Lock

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We have a resource that is

Accessed using a

Critical Section of Code

That must have a

Syncrhonized access (one by one)

And must be

Monitored

Or

Locking it

lock.aquire()

If some thread has already
acquired the lock
Others must
Wait till lock is released

A Logic that accesses shared resource
Only one thread must Access it at a time

lock.release()
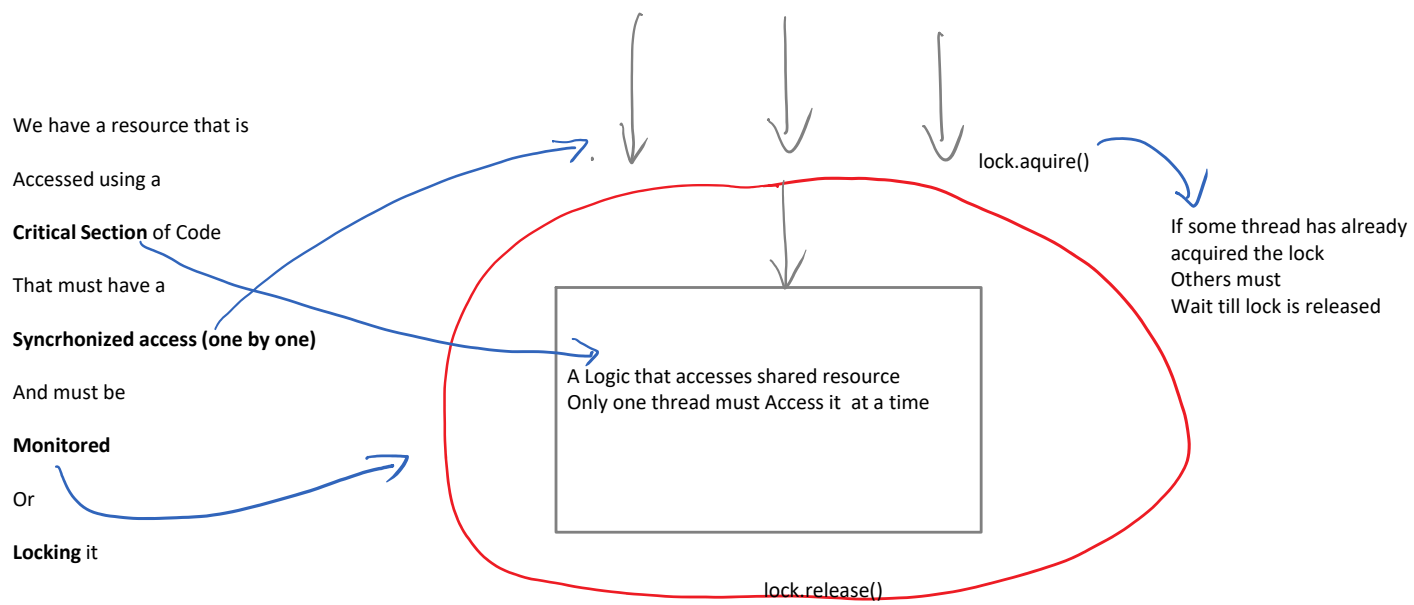
Semaphore

- Semaphore allows multiple number of finite thread to acquire lock together
- Useful if resource allows finite number of threads to access it
  - Example: A game of cards may allow 4 players
- Sempahore is created with a max value
- Each call to acquire decrements the value
- Each call to relealse increments the value
- If value goes to 0 no more acquire is allowed

- Semaphore has a string id which allows it to be accessed across processes

Interthread communication (Condition)

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c(1)   d(1)   c(2)   d(2)

c(1)   c(2)

notify

wait   notify   d(1)   d(2)

wait