

# Blocking vs. Non-wait-free vs. Wait Free

## Blocking

May context switch for example due to  
a lock, system call etc.

Caches likely to be invalidated

Memory may be swapped

## Non-wait-free

Execution time is unbounded

Must contain a loop (which is  
unbounded)

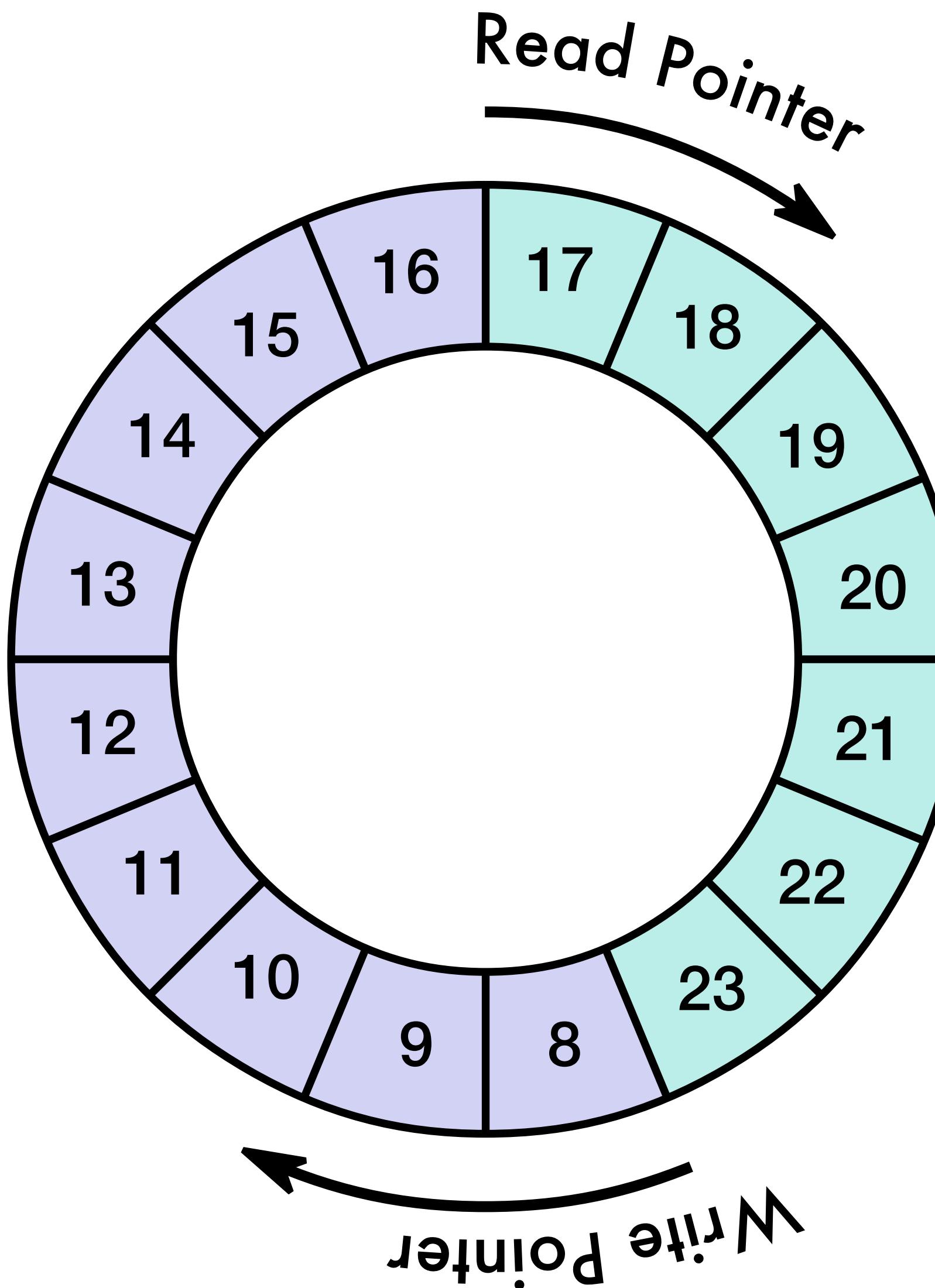
Blocking operations are never wait-free  
(but not vice versa)

## Wait-free

Execution time is bounded\*

No unbounded loops

# The humble FIFO



- Realtime code use ring buffers to implement a FIFO
- Fixed capacity: no allocations (i.e. realtime safe)
- Various flavours