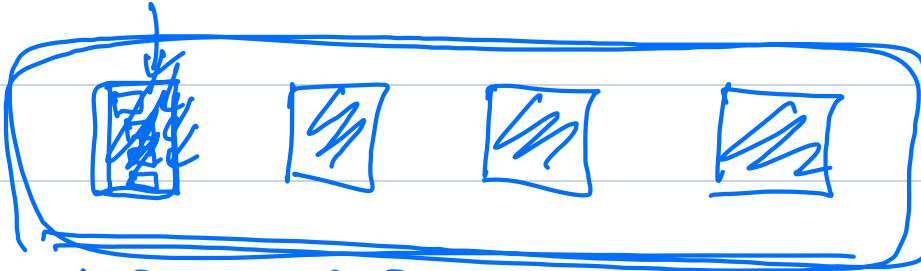


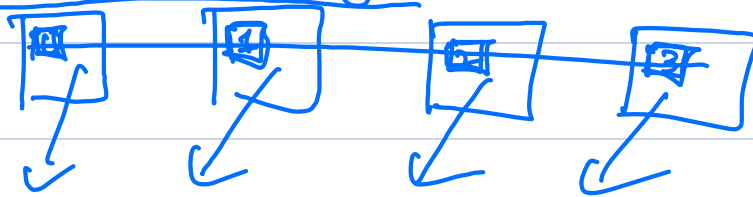
* RAID (Redundant Array of Inexpensive Disks)

* For disk failures. for detection & recovery.
for performance.

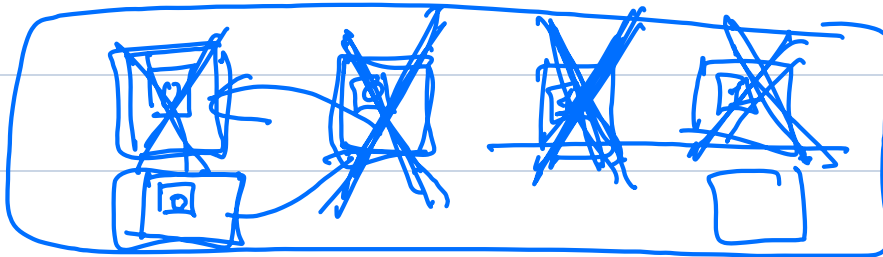
* Performance



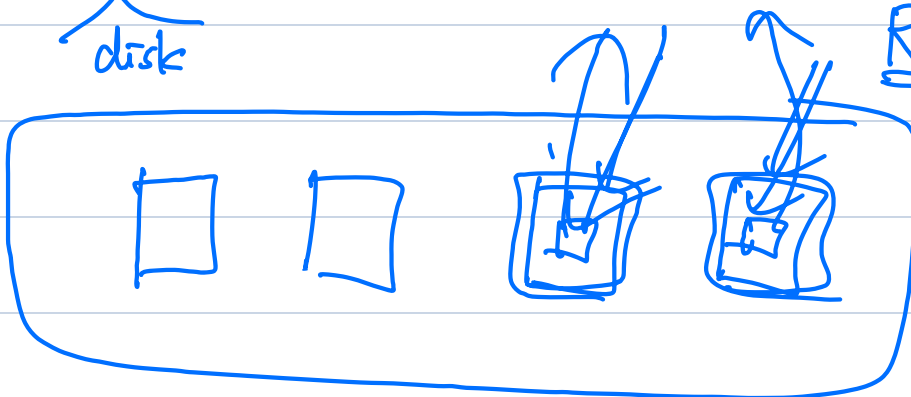
RAID-0 : striping



RAID-1 : Mirroring



1 failure
disk



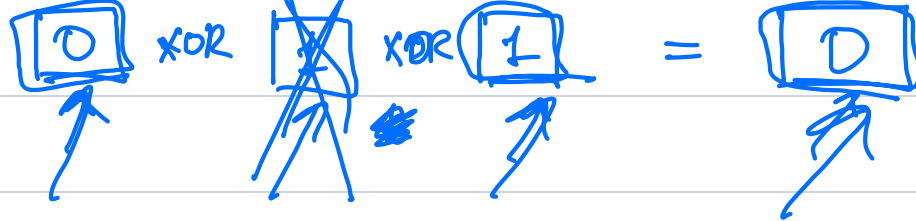
RAID-1.

