Synchronization

Note Title 1/22/2009

- mutual exclusion (locks, cond. var.)
- semaphores

  Dijkstra's PV semaphore counting sem...

  shared variable that counts arb. high but dec. only to zero

V - incr. semaphore sem_post()

P - attempt to decrement semaphore if already 0, thread blocks until another thread invokes V sem_wait()

↑ initials of ops in Dutch

producer/consumer example

how does cons know whether queue is empty?

initially qnum = 0

producer	consumer
enqueue	sem_wait(qnum)
sem_post(qnum)	dequeue

add second semaphore that encodes # of free slots in queue

- Barrier sync

  n threads call barrier

  none threads proceed until all reach barrier