

Student Practice Template: GUI Project

Name: _____

Date: _____

Java Swing GUI Mini Project: Color Switcher

Objective: Create a simple GUI that changes the background color of a panel when a button is clicked.

Requirements:

- Create a JFrame with a title
- Add a JPanel
- Add at least 3 JButtons, each representing a different color
- Add an ActionListener to each button
- When a button is clicked, the panel's background color should change

Step-by-Step Starter Template (Fill in the blanks)

```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;

public class ColorSwitcher {
    public static void main(String[] args) {
        JFrame frame = new JFrame("Color Switcher");
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        JPanel panel = new JPanel();

        JButton redButton = new JButton("Red");
        JButton greenButton = new JButton("Green");
        JButton blueButton = new JButton("Blue");

        // Add buttons to panel
        panel.add(____);
        panel.add(____);
        panel.add(____);

        // Add panel to frame
        frame.add(panel);

        // Set size and make visible
```

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```
        frame.setSize(300, 200);
        frame.setVisible(true);

        // Action Listeners
        redButton.addActionListener(e -> panel.setBackground(Color.RED));
        greenButton.addActionListener(e -> _____);
        blueButton.addActionListener(e -> _____);
    }
}
```

Reflection Questions

- Which part of the code was easiest for you to understand?
- How does the ActionListener know which color to apply?
- What's one improvement you could add (e.g., add a reset button or text label)?

Bonus Challenge Ideas:

- Add a **Reset** button to return to the default color
- Add a JLabel that shows the name of the color selected
- Add more colors like Yellow, Purple, or Orange

Be creative and have fun! You can test different layouts, add icons, or even customize the button shapes or fonts.