

Further Java – Question 1

Write brief notes on the facilities for light-weight concurrency in Java. You should cover the following topics, using code fragments to illustrate your answer:

- creating a thread
- mutual exclusion
- signalling
- asynchronous interruption
- managing priority

[4 marks each]

Answer

- Write a run() method to extend Thread or implement Runnable in a class that encapsulates some data. Make an instance with new and then call its start() method.
- synchronized statement or synchronized method to take out a mutex on an instance of some class.
- wait() to release mutex and wait for signal (atomically to avoid wake-up waiting race), notify() and notifyAll() to release.
- interrupt() leading to InterruptedException or interrupted() and isInterrupted(), destroy() leading to ThreadDeath.
- setPriority(), thread groups, priority inversion.