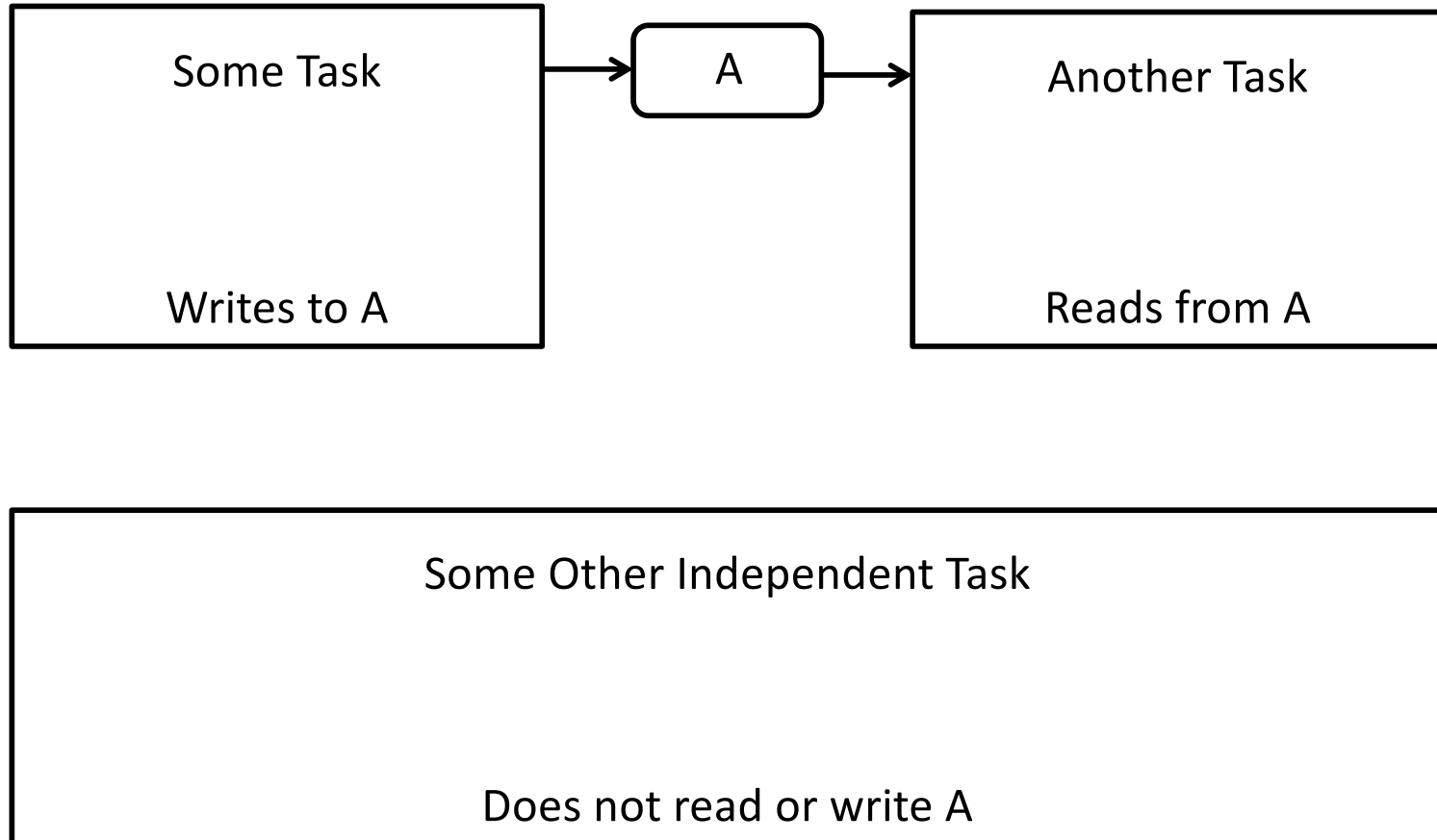


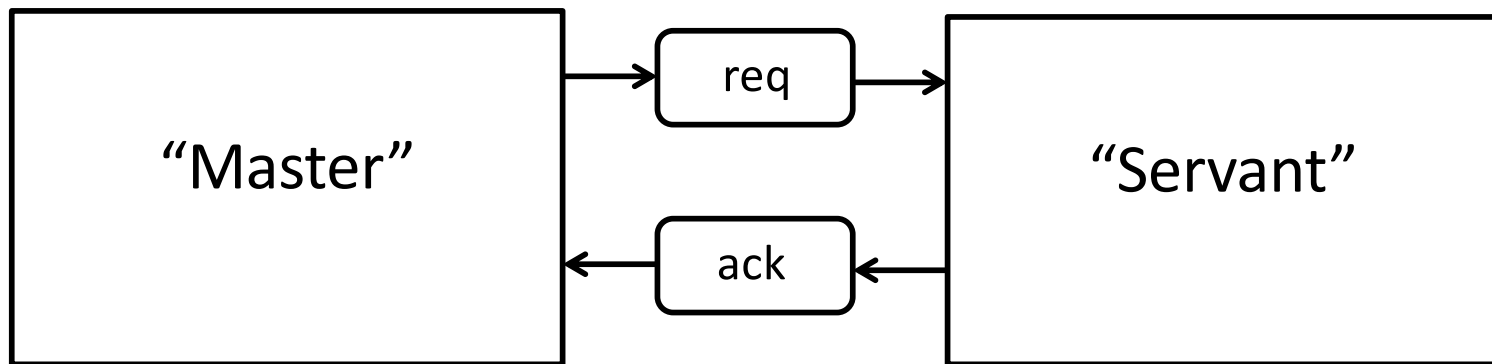
# Concurrent Synchronous State Machines: Handshaking Communication

# Communication via Shared Variables

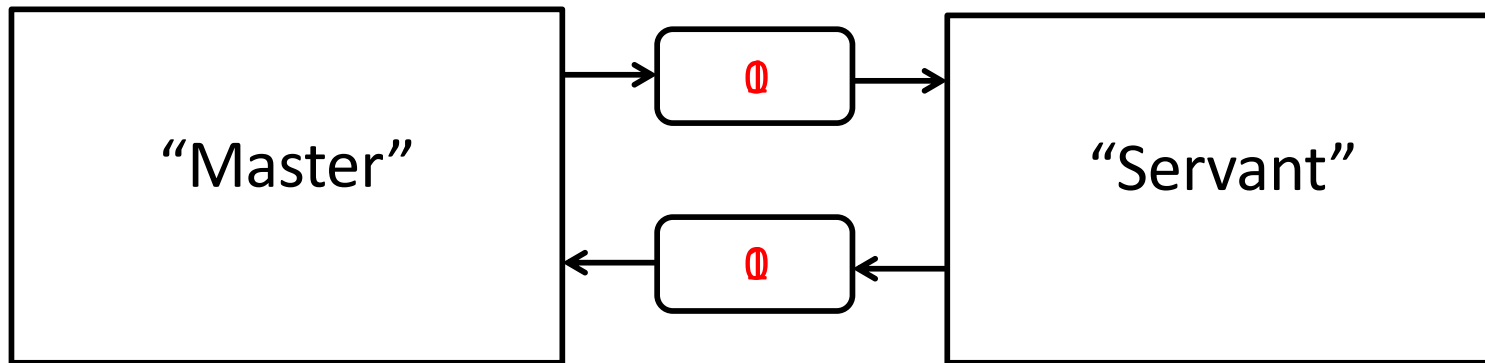


# Handshaking

- A design pattern using two shared variables between two tasks
  - Master Task: Offloads to work to Servant Task
  - Servant Task: Notifies Master Task after completing work



