The ManualResetEvent

Revisiting AutoResetEvent

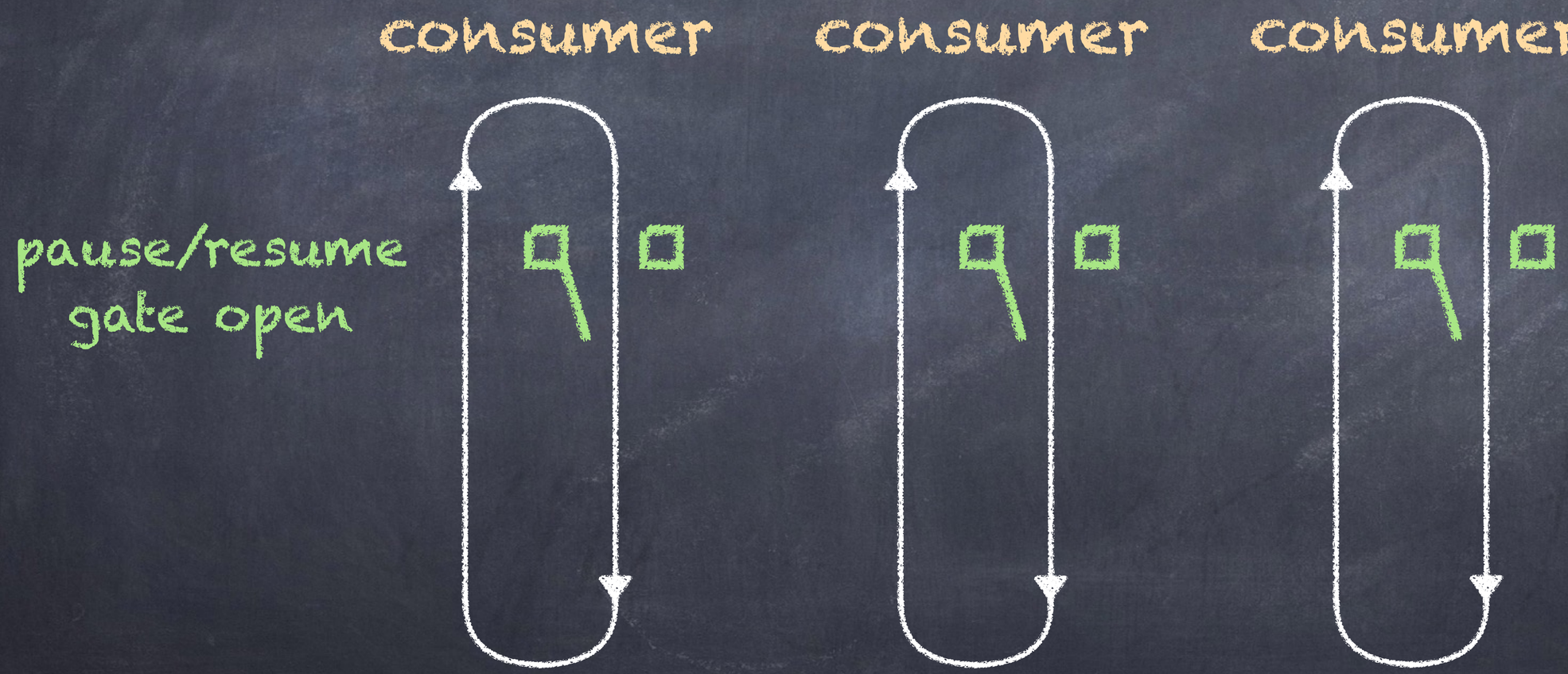
thread inserts ticket
to let 1 thread through

