CprE 308
Section 3
Lab6

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This lab focused on creating page replacement algorithms, then testing and comparing the efficiency of each using a set of random page accesses. The algorithms used during the lab were FIFO, LRU, and the Optimal algorithm (meant more as a reference). These were all covered in class and are important parts of the paging method of memory management.

I had personally used these algorithms on my onw and in CprE 381 when we were experimenting with caches, but I had never used them for page replacement before. I initially had some problems with my Optimal algorithm, as I was returning the index of the farthest access instead of the current page and was too brain dead to figure it out. This has been valuable practice to better understand paging.

Some sample output is shown on the next page.
I forgot how to give a c program more memory, so this was just run on a sample size of 1000 accesses so the program didn't run out of memory.

The average number of page faults for FIFO with Random Access is 876.
The average number of page faults for LRU with Random Access is 875.
The average number of page faults for OPT with Random Access is 601.

The average number of page faults for FIFO with Sequential Access is 1000.
The average number of page faults for LRU with Sequential Access is 1000.
The average number of page faults for OPT with Sequential Access is 895.

The average number of page faults for FIFO with LR Workload Access is 93.
The average number of page faults for LRU with LR Workload Access is 92.
The average number of page faults for OPT with LR Workload Access is 73.