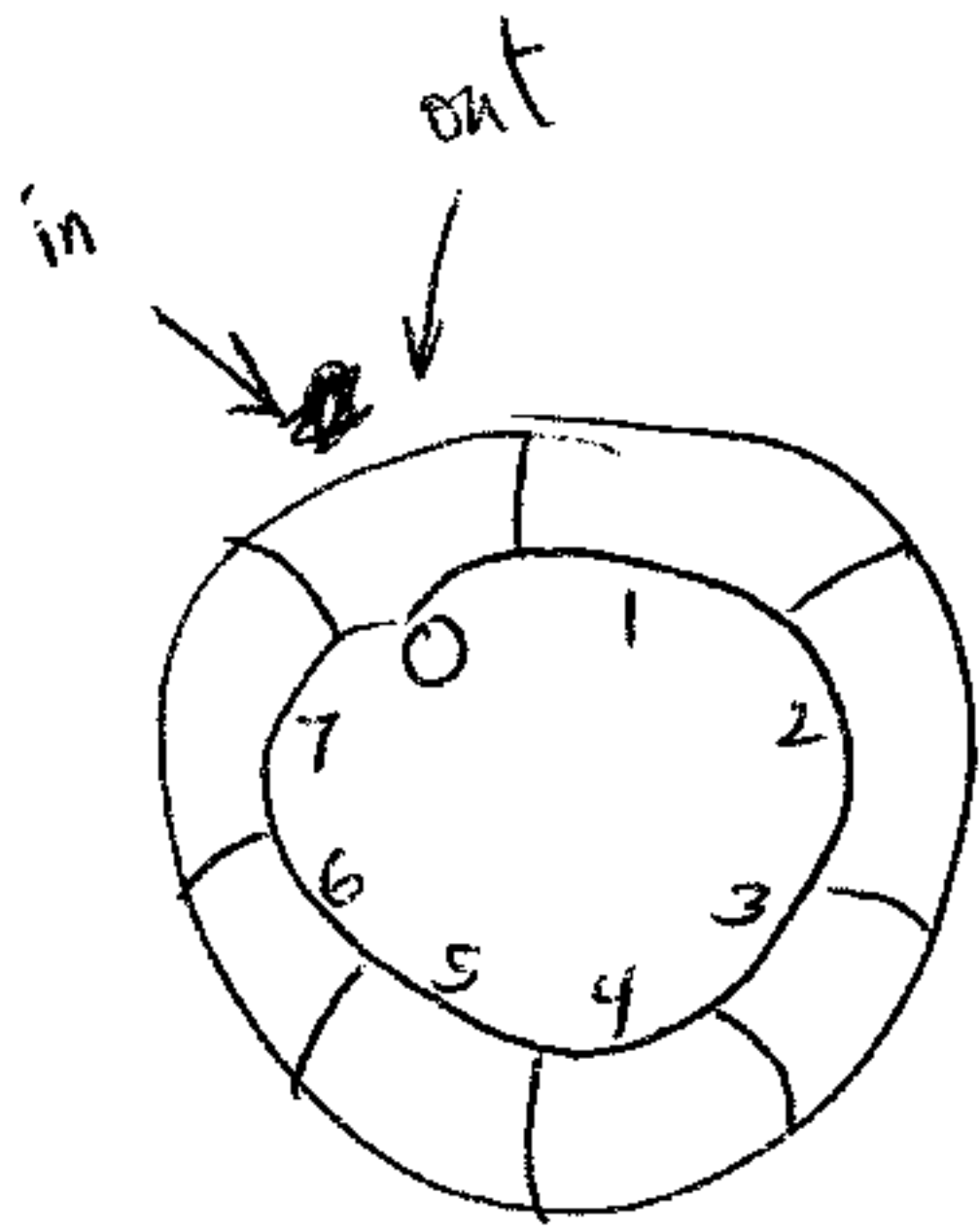


Initial Set up



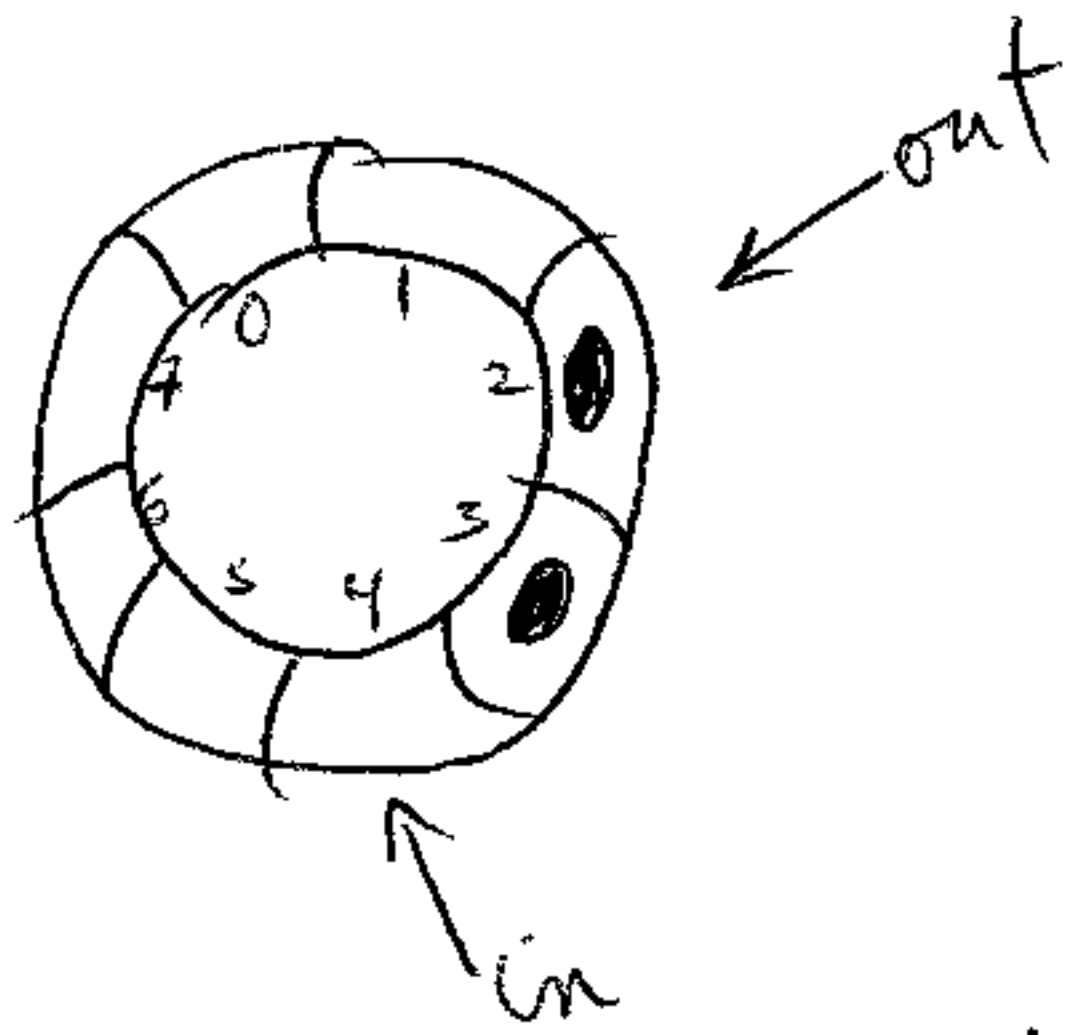
insert at in, if any
~~out~~ next

in = next for input, if any
out = next for output, if any

All shared

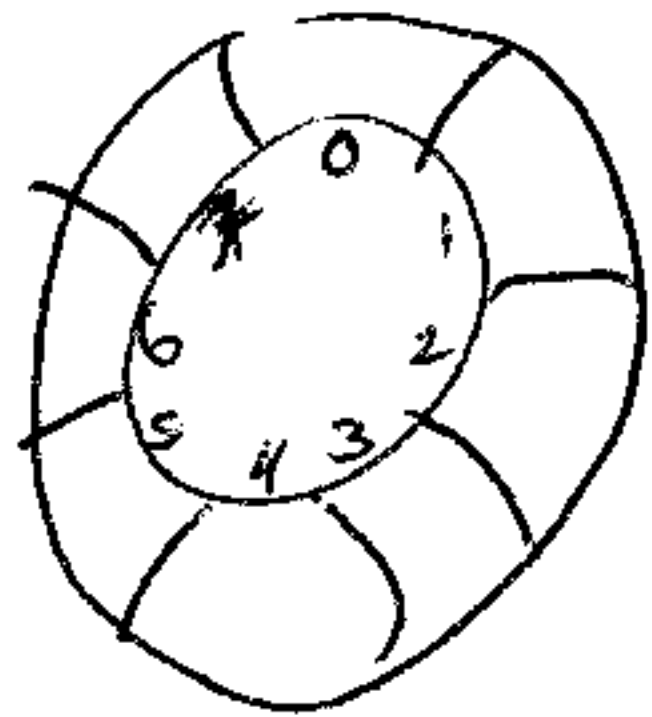
Note $in = out$

Producer advances in after an input ($in = (in + 1) \% BufferSize$)
