Program 2 Report

Design/Implementation:

Program 2 was designed to test the 3 page-replacement algorithms FIFO, LRU, and OPT for the number of page faults. The program is designed to generate a 100-value page value string. The program will then test the 3 algorithms with this string for 1-30 available frames. Each page replacement algorithm is its own function to make the design cleaner along with a few other functions. The program is designed to output to a data file with a header followed by the reference string and then each test with the number of frames and the number of faults per test.

Compilation Instructions:

Step 1: Make sure “program2\_brn22.cpp” and “dataOutput.txt” are in your directory

Step 2: Enter “g++ program2\_brn22.cpp” in the command line and press enter to compile

Step 3: Enter “./a.out” in the command line and press enter to run

Results/Interpretation:

The following is a graph of the results from a sample run of the program testing the 3 algorithms 30 times for 1-30 frames available with a 100-value page reference string.

Chart

Description automatically generated

After reviewing the graph, I can conclude that both the LRU and OPT algorithms would provide less page faults than the FIFO algorithm.