

CS1316 Summer 2007 Pre-Quiz 3

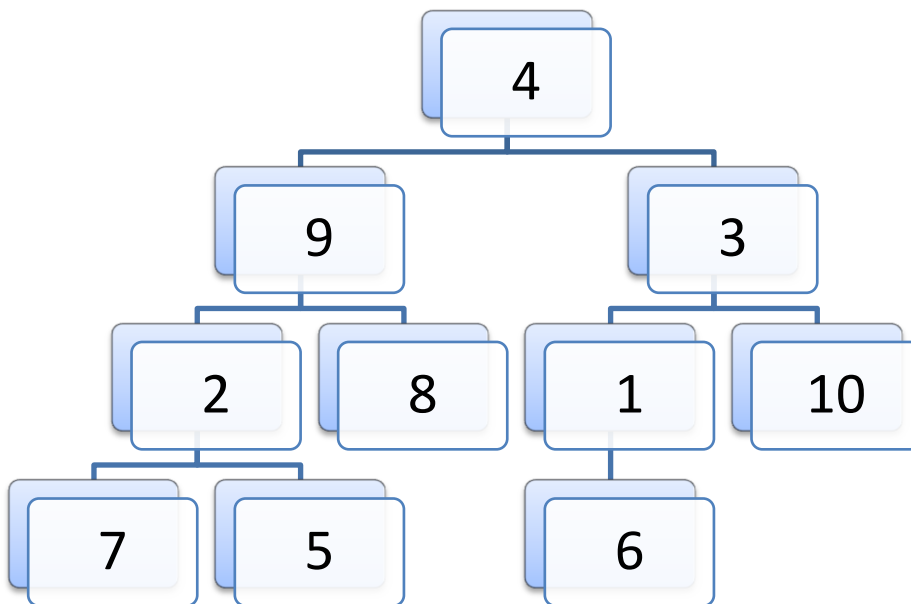
A. SHORT ANSWER

- a. What is the difference between `FlowLayout` and `BorderLayout`?

- b. What does an `ActionListener` do? What happens in a GUI without one?

- c. What is the difference between a `JTextArea` and `JTextField`?

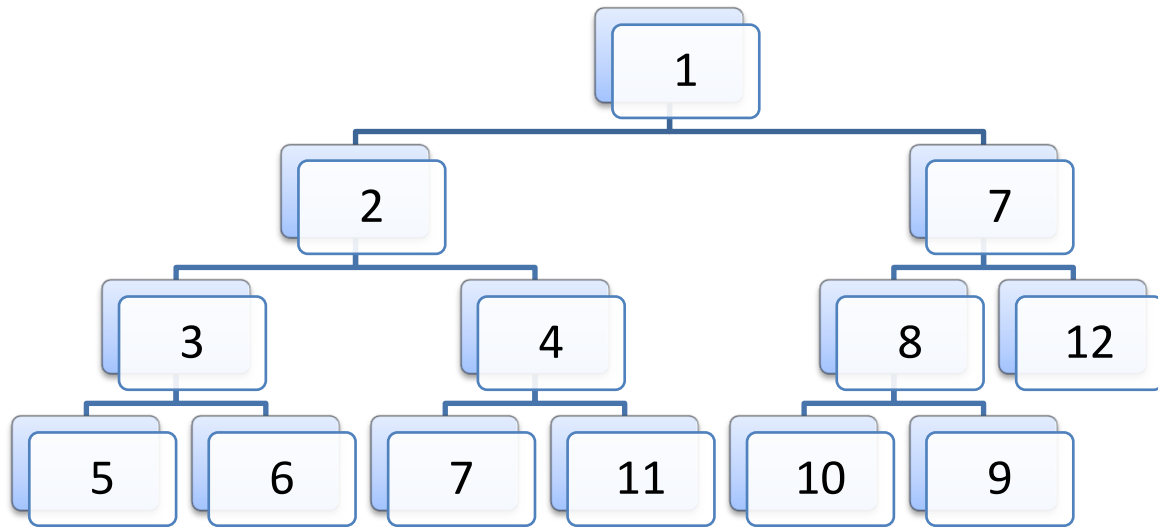
B. TREE TRAVERSALS ([Interactive tutorial on tree traversals](#))



1. What is the pre-order traversal of this tree?

2. What is the in-order traversal of this tree?

3. What is the post-order traversal of this tree?



4. What is the pre-order traversal of this tree?

5. What is the in-order traversal of this tree?

6. What is the post-order traversal of this tree?

C. GUI TREES

Consider the following code:

```

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

public class GUITree extends JFrame {
    JButton button1, button2, button3, button4, button5, button6,
    button7;
    JTextField inputField;

    public GUITree() {
        super("Non-functioning calculator");
        this.getContentPane().setLayout(new BorderLayout());

        button1 = new JButton("+"); button2 = new JButton("-");
        button3 = new JButton("/"); button4 = new JButton("*");
        button5 = new JButton("Clear"); button6 = new JButton("%");
        button7 = new JButton("!"); inputField = new JTextField(10);
    }
}

```

```
JPanel panel1 = new JPanel();
panel1.add(button1); panel1.add(button2);
panel1.add(button6);
this.getContentPane().add(panel1, BorderLayout.NORTH);

JPanel panel2 = new JPanel();
panel2.add(button3); panel2.add(button4);
panel2.add(button7);
this.getContentPane().add(panel2, BorderLayout.CENTER);

JPanel panel3 = new JPanel();
panel3.add(inputField); panel3.add(button5);
this.getContentPane().add(panel3, BorderLayout.SOUTH);

this.pack();
this.setVisible(true);
}
}
```

1. What does the GUI look like when we run the line `GUITree tree = new GUITree();` in the Interactions Pane?

2. What does the tree representation of the GUI look like?