

# Welcome to CS571!

Online

{ FIFO  
Rand  
LRU  
ARC

LFU

page fault →

Offline : Belady's MIN

Byte - addressable

Disk - Block-based

4KB

Read Amplification

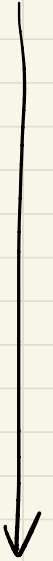
Free List of Frames.

Dirty.

Compulsory Misses.

time

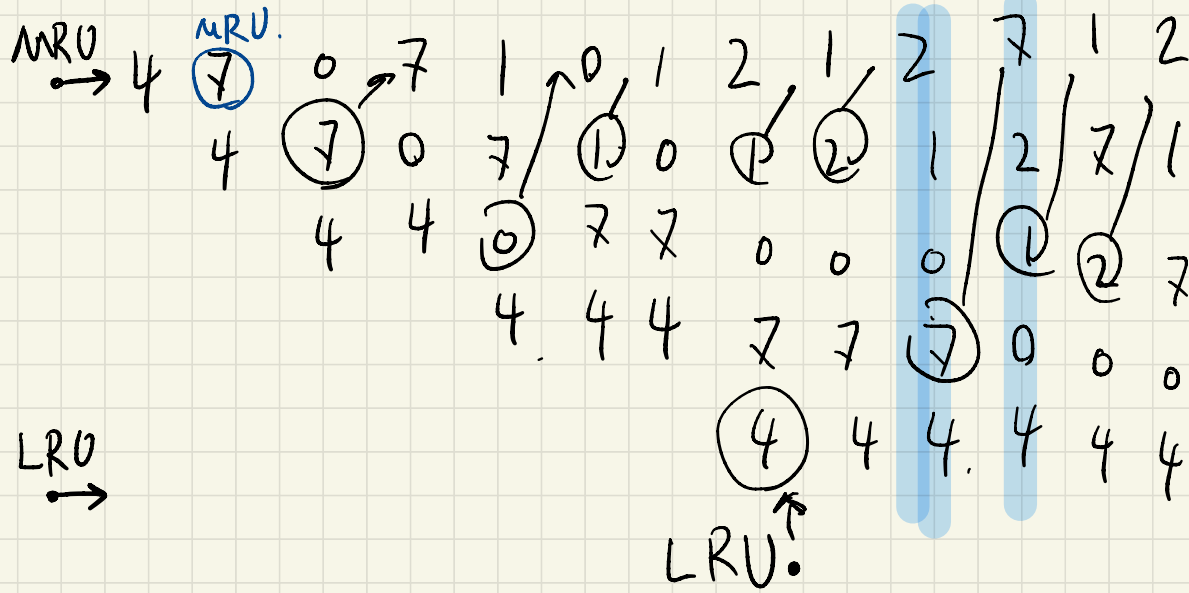
LRU → Recency.



Workload.

Cache Size of 5.  $\begin{matrix} a \\ \downarrow \\ 1 \\ \downarrow \\ 2 \end{matrix}$   $\begin{matrix} b \\ \downarrow \\ 7 \\ \downarrow \\ 1 \end{matrix}$

4 7 0 7 1 0 1 2 1 2 7 1 2



prefetch

future:  
time

USENIX. FAST '03

→ 1  
0

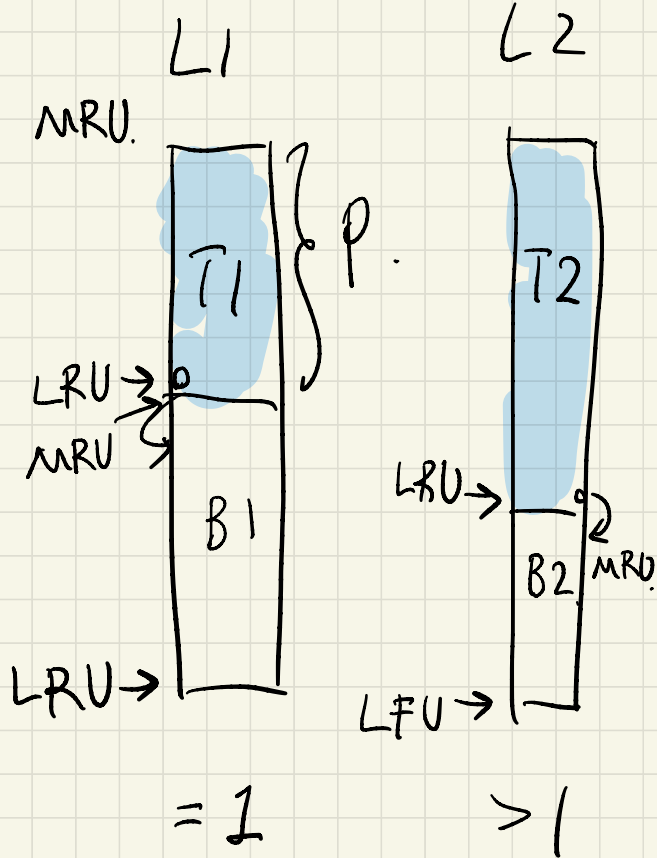


# PostgreSQL

L1 U L2

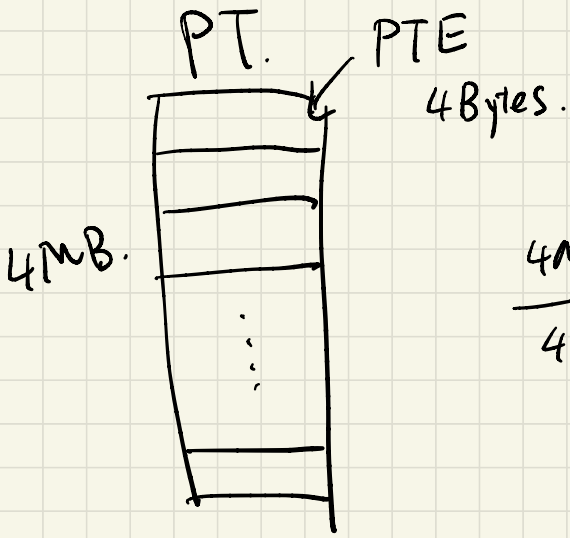
T1 or T2.

$\delta$



learning process.

$p$ . ← Random Walk over  $p$ .



VM PM.

$$\frac{4MB}{4B} = 1M$$

$$= 2^{20}$$

32 bit OS.  
high bits.

$$2^{12} = 4KB$$

