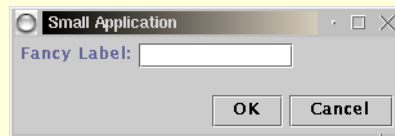


Tutorial #7 (for week 12) (Mar 25, 2003)

22nd March 2003

The following questions will be considered during the tutorial sessions on Tuesday. They are taken from last year's exam.

- Q1:** Write the Java/Swing code for a small application with two buttons, and a text entry box with a label, laid out as shown in this image.



- Q2:** When programming using the AWT toolkit, when you add something to a frame, you would do something like

```
... frame.add(panel, BorderLayout.CENTER);
```

However in Java/Swing you write

```
... frame.getContentPane().add(panel, BorderLayout.CENTER);
```

Why is this done? What advantage does it give us?

Q3: Examine the following Java/Swing code specifying a dialog. Draw a diagram showing the resultant display when you run the code, and give a brief description of the function of the dialog. (What does it look like? What does it do?). Obvious code has been elided for clarity.

CODE LISTING	Dialog.java
<pre> public class ListDialog extends JDialog { private static ListDialog dialog; private static String value = ""; private JList list; public static void initialize(Component comp, String[] possibleValues, String title, String labelText) { Frame frame = JOptionPane.getFrameForComponent(comp); dialog = new ListDialog(frame, possibleValues, title, labelText); } public static String showDialog(Component comp, String initialValue) { ... } ; private void setValue(String newValue) { ... }; value = newValue; list.setSelectedValue(value, true); } private ListDialog(Frame frame, Object[] data, String title, String labelText) { super(frame, title, true); JButton cancelButton = new JButton("Cancel"); final JButton setButton = new JButton("Set"); cancelButton.addActionListener(new ActionListener() { ... }); setButton.addActionListener(new ActionListener() { ... }); getRootPane().setDefaultButton(setButton); list = new JList(data); list.setSelectionMode(ListSelectionModel.SINGLE_INTERVAL_SELECTION); list.addMouseListener(new MouseAdapter() { ... }); JScrollPane listScroller = new JScrollPane(list); listScroller.setPreferredSize(new Dimension(250, 80)); listScroller.setMinimumSize(new Dimension(250, 80)); listScroller.setAlignmentX(LEFT_ALIGNMENT); JPanel listPane = new JPanel(); listPane.setLayout(new BorderLayout(listPane, BorderLayout.Y_AXIS)); JLabel label = new JLabel(labelText); label.setLabelFor(list); listPane.add(label); listPane.add(Box.createRigidArea(new Dimension(0,5))); listPane.add(listScroller); listPane.setBorder(BorderFactory.createEmptyBorder(10,10,10,10)); JPanel buttonPane = new JPanel(); buttonPane.setLayout(new BorderLayout(buttonPane, BorderLayout.X_AXIS)); buttonPane.setBorder(BorderFactory.createEmptyBorder(0, 10, 10, 10)); buttonPane.add(Box.createHorizontalGlue()); buttonPane.add(cancelButton); buttonPane.add(Box.createRigidArea(new Dimension(10, 0))); buttonPane.add(setButton); Container contentPane = getContentPane(); contentPane.add(listPane, BorderLayout.CENTER); contentPane.add(buttonPane, BorderLayout.SOUTH); pack(); } ... </pre>	

The Dialog may be instantiated using this main:

CODE LISTING	MainDialog.java
<pre> public static void main(String[] args) { String[] names = {"Arlo", "Cosmo", "Elmo", "Hugo", "Jethro", "Laszlo", "Milo", "Nemo", "Otto", "Ringo", "Rocco", "Rollo"}; ... ListDialog.initialize(f, names, "Name Chooser", "Baby names ending in O:"); ... </pre>	