* Size is another problem.

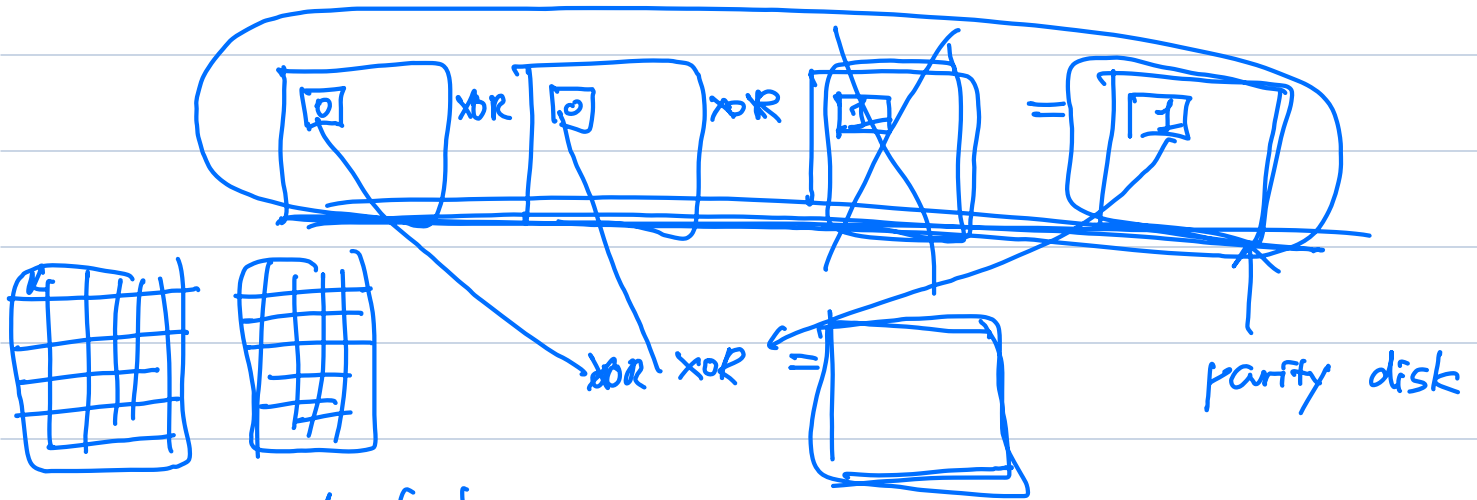
* RAID-4

+ parity

