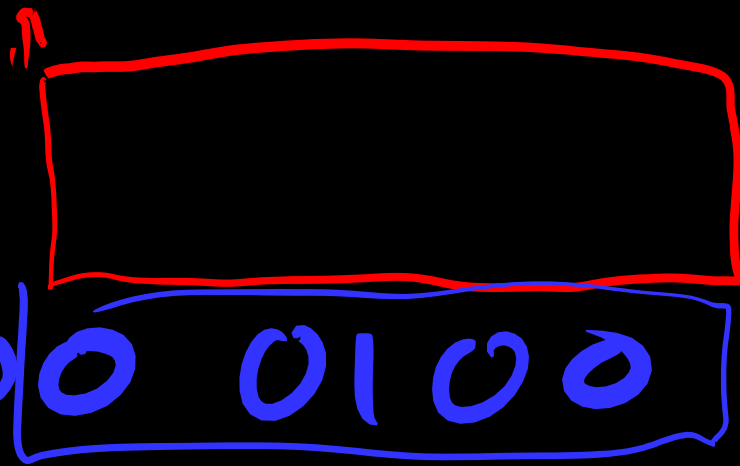




0001 0010

0100 0100



33

0a 07 09 0e
+ 0a 07

| | | | |
|----|---------------|----|----|
| 0a | 07 | 13 | 15 |
| | 0a | 07 | 13 |
| 28 | | | |

