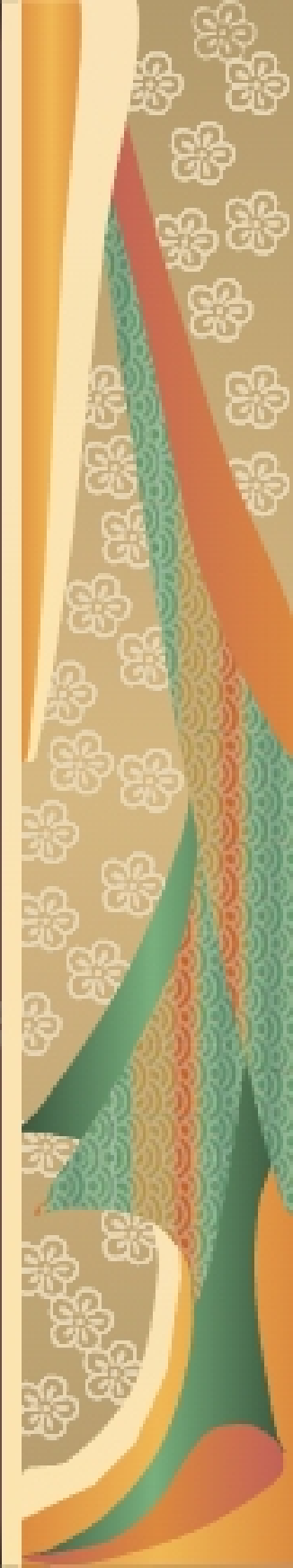


Monitors, Condition Variables, and Readers-Writers

Andy Wang

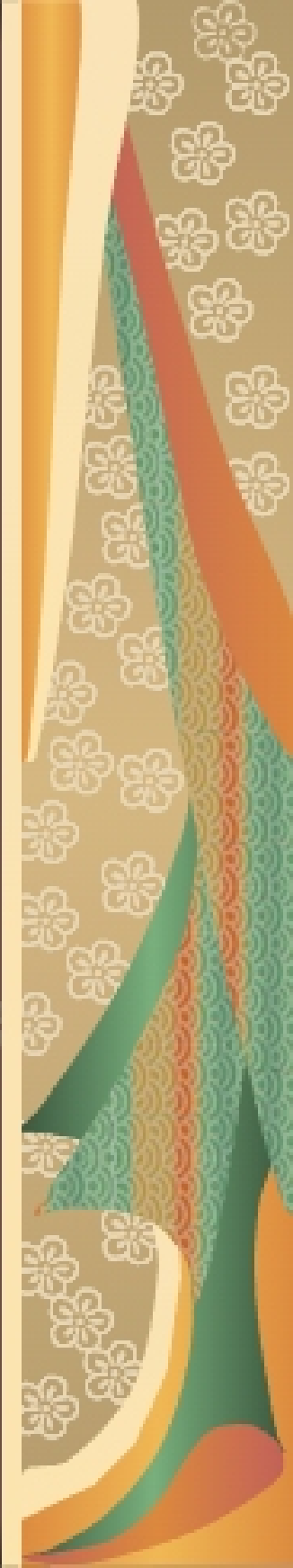
Operating Systems

COP 4610 / CGS 5765



Motivation for Monitors

- Semaphores are a big step from the low-level loads and stores
- However, semaphores are used for both mutual exclusion and scheduling
- The idea of monitors is to separate these two concerns



Monitor Defined

- **Monitor**: a lock + condition variables
- **Lock**: provides mutual exclusion to shared data
- **Condition variable**: provides a queue for waiting threads inside a critical section

