

IST 256  
Lab  
Week 7 – Tuesday, March 1, 2011

**1. Java programs run during lecture**

Applications:

TestArrays1  
TestArrays2

**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: (You can use these color names, or you are welcome to create your own.)

```
// 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

```
// strings for the name of the color and the result message
String colorname, 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.

```
colorcode = Integer.parseInt(jTextField1.getText());
```

Then use it as an array index to select the name of the color.

```
colorname = regularColors[colorcode];
```

Create a message showing the name of the color and display it

```
// put the message string in the results label
message = "Your color is " + colorname;
jLabel3.setText(message);
```

3. Test this part of the program with color numbers between 0 and 9. Now type in a number that is not between 0 and 9. What happens?

**Extend the actionPerformed method to check that the color number is between 0 and 9:**

4. Design and write an if statement that will check that the value of colornumber is between 0 and 9. If the number is in the correct range, assign the message variable as before, but if it is not, assign the message variable to give an alert to the user instead. For example,

```
message = "Please enter a number between 0 and 9";
```

Test your program.

**Extend the actionPerformed method to choose selected colors:**

5. Now design and 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 to get the color name.

    If RadioButton2 is selected, use the designer colors array to get the color name.

Test your program and write some results here:

Regular or Designer	Color Code	Resulting Color Name

**NEW!!**

Copy and paste your button method to a text file (using Notepad) or a word document (using Microsoft Word) and print the file. Hand in the code with your lab sheet.

**Your lab sheet with attached code must be handed in by Tuesday, March 8.**