Homework

The following homework is designed to cover the course objectives for this unit.

Project 3

You will submit the third project for this course at the beginning of the next unit. Your instructor will provide you with a complete description of the projects for this course. Please refer to that for complete details.

Homework Exercise 8.1

Submit your written answers to the following 20 questions to your instructor at the beginning of Unit 9.

1. What layout manager should you use so that every component occupies the same size in the container?

    a. A GridLayout
    b. A FlowLayout
    c. None
    d. A BorderLayout

2. To position a Button within an application Frame so that the size of the Button is *not* affected by the Frame size, you should use _____.

    a. a GridLayout
    b. the East or West area of a BorderLayout
    c. a FlowLayout
    d. the center area of a BorderLayout
    e. the North or South area of a BorderLayout

3. Suppose a JFrame uses the GridLayout(2, 2). If you add six buttons to the frame, how many columns are displayed?

    a. 4
    b. 1
    c. 3
    d. 2

4. Which of the following best describes the relationship between Component and Color?

    a. Association
    b. Inheritance
    c. Aggregation
    d. Composition

5. Which of the following best describes the relationship between a container and a Swing GUI object in the container?

    a. Aggregation
    b. Association
    c. Composition
    d. Inheritance

6. The default layout out of a JPanel is _____.

    a. GridLayout
    b. BorderLayout
    c. FlowLayout
    d. None

7. Which component *cannot* be added to a container?

    a. JPanel
    b. JButton
    c. JFrame
    d. JComponent

8. _____ are referred to as heavyweight components.

    a. Non-GUI components
    b. GUI components
    c. Swing components
    d. AWT components

9. How many frames are displayed in the following?

   ```
   import javax.swing.*;
   public class Test extends JFrame {
     public static void main(String[] args) {
       JFrame f1 = new Test();
       JFrame f2 = new Test();
       JFrame f3 = new Test();
       f1.setVisible(true);
       f2.setVisible(true);
       f3.setVisible(true);
     }
   }
   ```

   a. 3
   b. 2
   c. 1
   d. 0

10. Which of the following statements is used for terminating the program when closing the frame?

    a. frame.setDefaultCloseOperation(null)
    b. frame.setDefaultCloseOperation(JFrame.STOP_ON_CLOSE)
    c. frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE)
    d. frame.setDefaultCloseOperation(JFrame.TERMINATE_ON_CLOSE)

11. Which of the following best describes the relationship between a container and a layout manager?

    a. Inheritance
    b. Aggregation
    c. Composition
    d. Association

12. To add a component c to a JPanel p, use _____.

    a. p.insert(c)
    b. p.append(c)
    c. p.getContentPane(c)
    d. p.add(c)

13. Which of the following best describes the relationship between JComponent and JButton?

    a. Aggregation
    b. Composition
    c. Inheritance
    d. Association

14. Which of the following classes is a heavy-weight component?

    a. JTextField
    b. JPanel
    c. JButton
    d. JFrame

15. To create a JPanel of the BorderLayout, use _____.

    a. JPanel p = new JPanel().setLayout(new BorderLayout());
    b. JPanel p = new JPanel(new BorderLayout());
    c. JPanel p = new JPanel(BorderLayout());
    d. JPanel p = new JPanel()

16. Suppose a JFrame uses the GridLayout(0, 2). If you add six buttons to the frame, how many columns are displayed?

    a. 2
    b. 4
    c. 3
    d. 1

17. How many frames are displayed in the following?

    import javax.swing.*;

    public class Test {
      public static void main(String[] args) {
        JFrame f1 = new JFrame("My Frame");
        JFrame f2 = f1;
        JFrame f3 = f2;
        f1.setVisible(true);
        f2.setVisible(true);
        f3.setVisible(true);
      }
    }

    a. 0
    b. 1
    c. 3
    d. 2

18. Which of the following best describes the relationship between Component and Font?

    a. Aggregation
    b. Association
    c. Composition
    d. Inheritance

19. Suppose a JFrame uses the GridLayout(2, 0). If you add six buttons to the frame, how many columns are displayed?

    a. 4
    b. 3
    c. 1
    d. 2

20. You should override the _____ method to draw things on a Swing component.

    a. init()
    b. update()
    c. paintComponent()
    d. repaint()