text\_Username=new JTextField(15);

text\_Password=new JTextField(15);

jp\_west=new JPanel();

jp\_central=new JPanel();

jp\_south=new JPanel();

//add listener

btu\_confirm.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

String copy\_username=text\_Username.getText();

String copy\_password=text\_Password.getText();

String username="abc";

String password="1234";

if(copy\_username.equals(username)&&copy\_password.equals(password)) {

JOptionPane.showMessageDialog(btu\_confirm, "欢迎您，abc登陆", "登陆成功", JOptionPane.INFORMATION\_MESSAGE);

new Login\_information\_Window();

}

else {

JOptionPane.showMessageDialog(btu\_confirm, "用户名或密码错误", "登陆失败", JOptionPane.INFORMATION\_MESSAGE);

text\_Username.setText("");

text\_Password.setText("");

}

}

});

btu\_cancle.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

System.exit(EXIT\_ON\_CLOSE);

}

});

//central panel

jp\_central.setLayout(new GridLayout(2,2));

jp\_central.add(username);

jp\_central.add(text\_Username);

jp\_central.add(password);

jp\_central.add(text\_Password);

//south panel

jp\_south.setLayout(new FlowLayout());

jp\_south.add(btu\_confirm);

jp\_south.add(btu\_cancle);

//add

add(jp\_central,BorderLayout.CENTER);

add(jp\_south,BorderLayout.SOUTH);

add(jp\_west,BorderLayout.WEST);

//window setting

setTitle("The login window");

setBounds(500,400,400,150);

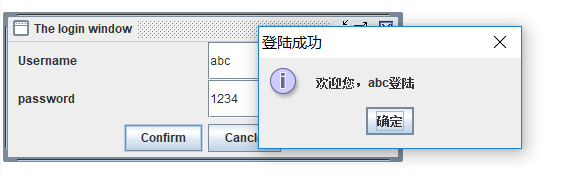
setVisible(true);

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

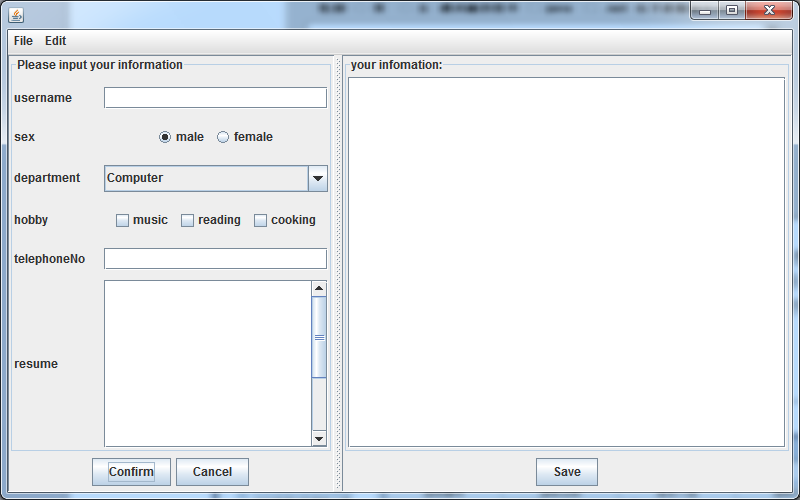
validate();

}

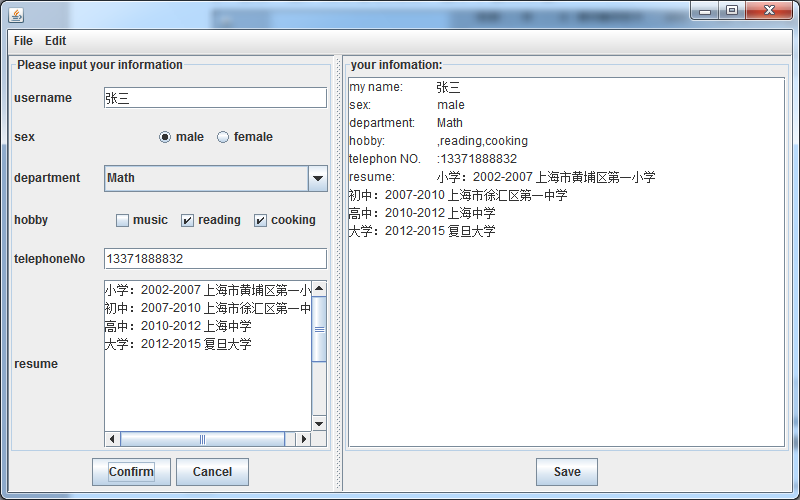
}



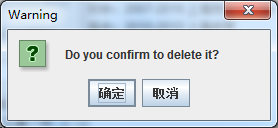
2、接第一题，如果登录成功，显示下面的界面：



（1）输入username，sex，department，hobby，telephoneNo, resume，点击“confirm”按钮，左边的信息显示在右边的区域，如下图所示：



（2）点击“Cancel”，弹出对话框请用户确认，如果用户选择“确定”，就清空左边和右边的信息。



（3）点击“Save”，在控制台显示：你的学号+你的姓名+“信息已保存”。

（4） 菜单“File”下显示 “New” 和 “Open”，指定“New”的快捷方式是Ctrl+N，点击“New”，将下面各输入部分清空（Sex项与Department项置为默认）；点击“Open”，在控制台显示：你的学号+你的姓名+“点击了Open菜单项”。

