

Recap: Concurrency

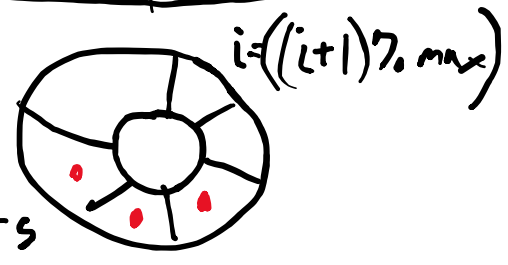
locks - mutual exclusion

join problem: condition variable

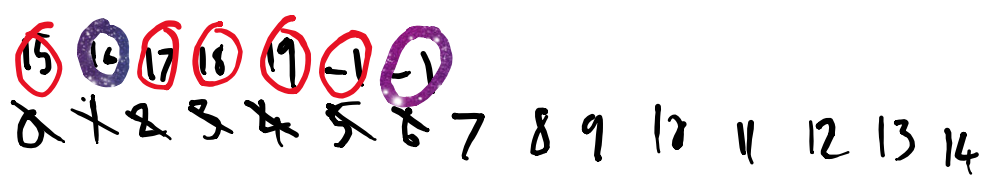
state variable
condition variable

producer/consumer
 (bounded buffer) max

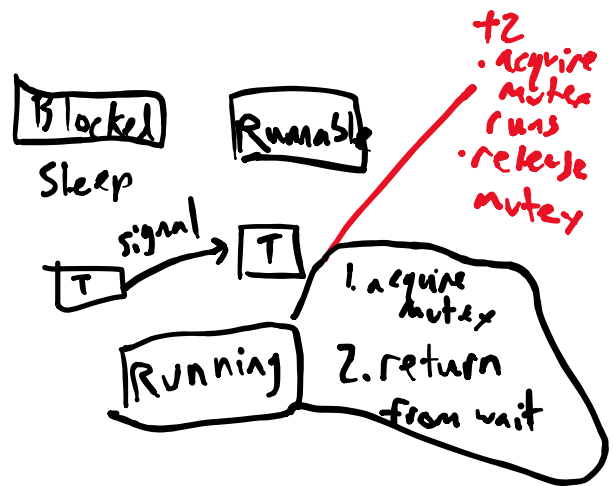
- Examples:
- web server
 - device driver
 - unix pipe



producers
 consumers



wait: C1 C2 P



T₁

Running

wait (cv, m)

→ ~~Blocked~~ ⇒ Runnable

→ release mutex

acquires mutex

returns

T₂

Signal

T₃

Running

acquire
mutex

updated

numfull

release mutex

Semaphores

1968

Dijkstra

lock

+ condition variable