`Set()`

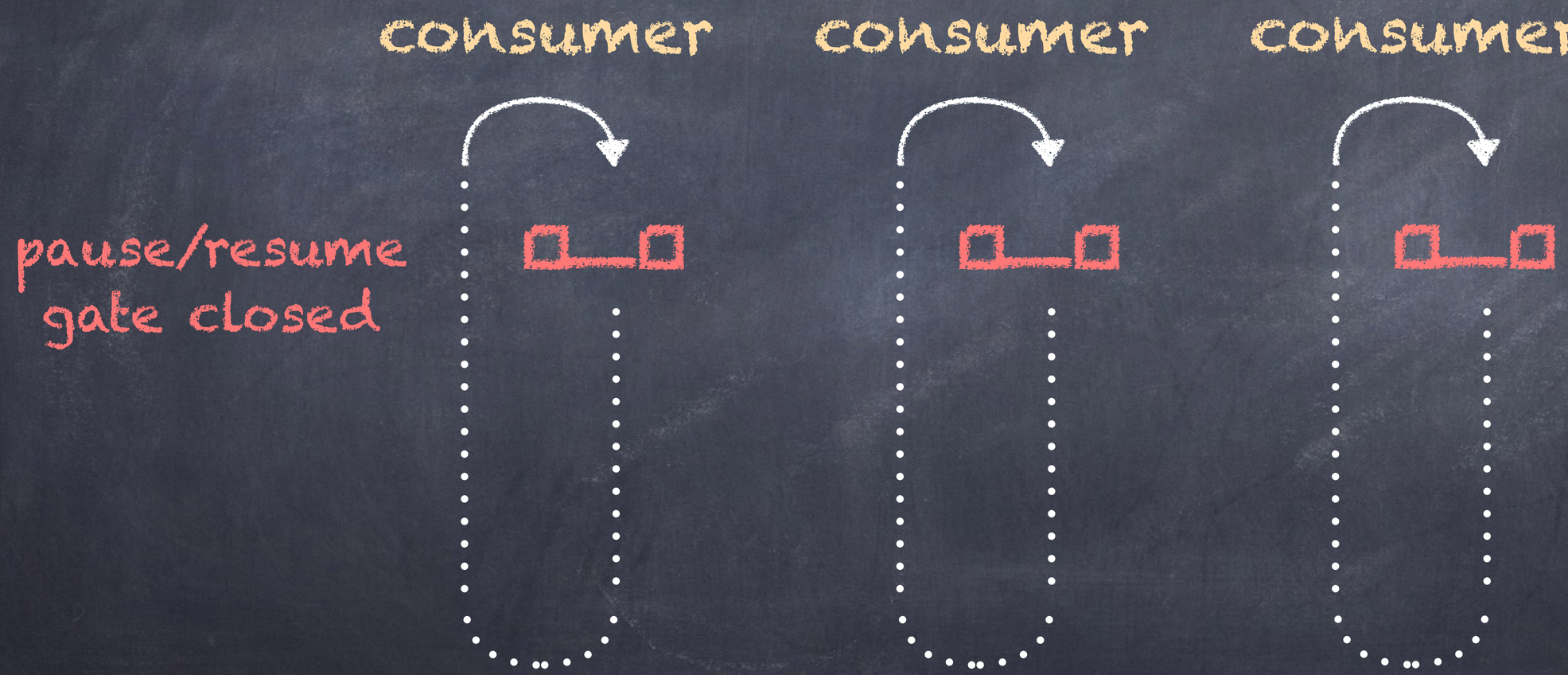
threads line up to wait

`WaitOne()`

Pause/resume function

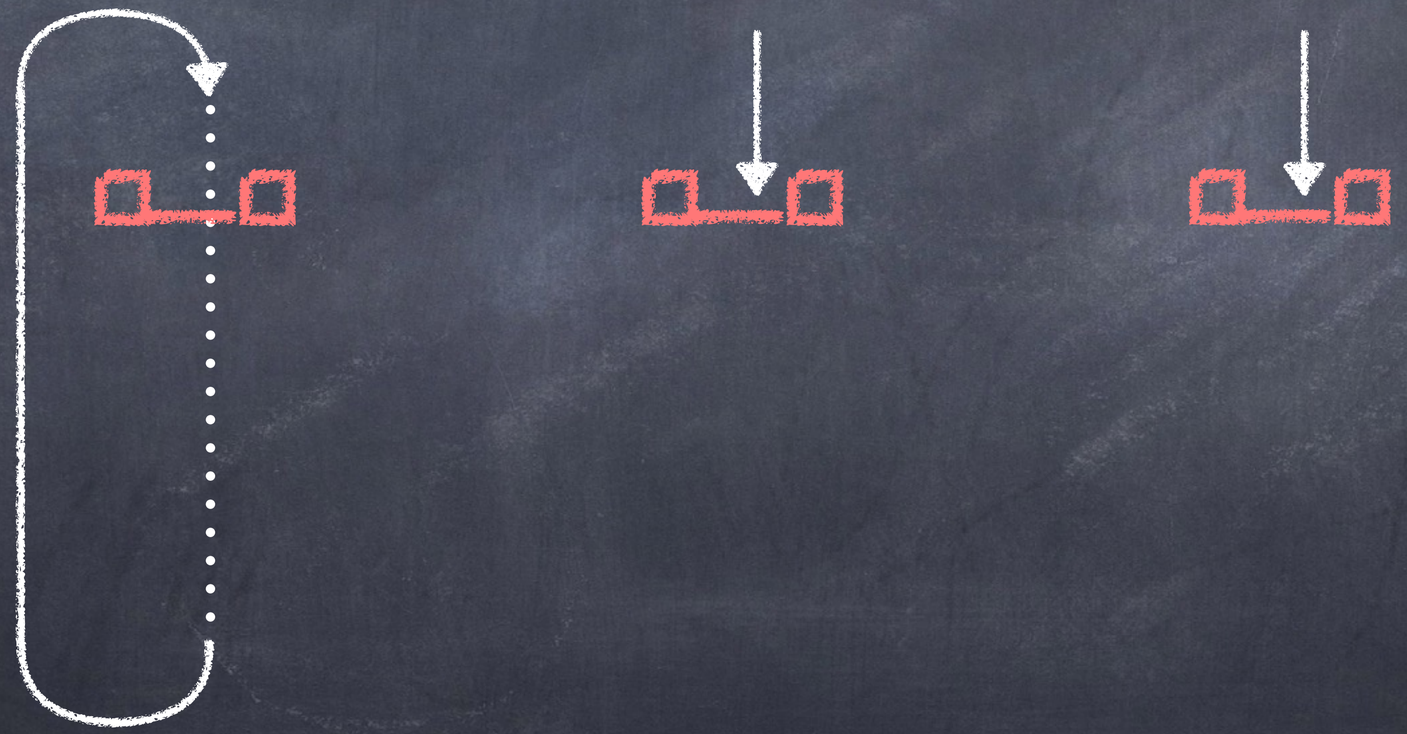


Pause/resume function



Pause/resume with AutoResetEvent

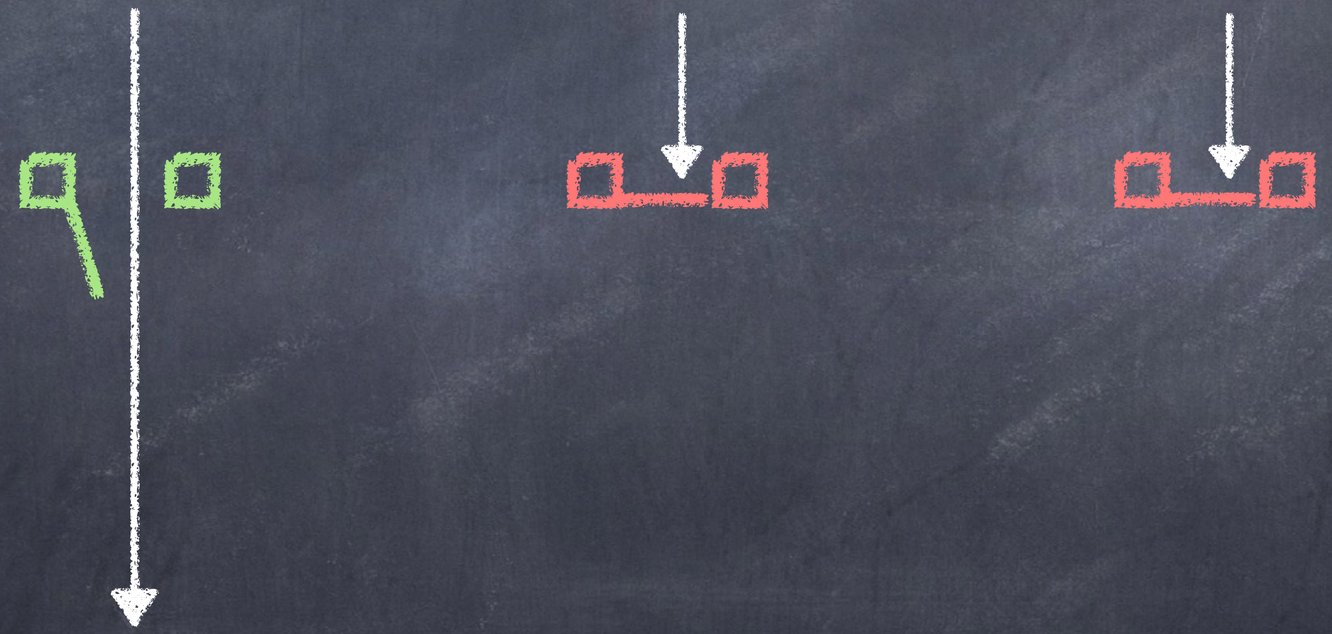
consumer consumer consumer



First consumer passes gate and closes it for all other consumers

Pause/resume with AutoResetEvent

consumer consumer consumer



Producer resumes, but only a single gate opens. The other consumers stay suspended

