

Exercise - Demand Paging

1. Given a system with 3 frames occupied by page 1, 2, and 3 respectively. Determine the number of page faults from the following request sequence: 3, 1, 5, 3, 2, 4, 3, 4, 3, 2

a. FIFO algorithm

1	3	1	1	1	5	5	3	5	2	5	4	5	3	5	4	5	3	5	2	5
2		2		2		2		2		2		2		4		4		4		4
3		3		3		3		3		3		3		3		3		3		2

Page faults = 3 + 3 = 6 Page faults

b. Optimal algorithm

1	3	1	1	1	5	5	3	5	2	5	4	4	3	4	4	4	3	4	2	4
2		2		2		2		2		2		2		2		2		2		2
3		3		3		3		3		3		3		3		3		3		3

Page faults = 3 + 2 = 5 Page faults

c. LRU (stack) algorithm

3	3	1	5	3	2	4	3	4	3	2
2	2	3	1	5	3	2	4	3	4	3
1	1	2	3	1	5	3	2	2	2	4

Page faults = 3 + 3 = 6 Page faults