Consumer advances out after an output



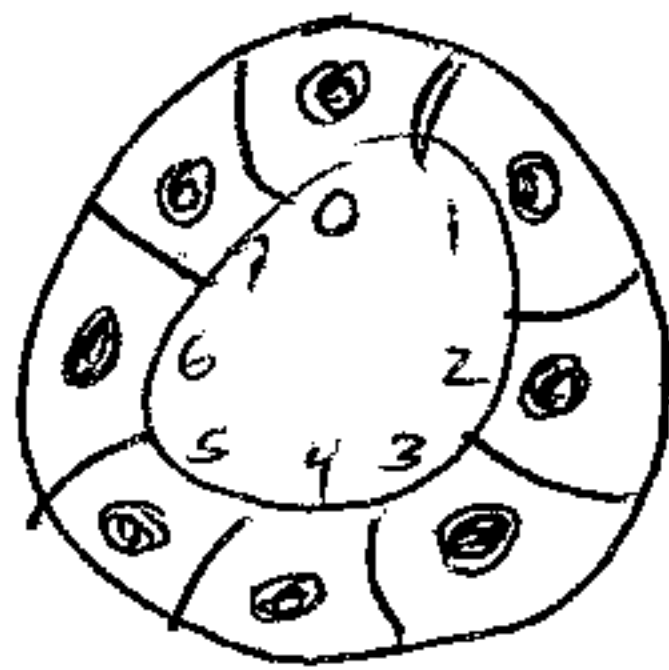
After four inputs and two outputs.

After two more outputs (now empty - $in = out$)



After 8 inputs ($in = out$ again)

↑ ↑
in out



↑ ↑
out in

impossible to distinguish full from empty by looking at "in" & "out"

But consumer needs to test for empty
And producer has to test for full.