

# CS314: Lecture Note (Lecture #18, March 19, 2024)

## 1. Ask students to come forward and pick up:

- Attendance card

## 2. Announcements:

- Quiz #7 is scheduled today (3/19)
- Quiz #8 is scheduled Tuesday next week (3/26)

## 3. Project #2

- Two sample C source code files have been emailed to each of you (they have been posted to the course home as well).
  - The interrupt handler
  - pthreaded semaphores and condition variables
- I. pthread mutex semaphore – as demonstrated in a sample C source code file (mentioned above)
  - (a) *pthread\_mutex\_init*: initialize a pthread-semaphore
  - (b) *pthread\_mutex\_lock*: the “wait” operation for a pthread-semaphore for processes
  - (c) *pthread\_mutex\_unlock*: the “signal” operation for a pthread-semaphore for processes
- II. pthread conditional variables
  - (a) *pthread\_cond\_init*: initialize a condition-variable
  - (b) *pthread\_cond\_wait*:
  - (c) *pthread\_cond\_signal*:
  - (d) *pthread\_cond\_destroy*: delete a condition-variable
  - structure
- Suggested references
  - <https://www.cs.cmu.edu/afs/cs/academic/class/15492-f07/www/pthreads.html>
  - <https://docs.oracle.com/cd/E19455-01/806-5257/6je9h032r/index.html>

## 4. File Systems