# Handshaking: Example



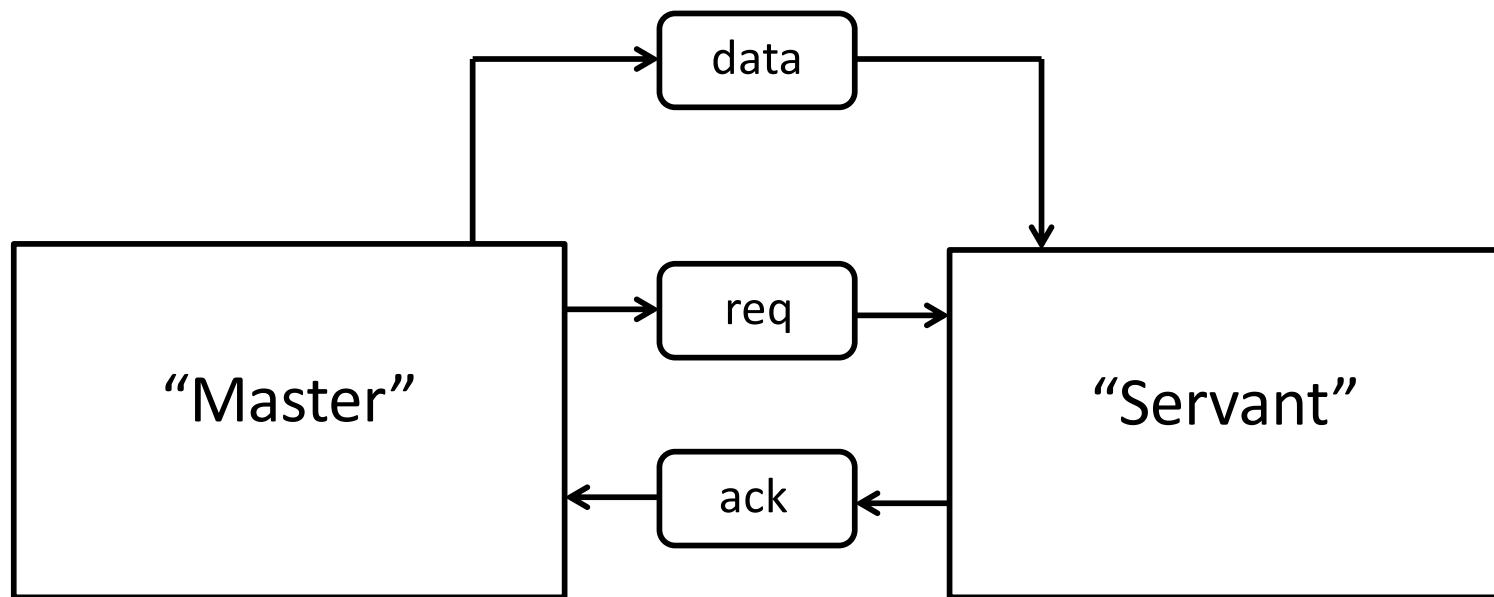
<The Queen's English>

1. Please do something for me, kind sir
2. Yes, it is my intention to do it. I shall commence
3. I trust you to carry out your task diligently
4. I have, at long last, completed my task

<\The Queen's English>

# Common Use: Bus Protocols

- State machines for reading, writing, etc.



# Commentary (1/2)

- The name “Master/Servant” Communication is arguably offensive, as it speaks directly to issues involving class, wealth, power, and inequality
  - These slides use this naming convention to maintain parity with the course ZyBook
  - Altering terminology, even with noble intentions, may lead to confusion

# Commentary (2/2)

- Master/Servant Communication is a substantial improvement over the name of its predecessor, “Master/Slave” Communication, which has both racial undertones and implies an even more troubling power dynamic
  - [https://en.wikipedia.org/wiki/Master/slave\\_\(technology\)](https://en.wikipedia.org/wiki/Master/slave_(technology))