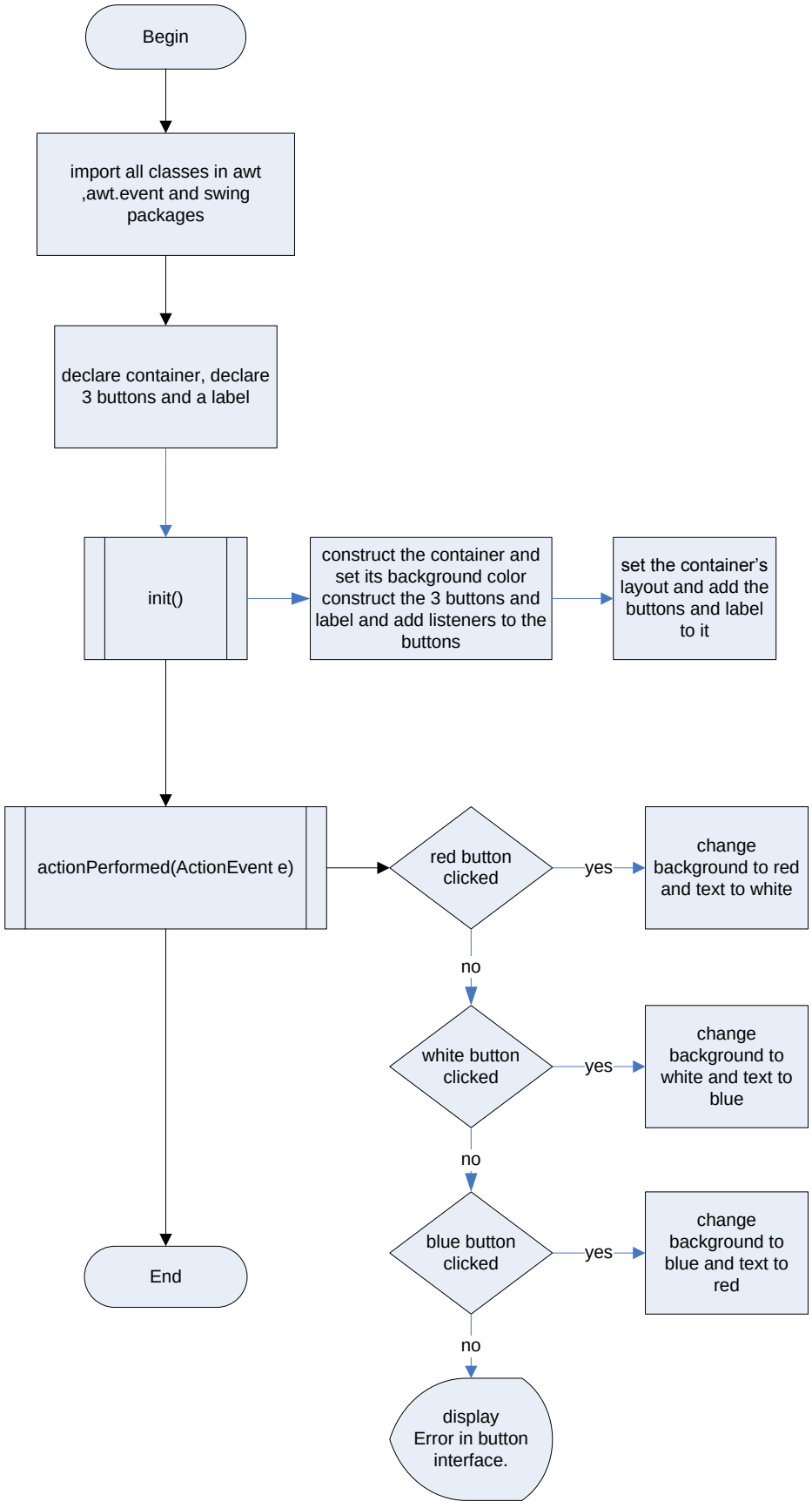
CIT 149: Java I
Chapter 6 Lab 3

In this lab we will complete #16 on page 471. This lab will display three buttons and a label. When one of the buttons is checked the background color of the applet will change and the text color for the label will change. The flowchart for this lab is:


Begin
import all classes in awt ,awt.event and swing packages
declare container, declare 3 buttons and a label
init()
construct the container and set its background color construct the 3 buttons and label and add listeners to the buttons
set the container's layout and add the buttons and label to it
actionPerformed(ActionEvent e)
red button clicked
yes
change background to red and text to white
no
white button clicked
yes
change background to white and text to blue
no
blue button clicked
yes
change background to blue and text to red
no
display Error in button interface.
End

Let's get started!

1. Open a new document window in TextPad and save the program as BackgroundApplet.java.
2. Type the code that will import all classes in the java.awt, java.awt.event and javax.swing packages.
3. Type the class header and opening brace. Have the class extend the JApplet class and implement the ActionListener interface.
4. First we declare our container, our buttons and our label by typing:

```
  private Container contentPane;
private JButton redButton, whiteButton, blueButton;
private JLabel instructions;
```

5. Since this is an applet we need the init() method:

```
  public void init()
{
```

6. Construct our container and set the background color by typing:

```
  contentPane = getContentPane();
contentPane.setBackground(Color.WHITE);
```

7. Construct our buttons and add a listener to each. Type:

```
  //Program buttons:
redButton = new JButton("Red");
redButton.addActionListener(this);

whiteButton = new JButton("White");
whiteButton.addActionListener(this);

blueButton = new JButton("Blue");
blueButton.addActionListener(this);
```

8. Construct our label, setting the text. Type:

```
//Program label:
instructions = new JLabel("Click a button to change the background color.");
```

9. Set the layout of the container and add the buttons and label to it. Type:

```
//Add buttons:
contentPane.setLayout(new FlowLayout());
contentPane.add(redButton);
contentPane.add(whiteButton);
contentPane.add(blueButton);

//Add label
contentPane.add(instructions);
```

10. Close the init() method.
11. Since we implemented the ActionListener interface we must include the actionPerformed() method in this class. This class will handle all events. First the method header and opening brace:

```
public void actionPerformed(ActionEvent e)
{
```

12. Our if, else if and else statements will check to see which button is pressed. Type:

```
if (e.getActionCommand().equals("Red"))
{
    contentPane.setBackground(Color.RED);
    instructions.setForeground(Color.WHITE);
}
else if (e.getActionCommand().equals("White"))
{
    contentPane.setBackground(Color.WHITE);
    instructions.setForeground(Color.BLUE);
}
else if (e.getActionCommand().equals("Blue"))
{
    contentPane.setBackground(Color.BLUE);
    instructions.setForeground(Color.RED);
}
else
    System.out.println("Error in button interface.");
```

13. Close the method and class.
14. Compile the program and fix any errors.
15. Since we have an applet we must have an html document.
16. Open a new document window and save the file as BackgroundApplet.html. Make sure you change the file type when you save it.
17. Type the following which will set the class file name and the width and height of the applet:

```
<html>
<applet code="BackgroundApplet.class" height=200 width=300></applet>
</html>
```

18. Save the file.
19. Run the program.
20. Compress All files into a single zip or rar file and submit.