**Topics**

Design a drag/drop bean

**Description**

In this exercise, you will redesign a modified form of the calculator of the last exercise. Additionally, you will design it as a drag/drop component.

The calculator GUI in this exercise will consists of the following:

�••••••• An editable text field labeled �Num1� for entering the first number.

�••••••• An editable text field labeled �Num2� for entering the second number.

�••••••• A non-editable text field labeled �Res� for displaying the result.

�••••••• Four radio buttons for selecting an operations. The radio buttons will be labeled �Add�, �Sub�, �Mult� and �Div� respectively. All the radio buttons will work as a group so that� only one radio button can be selected at a time. Set the Add radio button be selected by default.

�••••••• A button labeled �Calculate� for performing the selected operation on the numbers entered.

�••••••• A button labeled �Clear� for clearing the contents of all text fields.

Design the calculator as an extended JPanel so that it can be used as a drag/drop component. See picture section below.

(Do not design the calculator as an extended JFrame because a JFrame cannot be dropped in another JFrame. Instead design the calculator as an extended JPanel which can be drag/dropped in a JFrame).

After designing the calculator component, create an application containing an extended JFrame.� Then drag/drop two instances of calculator component in it. Drop the two calculator instances side by side one on the left and the other on the right. See Picture section below.

Test that each instance of calculator works independent of the other.�

**Implementation Steps**

�••••••• Create a new class that extends JPanel.

�••••••• Design a calculator in the extended JPanel.

�••••••• Create an application containing an extended JFrame.

�••••••• Drop two instances of the extended JPanel in the extended JFrame side by side.

�••••••• Run the application.

�••••••• �Test and check that the two calculator instances work independent of each other.

**Dropping A User Created Java Bean**

For dropping a User Created Java Bean, do the following:

[Make sure that the User Created Java Bean is already compiled (i.e. its class file exists).

It the class file does not exist, the drop mechanism will not work correctly.]

Select Design tab.

In design mode, select the unlabeled menu (Bean Chooser) in the top left corner, a menu will drop down.

Select the �select� item in the drop down button.

It will show Chooser dialog box.

From the Chooser dialog box, select the desired java bean class.

Drop the java bean in the desired location.

**Testing**

Enter a number (say 8.0) in Num1 text field of the left calculator.

Enter a second number (say 2.0) in Num2 text field of the left calculator.

Select an operation (say Add) by clicking the appropriate radio button in the left calculator.

Click the Calculate button of the left calculator.

The result of the operation will show in the Res text field of the left calculator.

Enter a number (say 20.0) in Num1 text field of the right calculator.

Enter a second number (say 2.0) in Num2 text field of the right calculator.

Select an operation (say Mult) by clicking the appropriate radio button in the right calculator.

Click the Calculate button of the right calculator.

The result of the operation will show in the Res text field of the right calculator.

Click the Clear button of the left calculator. All the text fields in the left calculator will clear.

Click the Clear button of the right calculator. All the text fields in the right calculator will clear.

## **Picture**

**Calculator Component Picture**

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**Frame Picture**

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