（5）菜单“Edit”下显示“Cut”和“Copy”，点击“Cut”，在控制台显示：你的学号+你的姓名+“点击了Cut菜单项”; 点击“Copy”，在控制台显示：你的学号+你的姓名+“点击了Copy菜单项”。

运行类：

package experiment\_6\_4\_1;

import java.awt.\*;

import javax.swing.\*;

import javax.swing.event.\*;

import java.awt.event.\*;

public class Java20181389\_hy\_6\_4\_1 extends JFrame{

public static void main(String[] args) {

setDefaultLookAndFeelDecorated(true);

new Login\_Window();

}

}

Login\_Window类：

package experiment\_6\_4\_1;

import java.awt.\*;

import javax.swing.\*;

import javax.swing.event.\*;

import java.awt.event.\*;

public class Login\_Window extends JFrame{

//declare component

JLabel username,password;

JButton btu\_confirm,btu\_cancle;

JTextField text\_Username,text\_Password;

Login\_Window(){

//set pane

JPanel jp\_west;

JPanel jp\_south;

JPanel jp\_central;

//assign component

username=new JLabel("Username");

password=new JLabel("password");

btu\_cancle=new JButton("Cancle");

btu\_confirm=new JButton("Confirm");

text\_Username=new JTextField(15);

text\_Password=new JTextField(15);

jp\_west=new JPanel();

jp\_central=new JPanel();

jp\_south=new JPanel();

//add listener

btu\_confirm.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

String copy\_username=text\_Username.getText();

String copy\_password=text\_Password.getText();

String username="abc";

String password="1234";

if(copy\_username.equals(username)&&copy\_password.equals(password)) {

JOptionPane.showMessageDialog(btu\_confirm, "欢迎您，abc登陆", "登陆成功", JOptionPane.INFORMATION\_MESSAGE);

new Login\_information\_Window();

}

else {

JOptionPane.showMessageDialog(btu\_confirm, "用户名或密码错误", "登陆失败", JOptionPane.INFORMATION\_MESSAGE);

text\_Username.setText("");

text\_Password.setText("");

}

}

});

btu\_cancle.addActionListener(new ActionListener() {

public void actionPerformed(ActionEvent e) {

System.exit(EXIT\_ON\_CLOSE);

}

});

//central panel

jp\_central.setLayout(new GridLayout(2,2));

jp\_central.add(username);

jp\_central.add(text\_Username);

jp\_central.add(password);

jp\_central.add(text\_Password);

//south panel

jp\_south.setLayout(new FlowLayout());

jp\_south.add(btu\_confirm);

jp\_south.add(btu\_cancle);

//add

add(jp\_central,BorderLayout.CENTER);

add(jp\_south,BorderLayout.SOUTH);

add(jp\_west,BorderLayout.WEST);

//window setting

setTitle("The login window");

setBounds(500,400,400,150);

setVisible(true);

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

validate();

}

}

Login\_Informaiton\_Window类：

package experiment\_6\_4\_1;

import javax.swing.\*;

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.border.TitledBorder;

public class Login\_information\_Window extends JFrame{

//declare component

JMenuBar menubar;

JLabel lbl\_username,lbl\_sex,lbl\_department,lbl\_hobby,lbl\_telephoneNo,lbl\_resume,lbl\_titlel,lbl\_titler;

JTextField txtf\_username,txtf\_telephoneNo;

JTextArea txta\_resume,txta\_imformation;

JButton btn\_comfirm,btn\_cancel,btn\_save;

JCheckBox cb\_music,cb\_reading,cb\_cooking;

JComboBox<String> cbb\_department;

JRadioButton rbtn\_male,rbtn\_female;

JMenu menu\_file,menu\_edit;

JMenuItem menui\_new,menui\_open,menui\_cut,menui\_copy;

String[] s\_department= {"Computer","Math","Chemistry"};

//pane

JPanel jp\_sex\_btn,jp\_hobby\_btn,jp\_right\_btn,jp\_left\_btn,jp5,jp6,jp7,right,left;

Box box\_base,box\_left,box\_right;

JSplitPane spp;

Login\_information\_Window() {

//window setting

setBounds(100,100,800,525);

setVisible(true);

setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

//assign component

menubar=new JMenuBar();

menu\_file=new JMenu("File");

menu\_edit=new JMenu("Edit");

menui\_copy=new JMenuItem("Copy");

menui\_copy.setAccelerator(KeyStroke.getKeyStroke(KeyEvent.VK\_C, InputEvent.CTRL\_MASK));

menui\_cut=new JMenuItem("Cut");

menui\_new=new JMenuItem("New");

menui\_new.setAccelerator(KeyStroke.getKeyStroke(KeyEvent.VK\_N, InputEvent.CTRL\_MASK));

menui\_open=new JMenuItem("Open");

lbl\_username=new JLabel("Username");

lbl\_sex=new JLabel("Sex");

lbl\_department=new JLabel("Department");

lbl\_hobby=new JLabel("Hobby");

lbl\_telephoneNo=new JLabel("TelephoneNo");

lbl\_resume=new JLabel("Resume");

lbl\_titlel=new JLabel("Please input your information");

lbl\_titler=new JLabel("Your information");

txtf\_telephoneNo=new JTextField(15);

txtf\_username=new JTextField(15);

txta\_imformation=new JTextArea(100,100);

txta\_resume=new JTextArea(20,20);