0a 07 07 0e

||| |

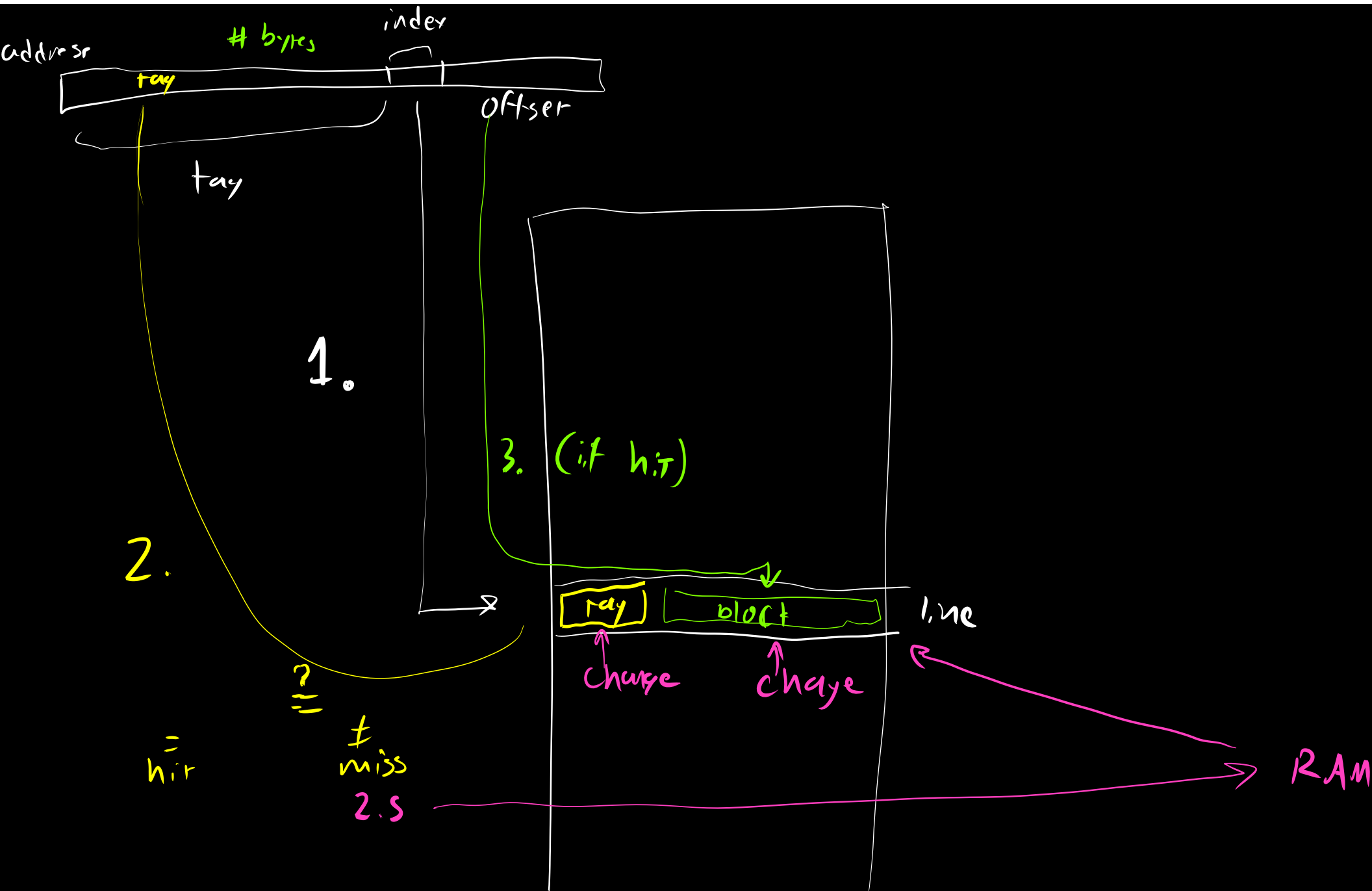
11 18

$$\overbrace{2M/16} = 128 \text{ lines}$$

↑

$$\overbrace{2M/64} = 32 \text{ lines}$$

