CST 334: Operating Systems

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# Reading: OSTEP Chapter 30 (condition variables)

**Instructions**. Read OSTEP chapter 30. Answer the following questions by editing [chap30.txt](https://drive.google.com/open?id=1NRE4gdNgc0PaB-vJgIwOq4T13_rkFOfz).

1. (True/False) The signal() call of pthread condition variables requires two parameters: one for the condition variable object and one for a mutex object.
2. Part of what happens when a thread calls wait() is that the thread is put on a waiting list and the mutex object provided in the call is released. What is the state of the mutex object when wait() returns?
   1. it is in the locked state
   2. it is in the unlocked state
3. What happens if signal() on a condition variable that has no threads in its waiting list?
   1. signal() has no effect
   2. signal() waits until a thread joins the waiting list
   3. signal()returns right away, but then the next thread that calls wait() does not have to wait.
4. What is a “spurious wakeup”?
   1. when a call to wait() returns even though no call to signal() has occurred
   2. a wakeup that is spurred by a pthread\_cond\_broadcast() call
5. In Fig. 30.12, there are two lines of code that appear as they do partly because of the need to cope with spurious wakeups. Give the number of one of these two lines of code. (The line numbers appear on the left of the figure.)

**Submission**: Submit your edited chap30.txt on iLearn.

**Grading**: Each problem is worth 4 points.