ButtonGroup btn\_grop=new ButtonGroup();

btn\_cancel=new JButton("Cancel");

btn\_comfirm=new JButton("Comfirm");

btn\_save=new JButton("Save");

btn\_grop.add(this.btn\_cancel);

btn\_grop.add(this.btn\_save);

btn\_grop.add(this.btn\_comfirm);

ButtonGroup rbtn\_grop=new ButtonGroup();

rbtn\_female=new JRadioButton("Female");

rbtn\_male=new JRadioButton("Male");

rbtn\_grop.add(this.rbtn\_male);

rbtn\_grop.add(this.rbtn\_female);

cb\_cooking=new JCheckBox("Cooking");

cb\_music=new JCheckBox("Music");

cb\_reading=new JCheckBox("Reading");

cbb\_department=new JComboBox<String>(s\_department);

jp\_sex\_btn=new JPanel();

jp\_hobby\_btn=new JPanel();

jp\_right\_btn=new JPanel();

jp\_left\_btn=new JPanel();

jp5=new JPanel();

jp6=new JPanel();

jp7=new JPanel();

right=new JPanel();

left=new JPanel();

//component listener

btn\_comfirm.addActionListener(new ActionListener() {

@Override

public void actionPerformed(ActionEvent e) {

// TODO 自动生成的方法存根

txta\_imformation.setText("");

String a;

a=txtf\_username.getText();

txta\_imformation.append("Username:"+"\t"+a+"\n");

if(rbtn\_male.isSelected())

txta\_imformation.append("Sex:"+"\t"+"Male"+"\n");

else

txta\_imformation.append("Sex:"+"\t"+"Female"+"\n");

txta\_imformation.append("Department:"+"\t"+cbb\_department.getSelectedItem()+"\n");

txta\_imformation.append("Hobby:"+"\t");

if(cb\_cooking.isSelected())

txta\_imformation.append(cb\_cooking.getText()+",");

if(cb\_music.isSelected())

txta\_imformation.append(cb\_music.getText()+",");

if(cb\_reading.isSelected())

txta\_imformation.append(cb\_reading.getText());

txta\_imformation.append("\n");

txta\_imformation.append(lbl\_telephoneNo.getText()+":\t"+txtf\_telephoneNo.getText()+"\n");

txta\_imformation.append(lbl\_resume.getText()+":\n"+txta\_resume.getText()+"\n");

}

});

btn\_cancel.addActionListener(new ActionListener() {

@Override

public void actionPerformed(ActionEvent e) {

// TODO 自动生成的方法存根

int a= JOptionPane.showConfirmDialog(btn\_cancel, "Do you confirm to delete it?", "Warning", JOptionPane.YES\_NO\_OPTION);

if(a==0) {

txta\_imformation.setText("");

txta\_resume.setText("");

txtf\_telephoneNo.setText("");

txtf\_username.setText("");

rbtn\_female.setSelected(false);

cb\_cooking.setSelected(false);

cb\_music.setSelected(false);

cb\_reading.setSelected(false);

cbb\_department.setSelectedItem(s\_department[0]);

}

}

});

btn\_save.addActionListener(new ActionListener() {

@Override

public void actionPerformed(ActionEvent e) {

// TODO 自动生成的方法存根

System.out.println(txtf\_username.getText()+" "+"信息已保存");

}

});

menui\_new.addActionListener(new ActionListener() {

@Override

public void actionPerformed(ActionEvent e) {

// TODO 自动生成的方法存根

txta\_imformation.setText("");

txta\_resume.setText("");

txtf\_telephoneNo.setText("");

txtf\_username.setText("");

rbtn\_female.setSelected(false);

rbtn\_male.setSelected(true);

cb\_cooking.setSelected(false);

cb\_music.setSelected(false);

cb\_reading.setSelected(false);

cbb\_department.setSelectedItem(s\_department[0]);

}

});

menui\_cut.addActionListener(new ActionListener() {

@Override

public void actionPerformed(ActionEvent e) {

// TODO 自动生成的方法存根

System.out.println(txtf\_username.getText()+"你点击了cut菜单");

}

});

menui\_copy.addActionListener(new ActionListener() {

@Override

public void actionPerformed(ActionEvent arg0) {

// TODO 自动生成的方法存根

System.out.println(txtf\_username.getText()+"你点击了copy菜单");

}

});

//add component

jp\_sex\_btn.setLayout(new FlowLayout());

jp\_sex\_btn.add(rbtn\_male);

jp\_sex\_btn.add(rbtn\_female);

jp\_sex\_btn.setLayout(new FlowLayout());

jp\_hobby\_btn.add(cb\_cooking);

jp\_hobby\_btn.add(cb\_music);

jp\_hobby\_btn.add(cb\_reading);

jp\_right\_btn.add(btn\_save);

jp\_left\_btn.setLayout(new FlowLayout());

jp\_left\_btn.add(btn\_comfirm);

jp\_left\_btn.add(btn\_cancel);

menu\_edit.add(menui\_copy);

menu\_file.addSeparator();

menu\_edit.add(menui\_cut);

menu\_file.add(menui\_new);

menu\_file.addSeparator();

menu\_file.add(menui\_open);

menubar.add(menu\_edit);

menubar.add(menu\_file);

box\_base=Box.createHorizontalBox();

box\_left=Box.createVerticalBox();

