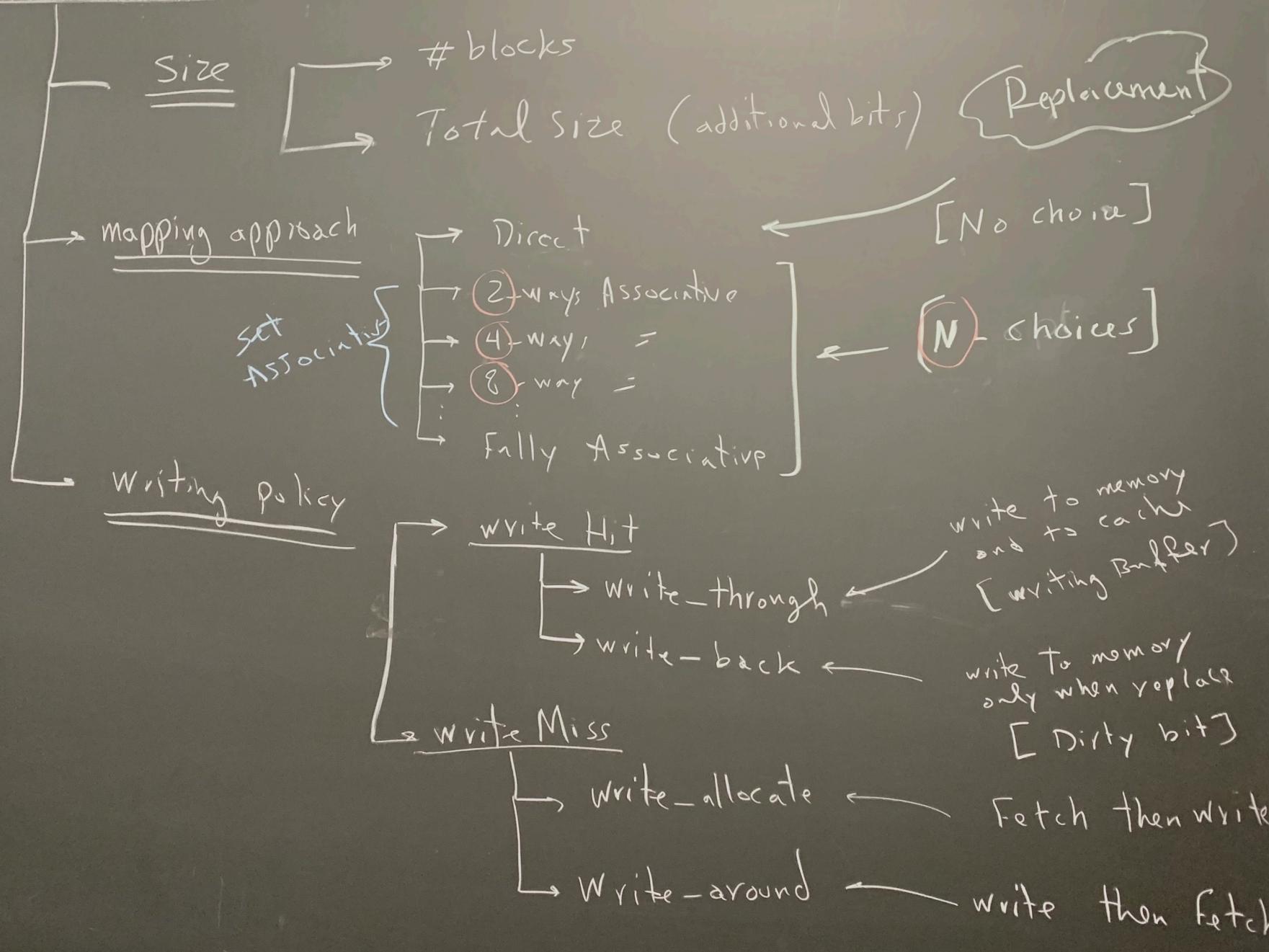
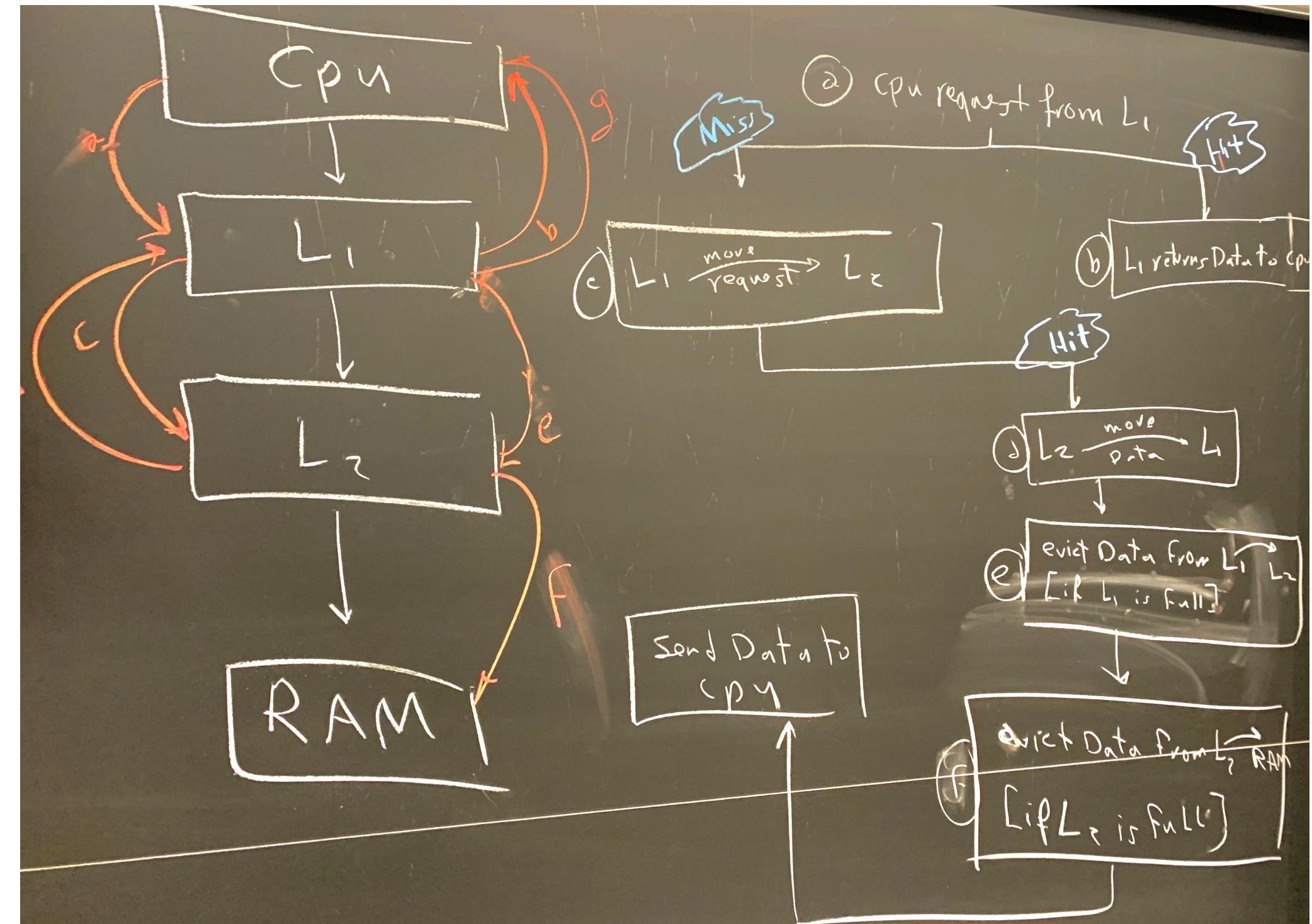