↑



Fully-associative cache

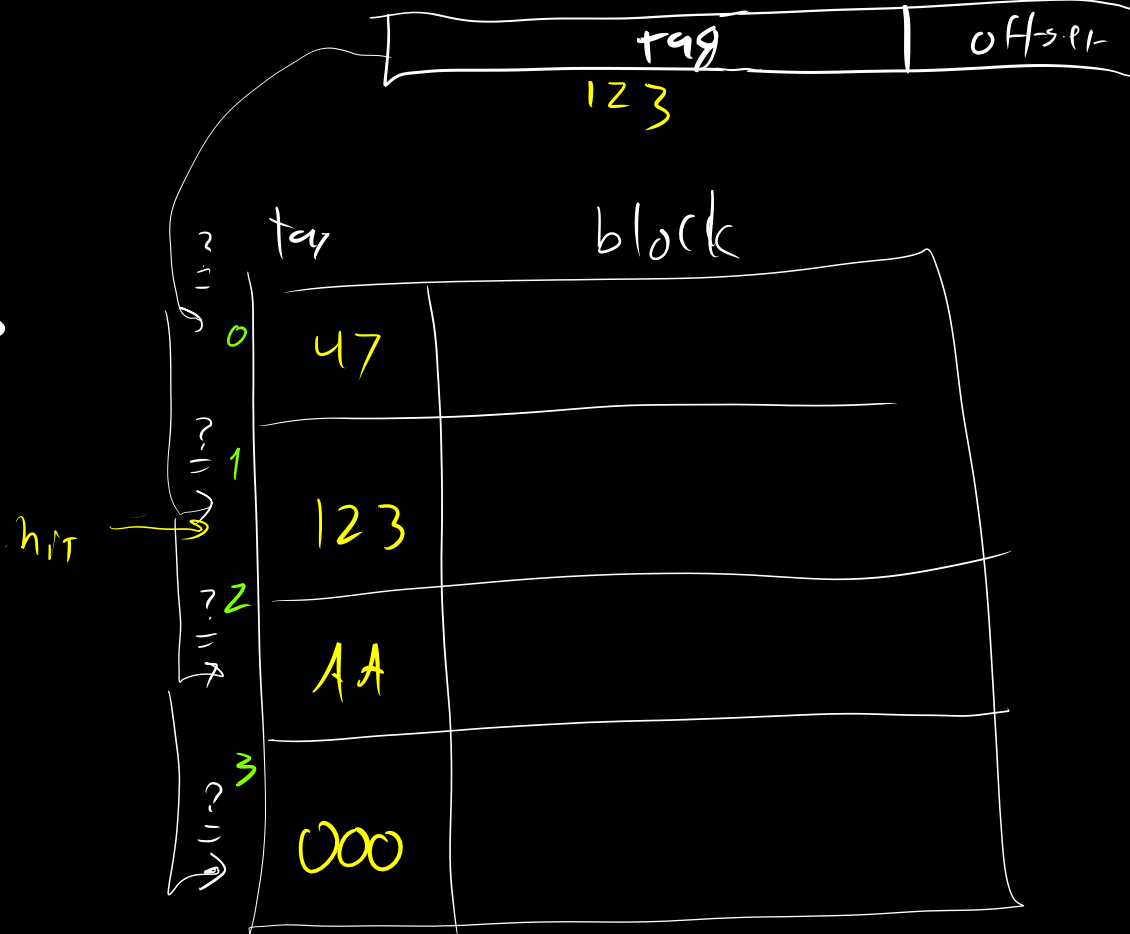
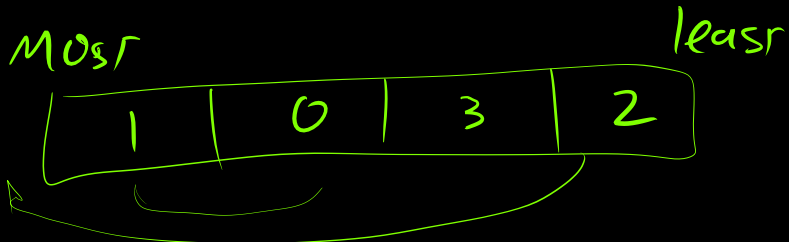
Set of lines

