LRU - Last Recently Used

➡ Evict the page that has not been used for the longest time in the past

Access	Hit/Miss	Evict	P0	P1	P2	P3
1	Miss		1			
2	Miss		1	2		
3	Miss		1	2	3	
4	Miss		1	2	3	4
1	Hit		1	2	3	4
2	Hit		1	2	3	4
5	Miss	3	1	2	5	4
1	Hit		1	2	5	4
2	Hit		1	2	5	4
3	Miss	4	1	2	5	3
4	Miss	5	1	2	4	3
5	Miss	1	5	2	4	3

◉ Total 8 misses

How to implement LRU

Idea 1 : stamp the pages with timer value

- On access, stamp the PTE with the timer value
- On miss, scan page table to find oldest counter value
- Problem : would double memory traffic!

Idea 2 : keep doubly-linked list of pages

- On access, move the page to the tail
- On miss, remove the head page
- Problem : again, very expensive!

So, we need to approximate LRU instead

➡ Second Chance page replacement algorithm