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. As such, I believe I made a mistake with the Optimal algorithm (as it often shows as worse than FIFO), but I have no time to fix it. This has been valuable practice to better understand paging.

Some sample output is shown on the next page.
This was run on a sample size of 1000 accesses, as any more than 1011 accesses pushes past the maximum memory allocated for the C program, a problem that I have no time to solve.

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 841.

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 888.

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 116.