miss:

what do we evict?

goal: Least-recently used

LRU



Pseudo - least recently used

PLRU

Set-associative



2. compare

1. index

3. Miss?

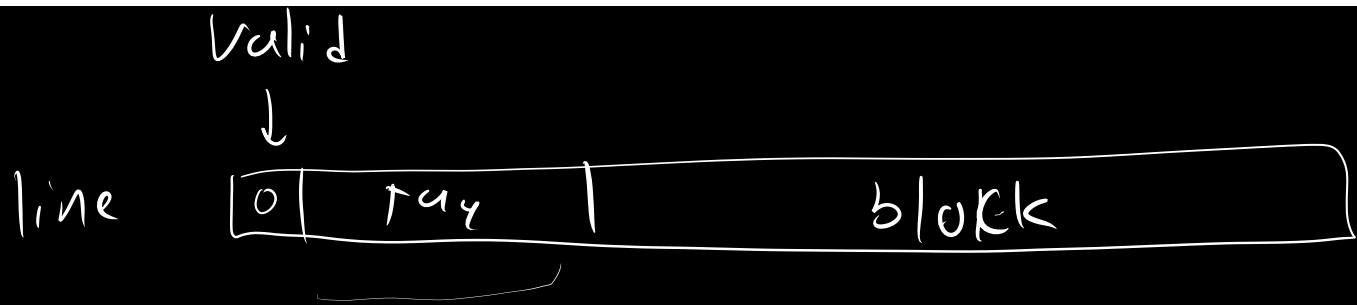
Set of lines

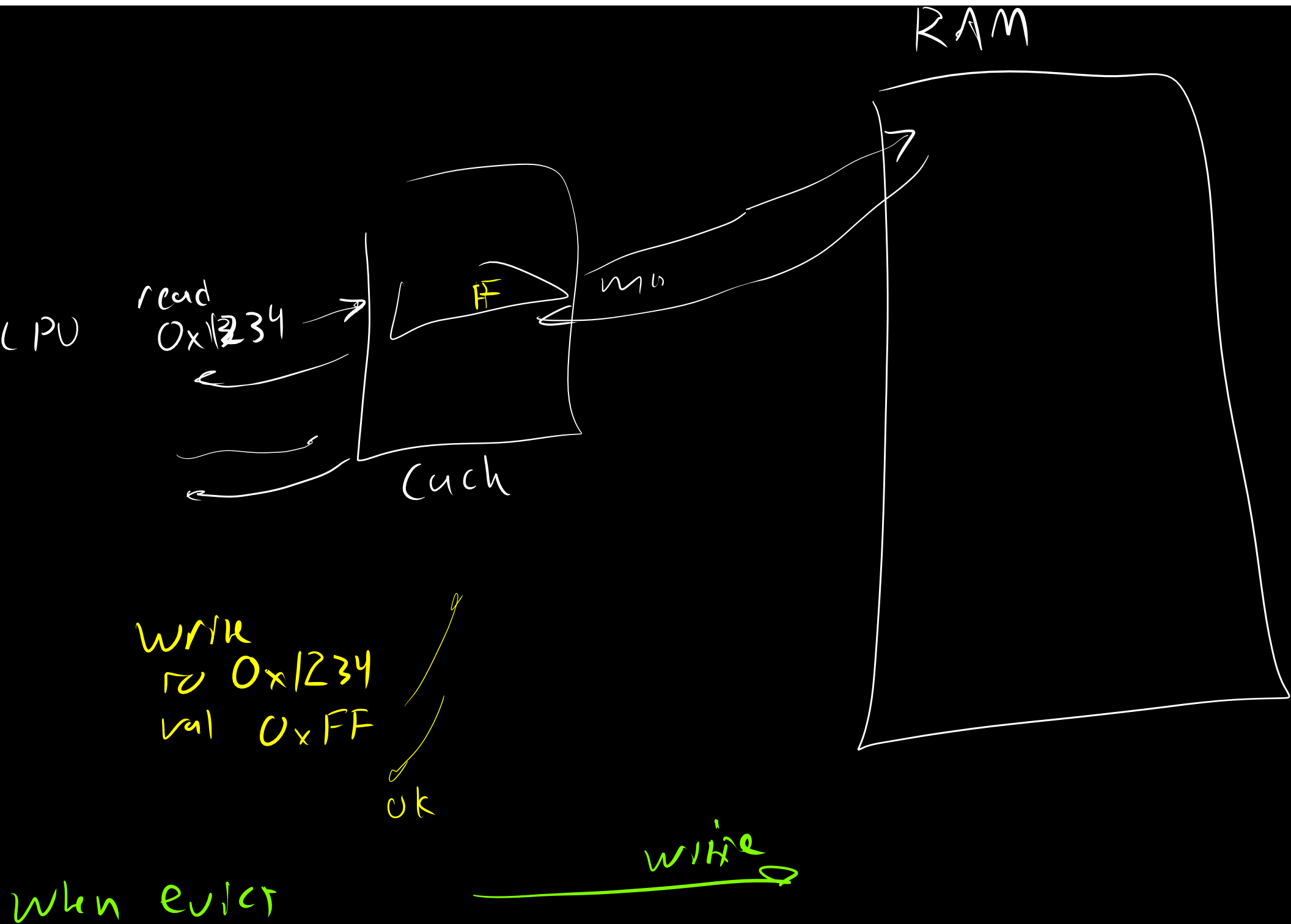


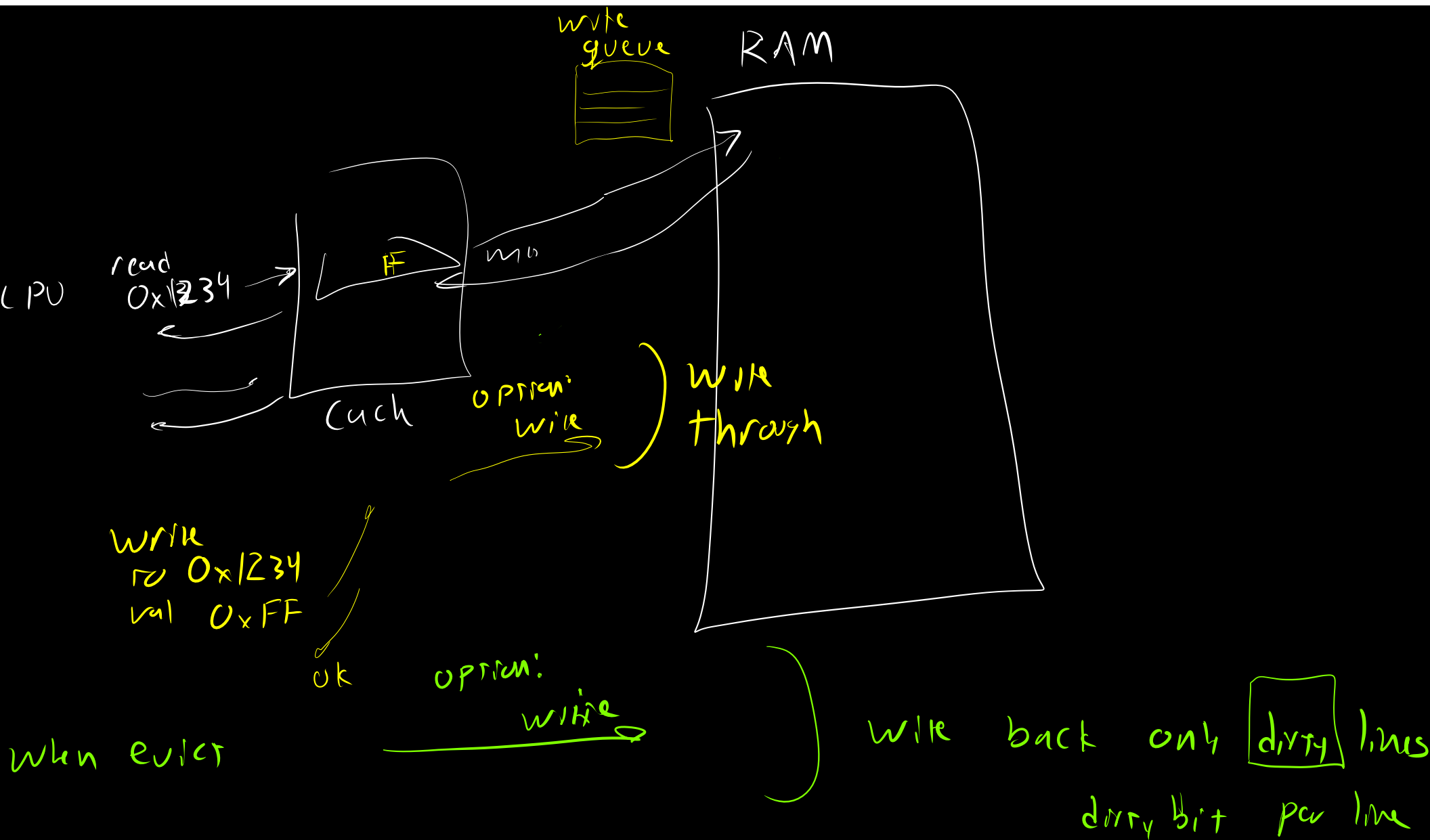