Cache Architecture





Replacement options

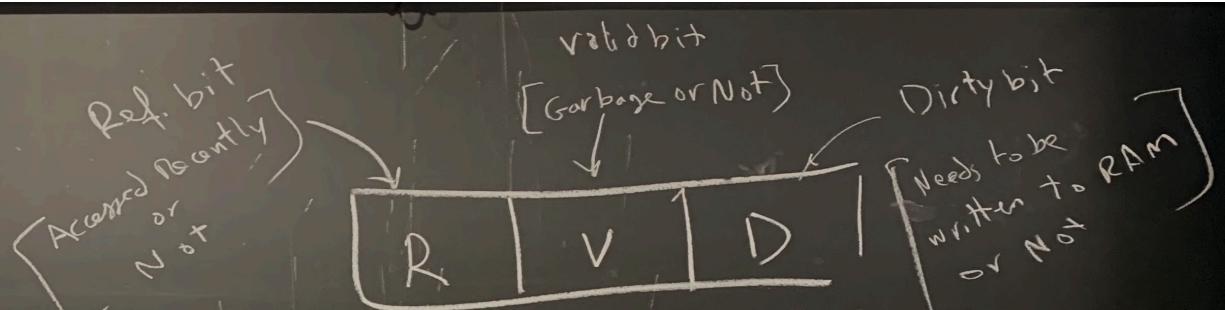
Random

FIFO

Not Recently Used (NRU)
[Reference bit]

Least Recently used (LRU)
[timestamp]

optimal algorithm (keep what the CPU will request)



R	V	D	
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1 - choose $V=0$ (contains Garbage)

2 - choose $\begin{cases} R=0 & (\text{Not recently used}) \\ D=0 & (\text{No need to write anything to RAM}) \end{cases}$

3 - choose $\begin{cases} R=0 & (\text{Not recently used}) \\ D=1 & (\text{it has to be written into RAM}) \end{cases}$

4 - choose $\begin{cases} R=1 & (\text{Recently used}) \\ D=0 & (\text{No need to write anything to RAM}) \end{cases}$

5 - choose Randomly