

CS 156 Spring 2011

Assignment 1  
Java Concurrency  
Due Thursday, 20 January 2011

Read through the Java tutorial on Concurrency that begins here:

<http://download.oracle.com/javase/tutorial/essential/concurrency/index.html>

through the section "Immutable Objects".

Try to form a mental model of what's going on.

Consult other relevant pages as needed to back-fill your knowledge about Java.

Questions: You do not have to write out the answers to these, but be able to explain them in class.

1. What is the difference between a process and a thread?
2. What are the two ways to create and run a thread in Java?
3. What does "join" mean?
4. Why are methods stop() and suspend() of class Thread deprecated?
5. What is meant by a "happens before" relationship?
6. What is a synchronized method?
7. What is an intrinsic lock?
8. How does statement synchronization differ from method synchronization?

9. When would one prefer statement synchronization over method synchronization? What cautions are applicable?
10. How does synchronization differ for static vs. non-static methods?
11. What is reentrant synchronization?
12. What is the purpose of the "volatile" adjective on a variable?
13. What is the difference between polling and waiting?
14. What does the notify() method do? What does the notifyAll() method do?