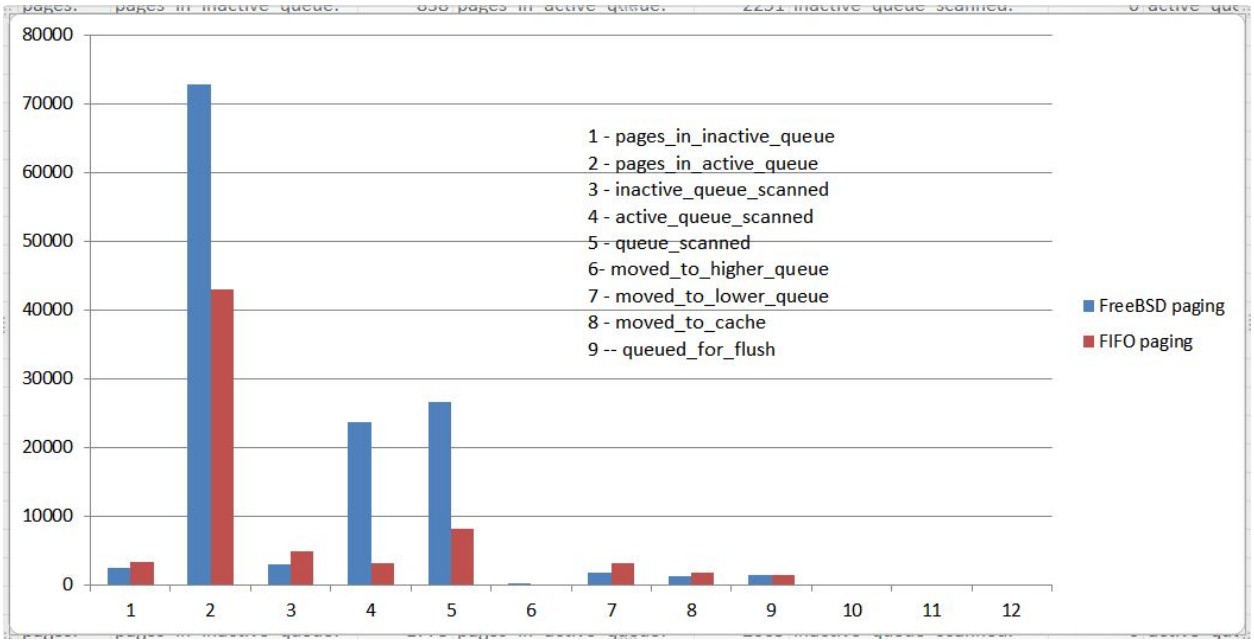
CMPS 111 asgn3 stats write up:



The raw benchmarking data is in the file benchmarking_data.xlsx

Results analysis

FIFO cares only how long a page has been around, meaning no matter how much a page is used, it will eventually get shuffled out. If the page is indeed used often, it will be accessed again causing a page fault. We don't track page fault frequency, but we can assume it is higher when using the FIFO strategy. This assumption makes a lot of sense out of the results we are tracking:

Scanning:

We find FIFO is scanning fewer pages than the default. This is because the number of pages we scan is exactly equal to the number of pages needed, whereas in the default, pages may be put back into the active queue, causing the need for additional scans.

Pages moved:

We find that a lot more pages are moved in the FIFO implementation. This is likely because every page we scan in either queue will be moved, either from active to inactive, or inactive to cache. In contrast, the default can keep scanned pages in the same queue.

Active/inactive queue sizes:

The inactive queue in FIFO is smaller than that in the default. This can be attributed to how FIFO funnels directly out of inactive to meet the demand for more pages. Also we can see how this affects the size of the active queue; in FIFO the active queue ends up being larger than the default equivalent.