box\_right=Box.createVerticalBox();

box\_left.add(lbl\_username);

box\_left.add(Box.createVerticalStrut(22));

box\_left.add(lbl\_sex);

box\_left.add(Box.createVerticalStrut(22));

box\_left.add(lbl\_department);

box\_left.add(Box.createVerticalStrut(22));

box\_left.add(lbl\_hobby);

box\_left.add(Box.createVerticalStrut(22));

box\_left.add(lbl\_telephoneNo);

box\_left.add(Box.createVerticalStrut(22));

box\_left.add(lbl\_resume);

box\_left.add(Box.createVerticalStrut(180));

box\_right.add(txtf\_username);

box\_right.add(Box.createVerticalStrut(10));

box\_right.add(jp\_sex\_btn);

box\_right.add(Box.createVerticalStrut(10));

box\_right.add(cbb\_department);

box\_right.add(Box.createVerticalStrut(10));

box\_right.add(jp\_hobby\_btn);

box\_right.add(Box.createVerticalStrut(10));

box\_right.add(txtf\_telephoneNo);

box\_right.add(Box.createVerticalStrut(10));

box\_right.add(new JScrollPane(txta\_resume));

box\_base.add(box\_left);

box\_base.add(Box.createHorizontalStrut(20));

box\_base.add(box\_right);

left.setBorder(new TitledBorder(null,lbl\_titlel.getText()));

left.setLayout(new BoxLayout(left, BoxLayout.Y\_AXIS));

left.add(box\_base);

left.add(jp\_left\_btn);

right.setBorder(new TitledBorder(null,lbl\_titler.getText()));

right.setLayout(new BoxLayout(right, BoxLayout.Y\_AXIS));

right.add(lbl\_titler);

right.add(new JScrollPane(txta\_imformation));

right.add(jp\_right\_btn);

//window visible

this.setJMenuBar(menubar);

JSplitPane splitPane=new JSplitPane(JSplitPane.HORIZONTAL\_SPLIT,left,right);

splitPane.setDividerSize(20);

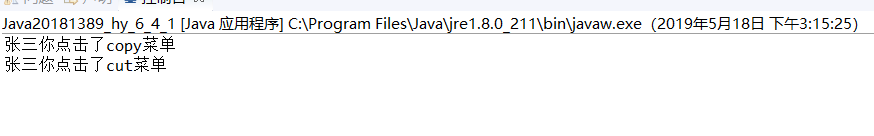
splitPane.setDividerLocation(400);

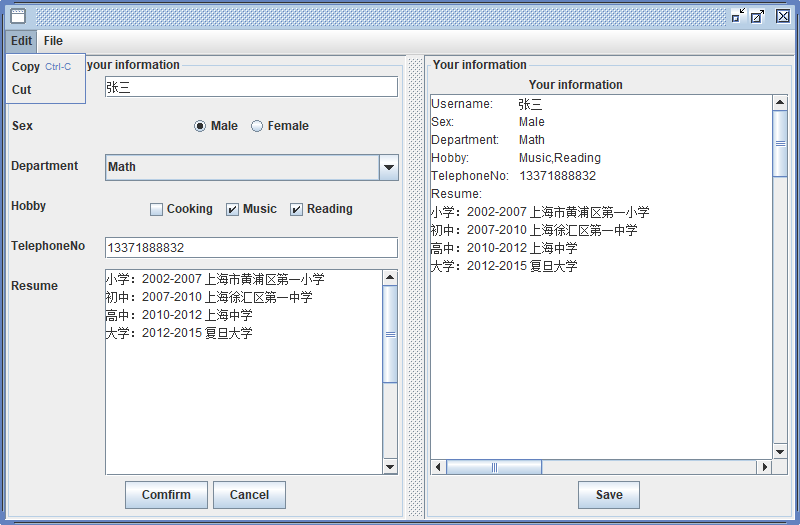
add(splitPane,BorderLayout.CENTER);

validate();

