How to avoid deadlocks

Avoiding deadlock using primitive synchronization mechanisms (locks and semaphores) **is hard** (cf chapter 32)

Implementing synchronization constructs

Two approaches :

- Either implement locks first (Linux approach)
  and build semaphores and condition variable on the top

  ➡ Linux has two versions

    - Spinlock (non-blocking)

    - Mutex (blocking)

- Or implement semaphores first (Pintos approach)
  and build locks and condition variable on top

  ➡ Pintos approach