parity bit

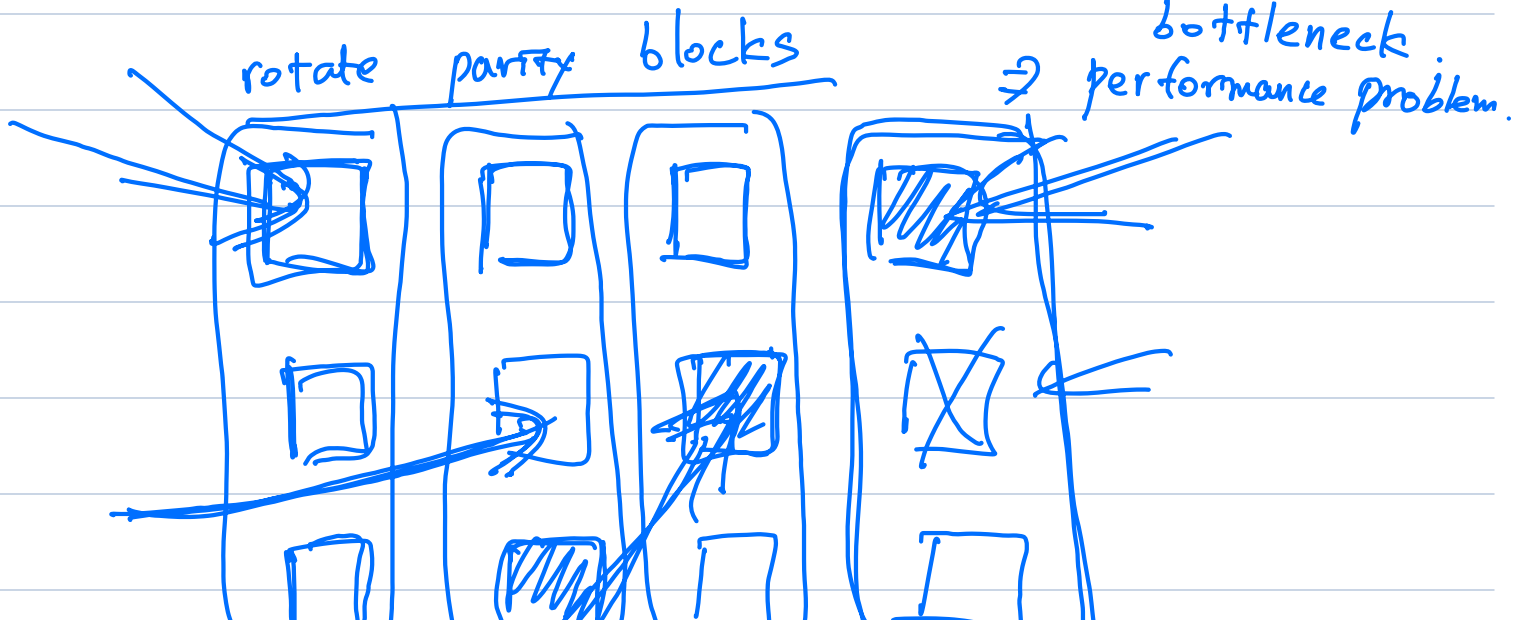
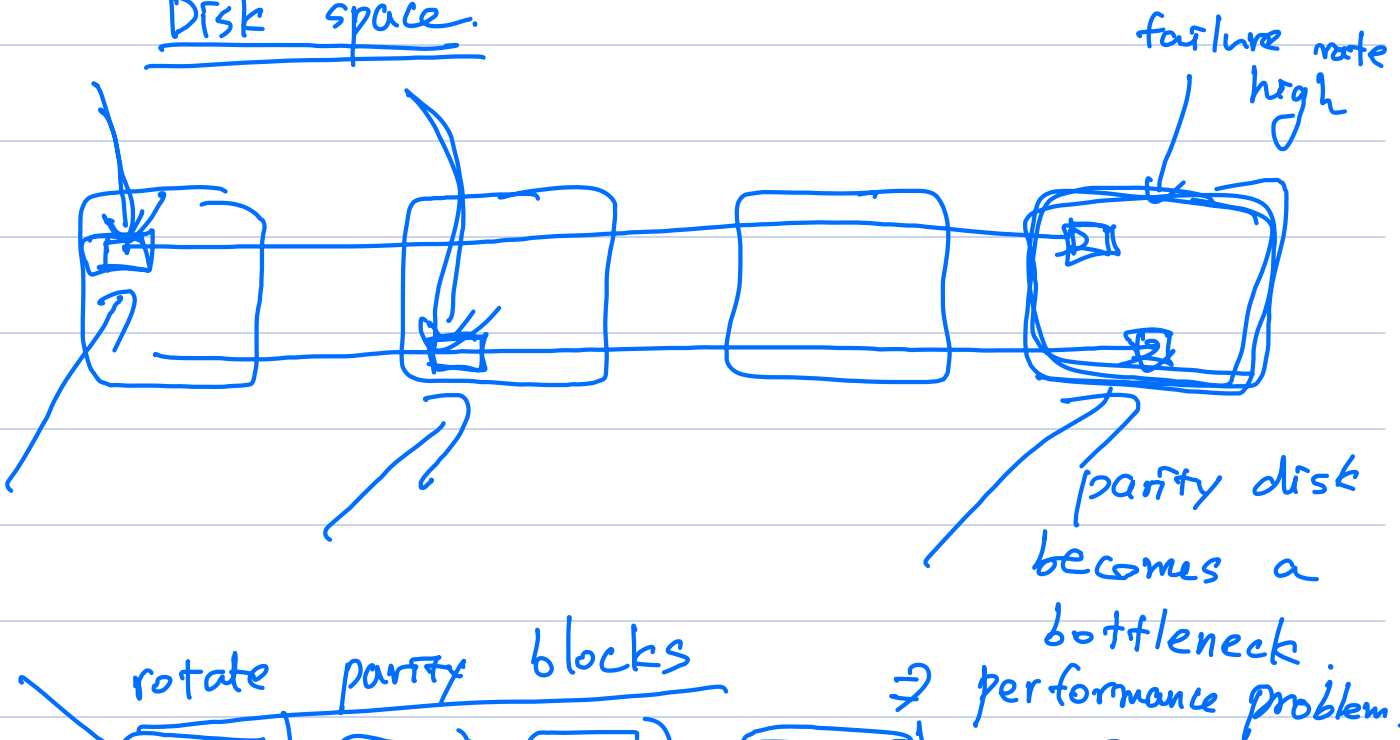