}

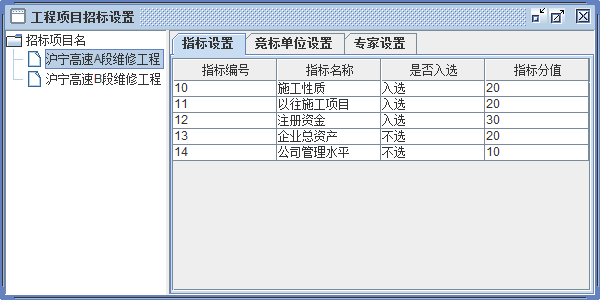
}

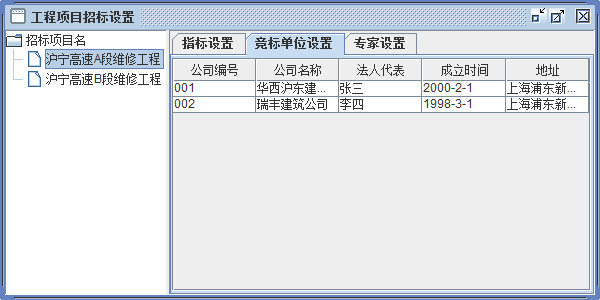


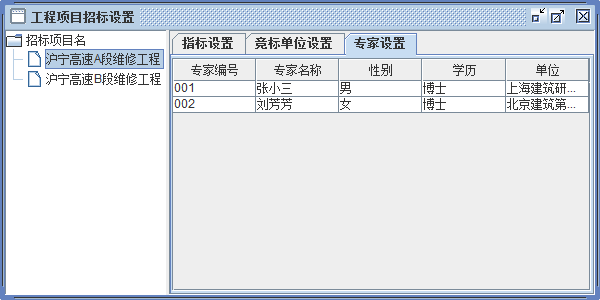


3、参照如下界面，利用JTree, JSplitPane, JTable, JTabbedPane完成。

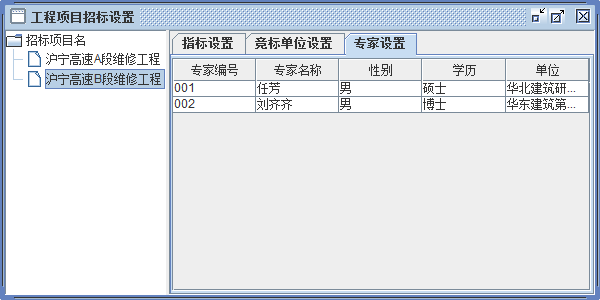
(1) 选中“沪宁高速A段维修工程”，三个页面如下：





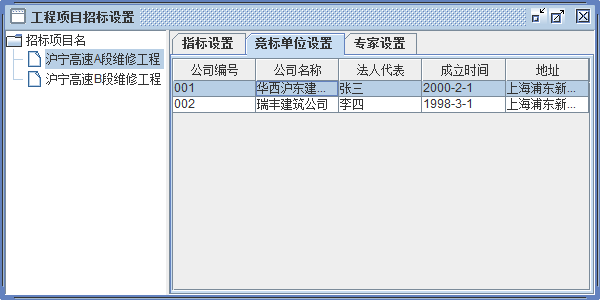


(2) 选中“沪宁高速B段维修工程”，出现相应的页面，仅以“专家设置”举例如下：



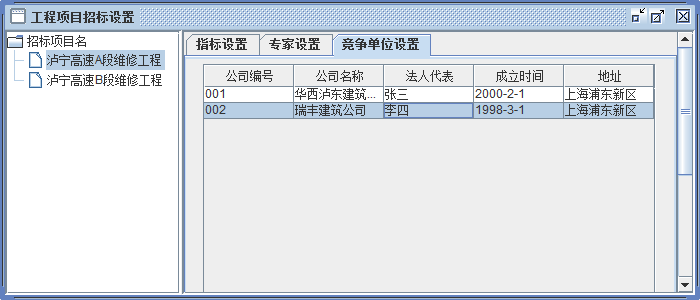
表里显示的数据内容请自行设计。

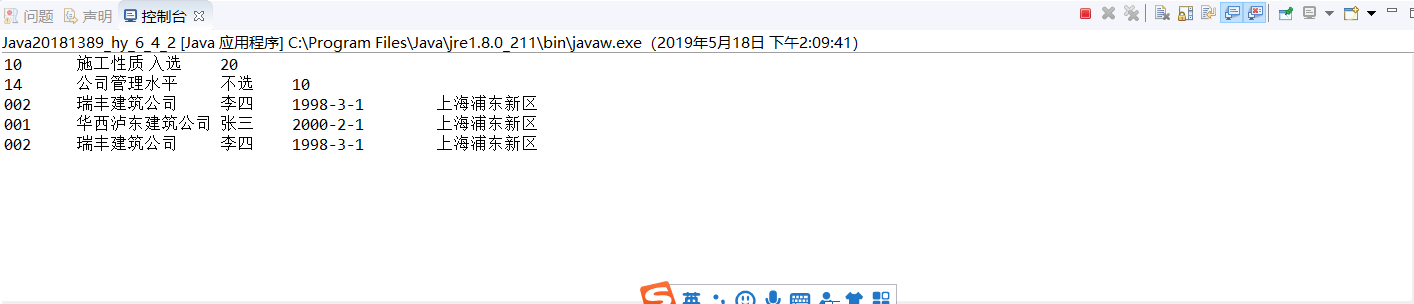
(3) 选中任意一个表格，选中一行，在控制台输出选中行的内容，如下图选中了“沪宁高速A段维修工程”中“竞标单位设置”中的一行：



在控制台输出了相应内容：







运行类：

**package** experiment\_6\_4\_3;

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

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

**public** **class** Java20181389\_hy\_6\_4\_2 **extends** JFrame{

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

// **TODO** 自动生成的方法存根

*setDefaultLookAndFeelDecorated*(**true**);

**new** Program\_taget\_Window();

}

}

Program\_taget\_Window类：

package experiment\_6\_4\_3;

import java.awt.\*;

import java.awt.event.\*;

import javax.swing.\*;

import javax.swing.event.TreeSelectionEvent;

import javax.swing.event.TreeSelectionListener;

import javax.swing.tree.\*;

public class Program\_taget\_Window extends JFrame{

//base information

String cols\_A\_target[]= {"指标编号","指标名称","是否入选","指标分值"};

Object rows\_A\_target[][]= {

{"10","施工性质","入选","20"},

{"11","以往施工项目","入选","20"},

{"12","注册资金","入选","30"},

{"13","企业总资产","不选","20"},

{"14","公司管理水平","不选","10"}

};

String cols\_A\_compete[]= {"公司编号","公司名称","法人代表","成立时间","地址"};

