

CSSE 220 – Object-Oriented Software Development
Rose-Hulman Institute of Technology

Worksheet 12

Name (Print): _____ Section: _____

1. What are 2 most common ways to measure code execution?

1) _____
2) _____

2. Complete code to measure the execution time using nano time:

```
1 long start = System. _____ ;  
2 getFactorial(5); // code  
3 long end = System. _____ ;  
4 // measure the difference  
5 System.out.print( _____ );
```

3. 2 main characteristics of a tail-recursive method:

1) _____
2) _____

4. True/False All swing containers use Layout Managers to size and position their components

5. 1) JPanel defaults to _____, placing components left-to-right

2) JFrame defaults to _____ with five regions (NORTH, SOUTH, EAST, WEST, CENTER)

6. What Layout will you use to position components of equal size as a 2x2 table?

7. What method did we use to place a frame location in the center of the screen?

8. Choose the correct statement:

1) Swing is a single-threaded UI toolkit: all updates to Swing components are performed in a special single thread
2) Swing is a multi-threaded UI toolkit: all updates to Swing components are performed synchronously and in parallel

9. _____() is used to schedule code to run later on the Event Dispatch Thread (EDT)

10. All Swing components are designed to be accessed only from _____

11. Define an event:

12. Event-Driven Versus Procedural

_____: You call methods in sequence

_____: Your code reacts to events when they occur

13. Which JPanel option to chose? Align column A with column B

Column A	Column B
1. INFORMATION_MESSAGE	a. No Icons
2. PLAIN_MESSAGE	b. Serious problem
3. ERROR_MESSAGE	c. Something needs attention
4. WARNING_MESSAGE	d. Neutral information

14. Select the correct statement:

1) Action Listener is a class

2) ActionListener is an Interface

15. Identify each type of Event Listeners:

1. _____: button.addActionListener(e -> setValues());

2. _____: public class MyHandler implements ActionListener ...;