IST 256
Lab
Week 7 – Monday, October 11, 2010

1. Java programs run during lecture

Applications:
      TestArrays1
      TestArrays2

Observe the example for: TestCheckboxes

Here is a description of the form, but you don't have to make this!

The form has a user interface that allows that the user to select among 3 dorm names and then to choose one or more room features. It looks like

                   Select a Dorm
o Day Hall   o Shaw   o Lawrinson   (radiobuttons in a button group)

                   Select Room Features

o single   o high rise   o quiet   (checkboxes)

        |-----   Show Selections ---| (button)
                Selections   (label)

In the code for TestCheckboxes, note the use of the isSelected() method to tell which RadioButton or Checkboxes are checked. Also note the use of <html> tags to write the values to a multi-line label.

2. Writing a GUI application to use arrays and radiobuttons

Create a new Project named TestArrays3 and make a GUI form named TestArrays3Form. (As usual, change the run property to have the Form as the main class.)

In this project, we will use some predefined arrays for color names. The user will be able to select between regular colors and designer colors. Then they will enter a number between 0 and 9, which is used as a color code, and view the color name given for that code.

Here is a sketch of the user form:

Select Types of Colors

o Regular   o Designer   (radiobuttons in a buttongroup)

Enter Color Code between 0 and 9 |_____| (textfield)

|__ Select Color __| (button)

Result: (label)

Create the Event -> Action -> actionPerformed method for the button.

Create two arrays with color names

Go to the source tab and in the program, at the top of the actionPerformed method, we will two arrays with color names. Here is the code for the two arrays:

```
// regular and designer color arrays
    String[] regularColors = {"white", "beige", "yellow", "orange",
        "red", "purple", "blue", "turquoise", "green", "black"};
    String[] designerColors = {"eggshell", "ecru", "sunshine", "jackolantern",
        "scarlet", "plum", "royal", "teal", "grass", "midnight"};
```

Write the actionPerformed method to first just show regular colors

1. Declare a variable to hold a string for the result and one to hold an integer for the color code

```
    // string for result message
    String message = "";
    // integer for color code, used as an index into the arrays
    int colorcode;
```

2. Add code to get the number that the user typed in and to make sure that it is a number that can be used to index the array. Then use it as an array index to select a color string.

```
// get the color number from the textfield and check that it is valid
if (jTextField1.getText().equals("")) { message = "Please enter a number"; }
else
{
   colorcode = Integer.parseInt(jTextField1.getText());
   if ((0 <= colorcode) & (colorcode <= 9))
   {
           message = "Your color is " + regularColors[colorcode];
      }
   else {message = "Please enter a number between 0 and 9";}
}

// In all cases, put the message string in the results label
jLabel3.setText(message);
```

Test this part of the program.

Extend the actionPerformed method to choose selected colors

Now add code to the actionPerformed method so that you test to see which RadioButton is selected.
        If RadioButton1 is selected, use the regular colors array.
        If RadioButton2 is selected, use the designer colors array.

Test your program and write some results here:

Regular or Designer	Color Code	Resulting Color Name

Your lab sheets can be handed in on Wednesday.