Object rows\_A\_compete[][]= {

{"001","华西泸东建筑公司","张三","2000-2-1","上海浦东新区"},

{"002","瑞丰建筑公司","李四","1998-3-1","上海浦东新区"}

};

String cols\_A\_expert[]= {"专家编号","专家名称","性别","学历","单位"};

Object rows\_A\_expert[][]= {

{"001","张小三","男","博士","上海建筑研究学院"},

{"002","刘芳芳","女","博士","北京建筑第一研究学院"}

};

String cols\_B\_target[]= {"指标编号","指标名称","是否入选","指标分值"};

Object rows\_B\_target[][]= {

{"10","施工性质","不选","20"},

{"11","以往施工项目","入选","10"},

{"12","注册资金","入选","30"},

{"13","企业总资产","不选","20"},

{"14","公司管理水平","不选","10"}

};

String cols\_B\_compete[]= {"公司编号","公司名称","法人代表","成立时间","地址"};

Object rows\_B\_compete[][]= {

{"001","西华泸东建筑公司","张四","2000-2-1","上海浦东新区"},

{"002","丰瑞建筑公司","李五","1998-3-1","上海浦东新区"}

};

String cols\_B\_expert[]= {"专家编号","专家名称","性别","学历","单位"};

Object rows\_B\_expert[][]= {

{"001","小三","男","博士","上海建筑研究学院"},

{"002","芳芳","女","硕士","北京建筑第一研究学院"}

};

String tab\_Card[]= {"指标设置","专家设置","竞争单位设置"};

//declare component

JTree tree\_Program;

JTable table\_Prongram\_A\_target,table\_Prongram\_A\_compete,table\_Prongram\_A\_expert;

JTable table\_Prongram\_B\_target,table\_Prongram\_B\_compete,table\_Prongram\_B\_expert;

JTabbedPane tab\_Pane;

JSplitPane split\_Pane;

Icon tab\_Card\_icon[]=new Icon[tab\_Card.length];

JPanel jp\_A[];

JPanel jp\_B[];

public Program\_taget\_Window() {

// TODO 自动生成的构造函数存根

//table setting

table\_Prongram\_A\_target=new JTable(rows\_A\_target,cols\_A\_target);

table\_Prongram\_A\_expert=new JTable(rows\_A\_expert,cols\_A\_expert);

table\_Prongram\_A\_compete=new JTable(rows\_A\_compete,cols\_A\_compete);

table\_Prongram\_B\_target=new JTable(rows\_B\_target,cols\_B\_target);

table\_Prongram\_B\_expert=new JTable(rows\_B\_expert,cols\_B\_expert);

table\_Prongram\_B\_compete=new JTable(rows\_B\_compete,cols\_B\_compete);

table\_Prongram\_A\_compete.addMouseListener(new MouseAdapter() {

public void mouseClicked(MouseEvent e) {

int row=table\_Prongram\_A\_compete.getSelectedRow();

int count=table\_Prongram\_A\_compete.getModel().getColumnCount();

for(int i=0;i<count;i++) {

Object value=table\_Prongram\_A\_compete.getModel().getValueAt(row, i);

System.out.print((String)value);

System.out.print("\t");

}

System.out.print("\n");

}

});

table\_Prongram\_B\_compete.addMouseListener(new MouseAdapter() {

public void mouseClicked(MouseEvent e) {

int row=table\_Prongram\_B\_compete.getSelectedRow();

int count=table\_Prongram\_B\_compete.getModel().getColumnCount();

for(int i=0;i<count;i++) {

Object value=table\_Prongram\_B\_compete.getModel().getValueAt(row, i);

System.out.print((String)value);

System.out.print("\t");

}

System.out.print("\n");

}

});

table\_Prongram\_A\_expert.addMouseListener(new MouseAdapter() {

public void mouseClicked(MouseEvent e) {

int row=table\_Prongram\_A\_expert.getSelectedRow();

int count=table\_Prongram\_A\_expert.getModel().getColumnCount();

for(int i=0;i<count;i++) {

Object value=table\_Prongram\_A\_expert.getModel().getValueAt(row, i);

System.out.print((String)value);

System.out.print("\t");

}

System.out.print("\n");

}

});

table\_Prongram\_B\_expert.addMouseListener(new MouseAdapter() {

public void mouseClicked(MouseEvent e) {

int row=table\_Prongram\_B\_expert.getSelectedRow();

int count=table\_Prongram\_B\_expert.getModel().getColumnCount();

for(int i=0;i<count;i++) {

Object value=table\_Prongram\_B\_expert.getModel().getValueAt(row, i);

System.out.print((String)value);

System.out.print("\t");

}

System.out.print("\n");

}

});

table\_Prongram\_A\_target.addMouseListener(new MouseAdapter() {

public void mouseClicked(MouseEvent e) {

int row=table\_Prongram\_A\_target.getSelectedRow();

int count=table\_Prongram\_A\_target.getModel().getColumnCount();

for(int i=0;i<count;i++) {

Object value=table\_Prongram\_A\_target.getModel().getValueAt(row, i);

System.out.print((String)value);

System.out.print("\t");

}

System.out.print("\n");

}

});

table\_Prongram\_B\_target.addMouseListener(new MouseAdapter() {

public void mouseClicked(MouseEvent e) {

int row=table\_Prongram\_B\_target.getSelectedRow();

int count=table\_Prongram\_B\_target.getModel().getColumnCount();

for(int i=0;i<count;i++) {

Object value=table\_Prongram\_B\_target.getModel().getValueAt(row, i);

