

- e) Show how the pages are mapped to two frames using the Least Recently Used (LRU) page replacement algorithm.

reference string	1	2	3	4	1	1	4	2	1	2
frame 0										
frame 1										

- f) Show how the pages are mapped to three frames using the Least Recently Used (LRU) page replacement algorithm.

reference string	1	2	3	4	1	1	4	2	1	2
frame 0										
frame 1										
frame 2										

Problem 4.3: *working set vs least recently used*

(2 points)

Consider the design of a paging system that tracks the working set of all processes and aims at keeping the working sets of the processes resident. If pages are removed from the working set of a process, then these pages are removed from the resident set of pages and the frames get marked as unused. In other words, only pages that are part of the working set are resident, all other pages are not.

Assume the working set is calculated over the last N memory accesses for every process. Compare this system with a system that uses the least recently used (LRU) page replacement strategy for each process with N pages allocated to each process. What can you say about the pages that are resident in both systems at any point in time?

Which system do you think is preferable? Can you suggest further improvements?