Read-Write Lock

* read for background and pseudocode: <https://en.wikipedia.org/wiki/Readers%E2%80%93writer_lock>
* multiple threads can hold a read lock AT THE SAME TIME!
* of course, multiple threads can't simultaneously hold write lock--that would lead to corruption
* when any thread has a read lock, another thread trying to get a write lock will block
  + read-preferring, other readers can cut in line (possibly starving writers)
  + write-preferring, other readers are put behind the waiting writer
* really nice for improving parallelism
* can still have deadlocks (just like mutex)
* can't simply "escalate" a read lock into a write lock (have to let go of read lock, wait to get write lock, and re-read WHILE holding the write lock).