evict

4.

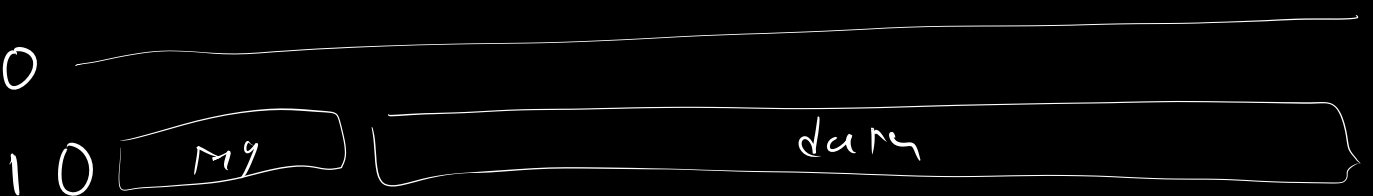
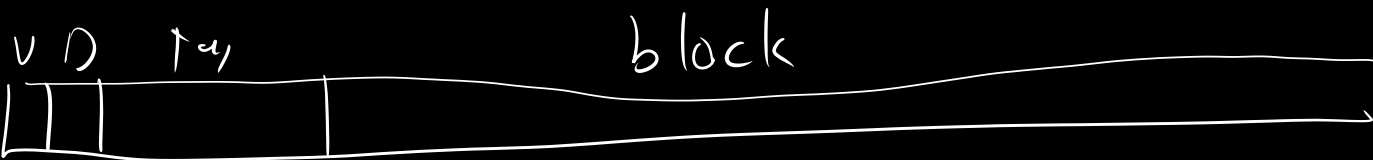
✓ hierarchy
✓ writing
✓ valid bits







Write-back



initial

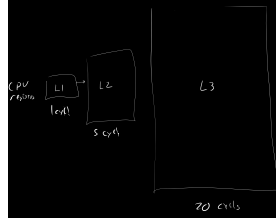
read ←

write →

ON CPU

→ do nothing

send
to
RAM



RAM
200
cyls

RAM