Spurious Wakeups

Waking-up for no reason

Spurious mean **fake** or **false**. A spurious wakeup means a thread is woken up even though no signal has been received. Spurious wakeups are a reality and are one of the reasons why the pattern for waiting on a condition variable happens in a while loop as discussed in earlier chapters. There are technical reasons beyond our current scope as to why spurious wakeups happen, but for the curious on POSIX based operating systems when a process is signaled, all its waiting threads are woken up. Below comment is a directly lifted from Java's documentation for the `wait(long timeout)` method.

```
* A thread can also wake up without being notified, interrupted, or
* timing out, a so-called <i>spurious wakeup</i>.  While this will rarely
* occur in practice, applications must guard against it by testing for
* the condition that should have caused the thread to be awakened and
* continuing to wait if the condition is not satisfied.  In other words,
* waits should always occur in loops, like this one:
*
*     synchronized (obj) {
*         while (condition does not hold)
*             obj.wait(timeout);
*         ... // Perform action appropriate to condition
*     }
*
```