

CSC 161 LAB 2-2 CHECKERBOARD PATTERNS

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In this lab assignment, we work with arrays of arrays and get to paint different patterns on a checkerboard. Begin by creating a Java application with the following classes :

```
package Lab2_2Package;

import java.awt.GridLayout;
import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.JTextField;
import javax.swing.border.EmptyBorder;

public class CheckerBoardProg
{
    public static void main(String[] args)
    {
        JFrame frame = new JFrame("BorderLayout Example");

        frame.add(new CheckerBoard1(8));
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.pack();

        frame.setVisible(true);
    }
}

class CheckerBoard1 extends JPanel
{
    public CheckerBoard1(int n)
    {
        super.setBorder(new EmptyBorder(5, 5, 5, 5));
        JTextField [][] tFs = new JTextField[n][n];

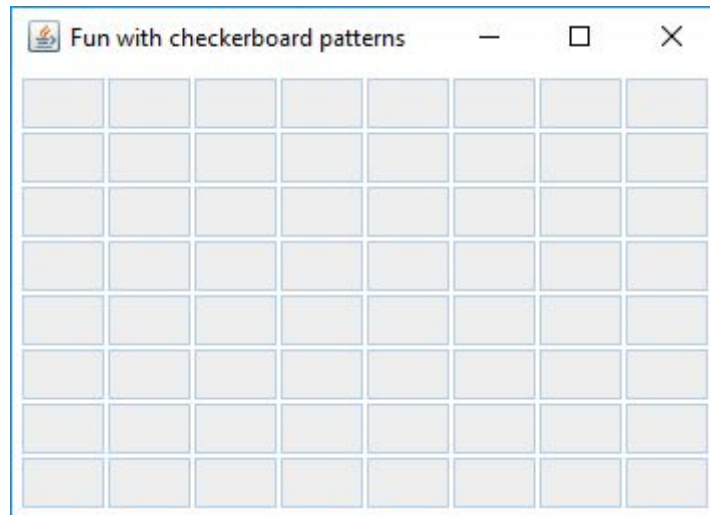
        // Set a GridLayout with n rows and n columns

        // For each cell in the grid, create a textfield of width 2
        // and put it in that cell

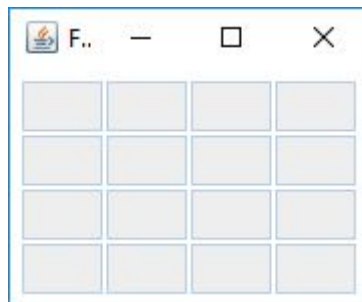
    }
}
```

You can set the background color of the CheckerBoard1 panel to whatever color you wish in the constructor, and you can call the `setEditable(false)` method on each text field to make it non-editable.

When you run the program, it should look like this:



Now modify the statement in the main method that creates the checkerboard to create a checkerboard of size 4. When you run the program, this should be the result:

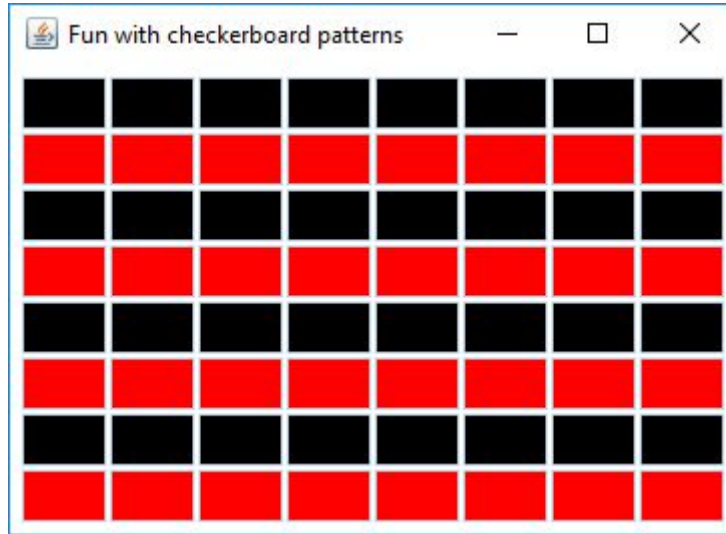


1. ALTERNATING ROWS PATTERN

Change the statement in the main method that creates the checkerboard to

```
frame.add(new CheckerBoard2(8));
```

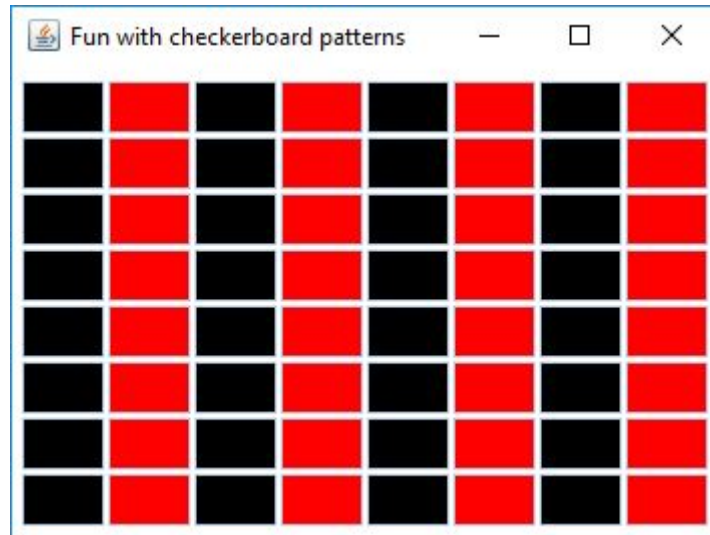
Add a class called `CheckerBoard2` in which you set the rows of the checkerboard to alternate between black and red, like this:



Note: To add the class, right click on the package, and then select add new Java class and specify the name of the class. Then use copy and paste to copy the class to the new file and modify it there.