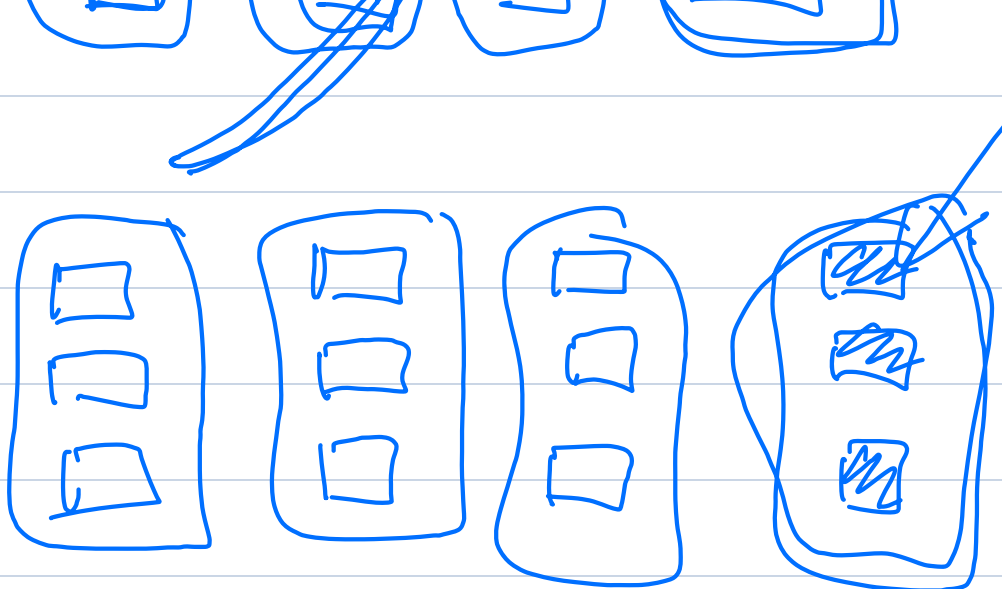
$$0 \text{ XOR } 1 \text{ XOR } 0 = \underline{1} \text{ recover the bit}$$



1 failure.

Disk space.





Additional resource:

<https://pages.cs.wisc.edu/~remzi/OSTEP/file-raid.pdf>