The ManualResetEvent

thread inserts ticket
to manually close gate

`Reset()`

thread inserts ticket
to let all threads through,
gate remains open

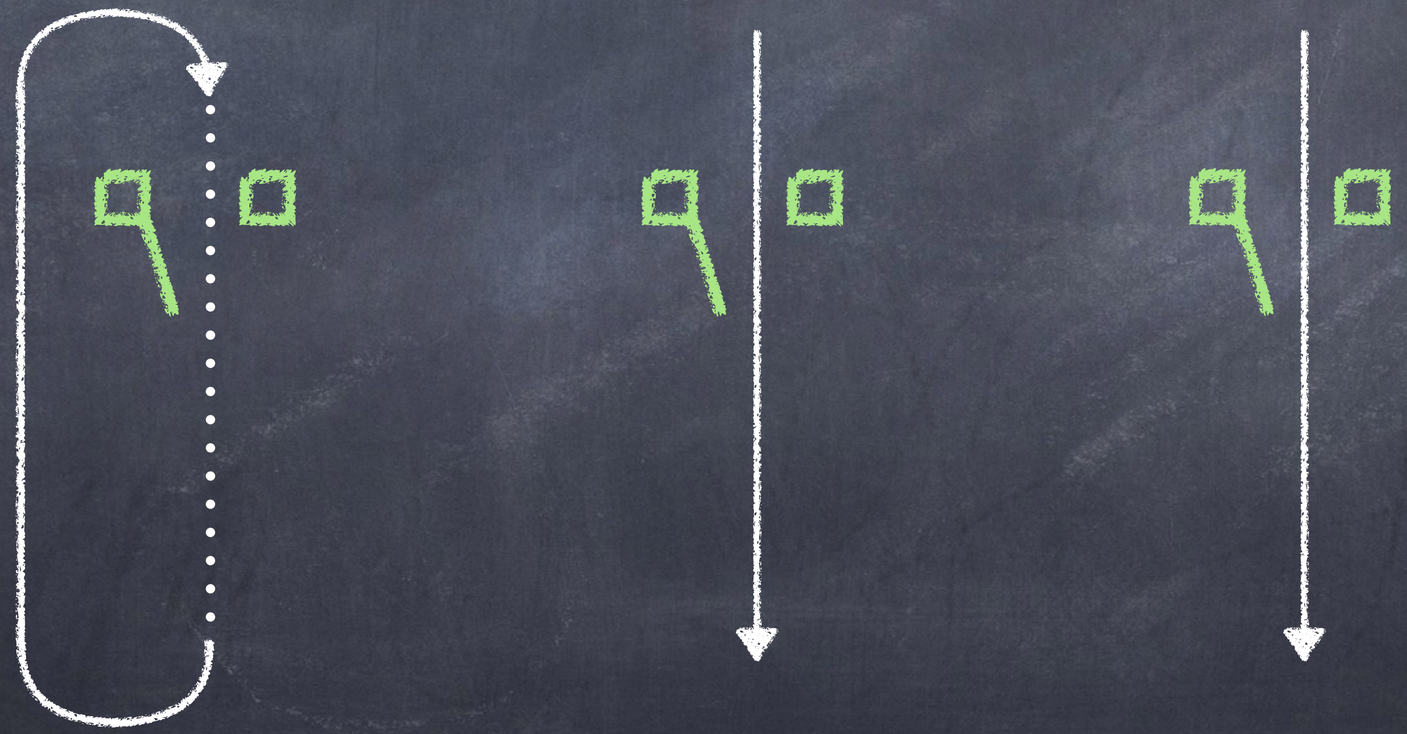
`Set()`

threads line up to wait

`WaitOne()`

Pause/resume with ManualResetEvent

consumer consumer consumer

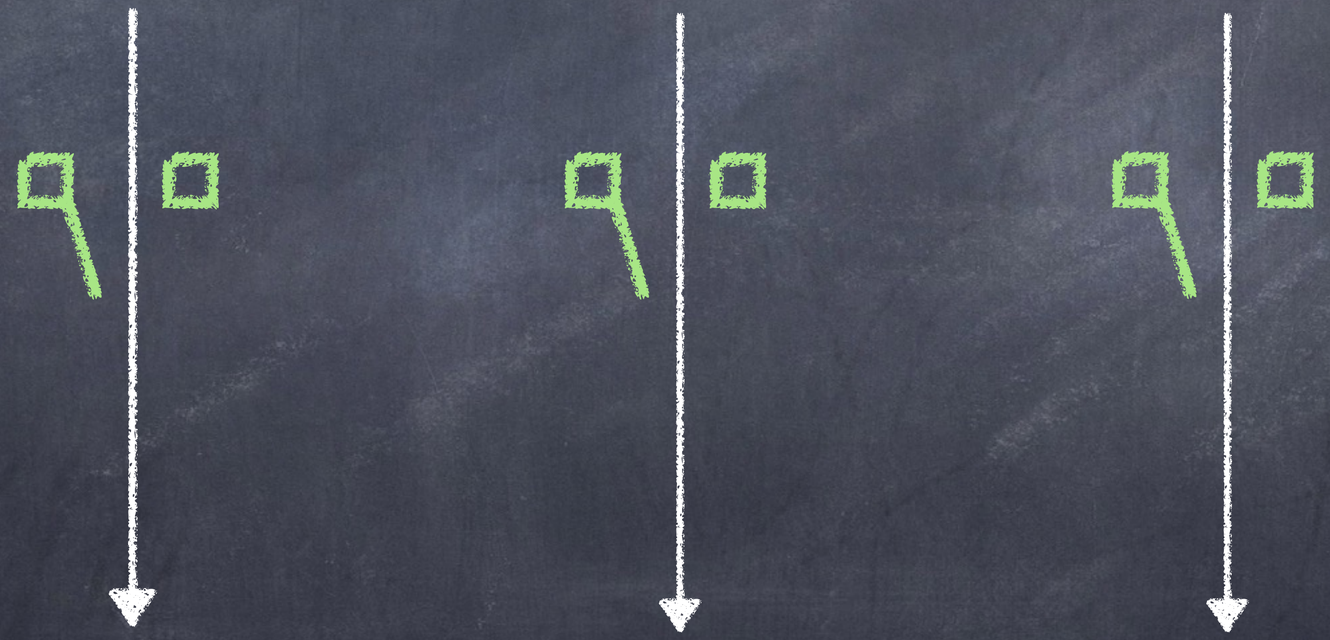


First consumer passes gate and leaves it open for all other consumers

Pause/resume with ManualResetEvent

consumer consumer consumer

Producer resumes, all gates open. All consumers resume work



The ManualResetEvent

- AutoResetEvent is a synchronisation channel between 2 threads: One waiting thread resumes when another thread opens the gate.
- To synchronise a group of threads, use a ManualResetEvent: all waiting threads resume when a single thread opens the gate.

- AutoResetEvents are perfect for instructing a single thread to do something - execute a task.
- ManualResetEvents are perfect for instructing all threads to do something - pause and resume work.