System.out.print((String)value);

System.out.print("\t");

}

System.out.print("\n");

}

});

//pane setting

jp\_A=new JPanel[3];

jp\_B=new JPanel[3];

jp\_A[0]=new JPanel();

jp\_A[0].add(new JScrollPane(table\_Prongram\_A\_target),BorderLayout.NORTH);

jp\_A[1]=new JPanel();

jp\_A[1].add(new JScrollPane(table\_Prongram\_A\_expert),BorderLayout.NORTH);

jp\_A[2]=new JPanel();

jp\_A[2].add(new JScrollPane(table\_Prongram\_A\_compete),BorderLayout.NORTH);

jp\_B[0]=new JPanel();

jp\_B[0].add(new JScrollPane(table\_Prongram\_B\_target),BorderLayout.NORTH);

jp\_B[1]=new JPanel();

jp\_B[1].add(new JScrollPane(table\_Prongram\_B\_expert),BorderLayout.NORTH);

jp\_B[2]=new JPanel();

jp\_B[2].add(new JScrollPane(table\_Prongram\_B\_compete),BorderLayout.NORTH);

//Tab pane setting

tab\_Pane=new JTabbedPane(JTabbedPane.TOP);

//tree setting

DefaultMutableTreeNode Program=new DefaultMutableTreeNode("招标项目名");

DefaultMutableTreeNode Program\_A=new DefaultMutableTreeNode("泸宁高速A段维修工程");

DefaultMutableTreeNode Program\_B=new DefaultMutableTreeNode("泸宁高速B段维修工程");

Program.add(Program\_A);

Program.add(Program\_B);

tree\_Program=new JTree(Program);

tree\_Program.addTreeSelectionListener(new TreeSelectionListener() {

@Override

public void valueChanged(TreeSelectionEvent e) {

// TODO 自动生成的方法存根

tab\_Pane.removeAll();

DefaultMutableTreeNode node=(DefaultMutableTreeNode)tree\_Program.getLastSelectedPathComponent();

if(node.equals(Program\_A)) {

for(int i=0;i<3;i++) {

tab\_Pane.add(tab\_Card[i], jp\_A[i]);

}

}

if(node.equals(Program\_B)) {

for(int i=0;i<3;i++) {

tab\_Pane.add(tab\_Card[i], jp\_B[i]);

}

}

}

});

//Split pane setting

split\_Pane=new JSplitPane(JSplitPane.HORIZONTAL\_SPLIT,new JScrollPane(tree\_Program),new JScrollPane(tab\_Pane));

split\_Pane.setDividerSize(3);

split\_Pane.setDividerLocation(175);

add(split\_Pane);

//window setting

setBounds(100,100,700,300);

setVisible(true);

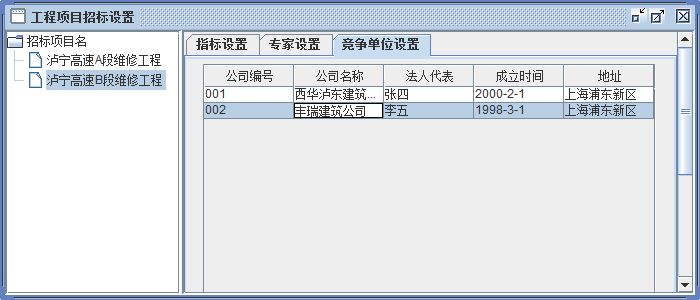
setTitle("工程项目招标设置");

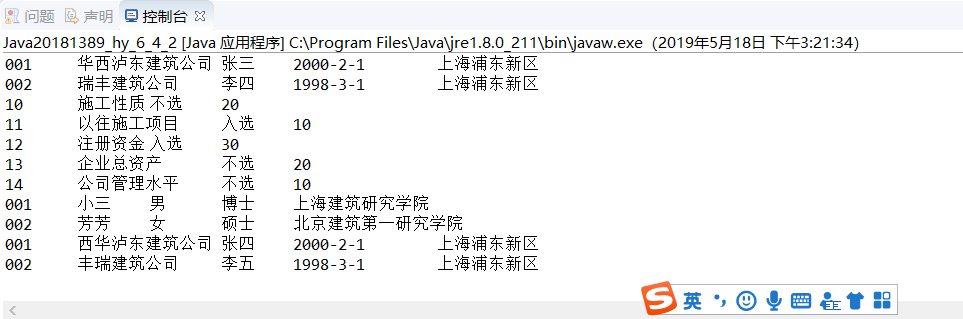
setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

validate();

