Virtual Mem

Saturday, May 1, 2021 5:00 PM

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HW7: Virtual Memory and Storage Scheduling

1) Given a 3 frame VMM and the page request sequence below (it's the top row), perform the VMM **First In First Out** page replacement policy (complete the table) to determine the total number of page faults for the sequence.

F	1	2	3	4	2	4	5	1	6	3	7	5	3	2	6	6	2	4	5	3	2	1	5	1	6	3	4	2	1
0	1	2	3	4	4	4	5	1	6	3	7	5	5	2	6	6	6	4	5	3	2	1	5	5	6	3	4	2	1
1		1	2	3	3	3	4	5	1	6	3	7	7	5	2	2	2	6	4	5	3	2	1	1	5	6	3	4	2
2			1	2	2	2	3	4	5	1	6	3	3	7	5	5	5	2	6	4	5	3	2	2	1	5	6	3	4
	X	X	X	X	O	O	X	X	X	X	X	X	O	X	X	6	O	X	X	X	X	X	X	O	X	X	X	X	X

How many page faults? 23 faults

2) Given a 4 frame VMM and the page request sequence below (it's the top row), perform the VMM **Least Recently Used** page replacement policy (complete the table) to determine the total number of page faults for the sequence.

F	1	2	3	4	2	4	5	1	6	3	7	5	3	2	6	6	2	4	5	3	2	1	5	1	6	3	4	2	1
0	1	1	1	1	1	1	5	5	5	5	7	7	7	7	6	6	6	6	6	3	3	3	3	3	6	6	6	6	1
1		2	2	2	2	2	2	2	6	6	6	6	6	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3
2			3	3	3	3	3	1	1	1	1	5	5	5	5	5	5	4	4	4	4	1	1	1	1	1	1	2	2
3				4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	5	5	5	5	5	5	5	5	4	4	4
	X	X	X	X	O	O	X	X	X	X	X	X	O	X	X	O	O	X	X	X	O	X	O	O	X	X	X	X	X

How many page faults? 21 faults

3) Given a 3 frame VMM and the page request sequence below (it's the top row), perform the VMM **Optimal** page replacement policy (complete the table) to determine the total number of page faults for the sequence.

F	1	2	3	4	2	4	5	1	6	3	7	5	3	2	6	6	2	4	5	3	2	1	5	1	6	3	4	2	1
0	1	1	1	1	1	1	1	1	6	3	3	3	3	3	6	6	6	4	4	3	3	3	3	3	3	3	4	2	2
1		2	2	2	2	2	2	2	2	2	7	7	7	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1
2			3	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6
	X	X	X	X	O	O	X	O	X	X	X	O	O	X	X	O	X	X	O	X	O	X	O	O	X	O	X	X	O

How many page faults? 16 faults