Lecture 13 - RAID

June 24, 2019 10:28 AM

- **Think about it** ⏳: What is *fundamentally* different between I/O scheduling and process scheduling? (hint: why did we *abandon* algorithms like shortest remaining time first?)

- we can know how much work is remaining w/ disk I/O (# blocks)

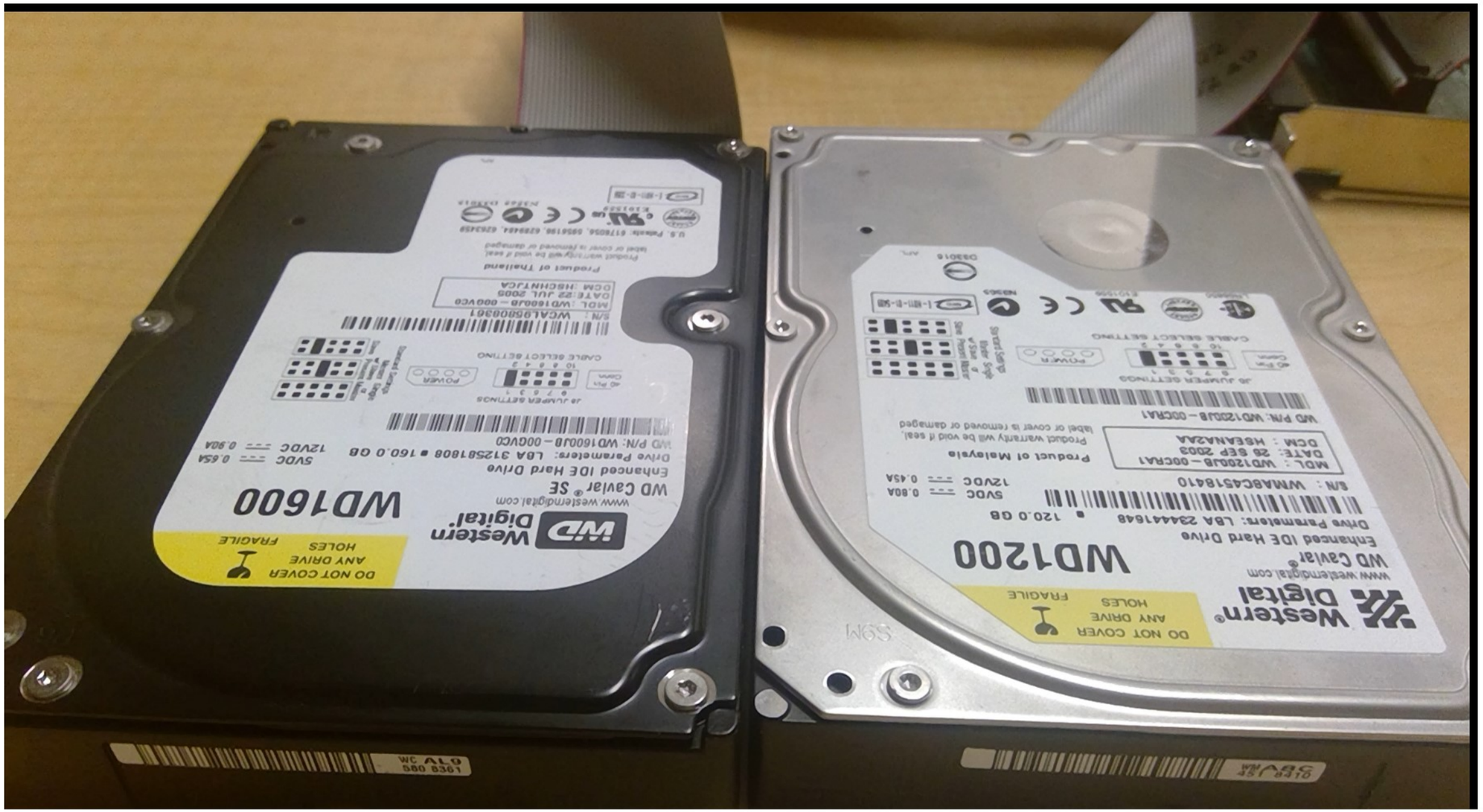
- how many processes run concurrently?
  - how many IO operations can run concurrently?
    - Fairness issues

RAID-4

xor

xor

0	1	1	X	0
0	1	2	P	P_0



Can we put these together in a RAID?

RAID 4: Yes — No

RAID 1: Yes — No

RAID 0: Yes — No ???

→ limited to size of smallest disk

Scenario 1: the data hoarder

RAID 0

Capacity ✓ don't care about reliability

RAID 1

RAID 1

RAID 4

Scenario 2: the gamer

RAID 0 ?

don't care about capacity

RAID 1

speed?

RAID 4

don't care about reliability

Serial

Random

Serial

random