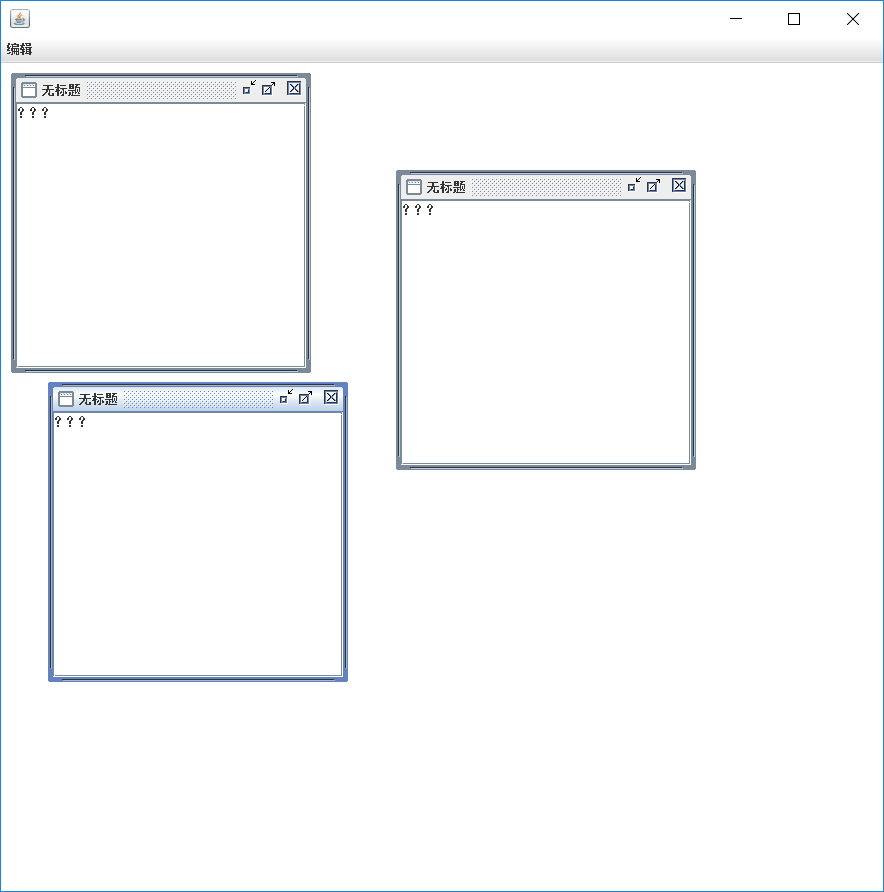
}

}





1. 调试教材例10-36，学习多文档界面的编写，将源代码、运行结果截图粘贴在下方。



**package** experiment\_6\_4\_4;

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

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

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

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

**public** **class** Example\_10\_36 {

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

// **TODO** 自动生成的方法存根

MDIWindow win=**new** MDIWindow();

}

}

**class** MyInternalFrame **extends** JInternalFrame{

JTextArea text;

**public** MyInternalFrame(String title) {

// **TODO** 自动生成的构造函数存根

**super**(title,**true**,**true**,**true**,**true**);

text=**new** JTextArea();

add(**new** JScrollPane(text),BorderLayout.***CENTER***);

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

addInternalFrameListener(**new** InternalFrameAdapter() {

**public** **void** internalFrameDeactivated(InternalFrameEvent e) {

// **TODO** 自动生成的方法存根

setLayer(JDesktopPane.***DEFAULT\_LAYER***);

}

**public** **void** internalFrameActivated(InternalFrameEvent e) {

// **TODO** 自动生成的方法存根

setLayer(JDesktopPane.***DRAG\_LAYER***);

};

});

}

**public** JTextArea getJTextArea() {

**return** text;

}

}

**class** MDIWindow **extends** JFrame **implements** ActionListener{

JDesktopPane desk;

JMenuBar menubar;

JMenu menu;

JMenuItem itemNew,itemCopy,itemCut,itemPaste;

**public** MDIWindow() {

// **TODO** 自动生成的构造函数存根

desk=**new** JDesktopPane();

desk.setDesktopManager(**new** DefaultDesktopManager());

add(desk,BorderLayout.***CENTER***);

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

menubar=**new** JMenuBar();

menu=**new** JMenu("编辑");

itemCopy=**new** JMenuItem("复制");

itemCut=**new** JMenuItem("剪切");

itemNew=**new** JMenuItem("新建");

itemPaste=**new** JMenuItem("粘贴");

itemCopy.addActionListener(**this**);

itemCut.addActionListener(**this**);

itemNew.addActionListener(**this**);

itemPaste.addActionListener(**this**);

menu.add(itemNew);

menu.add(itemCopy);

menu.add(itemCut);

menu.add(itemPaste);

menubar.add(menu);

setJMenuBar(menubar);

setBounds(100,100,900,900);

setVisible(**true**);

}

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

**if**(e.getSource()==itemNew) {

JInternalFrame a[]=desk.getAllFrames();

**for**(**int** i=0;i<a.length;i++)

desk.setLayer(a[i], JDesktopPane.***DEFAULT\_LAYER***);

JInternalFrame newInternalFrame=**new** MyInternalFrame("无标题");

newInternalFrame.setBounds(10,10,300,300);

newInternalFrame.setVisible(**true**);

desk.add(newInternalFrame,JDesktopPane.***DRAG\_LAYER***);

}

**if**(e.getSource()==itemCopy) {

MyInternalFrame internalFrame=(MyInternalFrame)desk.getSelectedFrame();

JTextArea text=internalFrame.getJTextArea();

text.copy();

}

**else** **if**(e.getSource()==itemCut) {

MyInternalFrame internalFrame=(MyInternalFrame)desk.getSelectedFrame();

JTextArea text=internalFrame.getJTextArea();

text.cut();

}

**else** **if**(e.getSource()==itemPaste) {

MyInternalFrame internalFrame=(MyInternalFrame)desk.getSelectedFrame();

JTextArea text=internalFrame.getJTextArea();

text.paste();

}

}

}