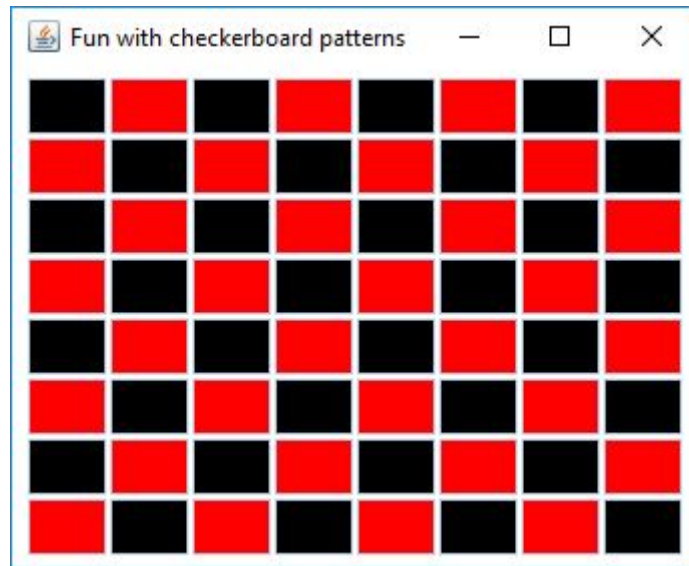
2. ALTERNATING COLUMNS PATTERN

Now add a class `CheckerBoard3` in which you set the columns of the checkerboard to alternating colors:



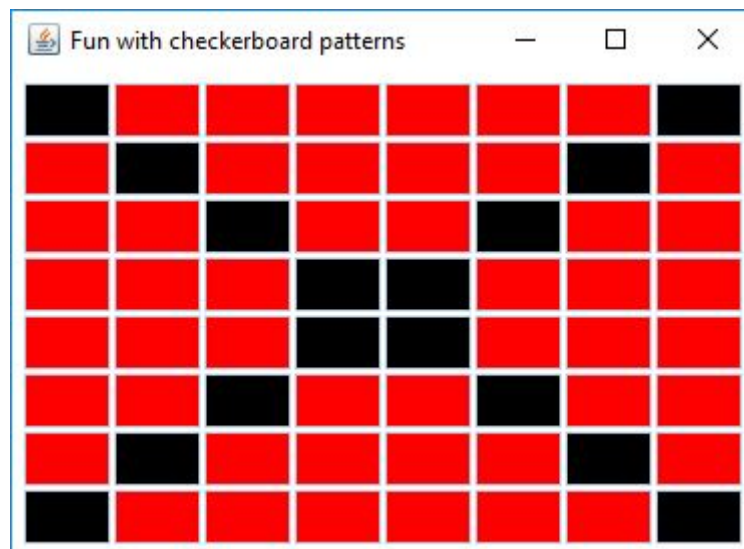
3. TRUE CHECKERBOARD PATTERN

Now add a class `CheckerBoard4` that displays a true checkerboard:

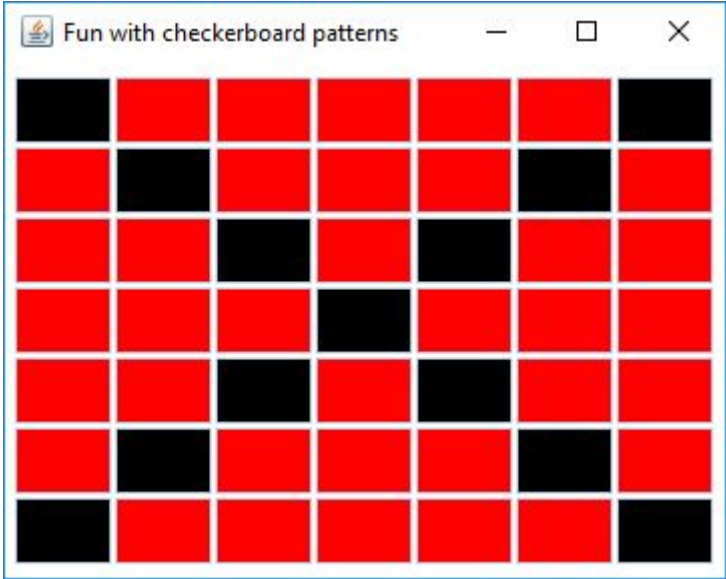


4. X-PATTERN

Last of all, add a class `CheckerBoard5` that displays an *X* pattern. When the size of the board is 8, this pattern will look like this:



However, if the size is 7, the pattern will look like this:



5. DUE DATE: FRIDAY OF WEEK 2