

CS39002 Operating Systems Laboratory
Spring 2014

Assignment 7
Due on 18-Apr-2014

In this assignment, you simulate some page-replacement algorithms and compare their performances. Your simulations should be able to take in the required parameters from a data file in the following format:

- The first line of the file contains two integers in this order: the number of pages in the reference string, and the number of page frames.
- The rest of the file contains page reference string as a sequence of integers that are the page numbers (in virtual address space) accessed by the process in sequence.

The simulator will simulate the behavior of the following page-replacement algorithms on the reference string, and report the number of page faults generated for each algorithm:

- FIFO
- LFU
- LRU

All the algorithms above are described in your text book. The simulator should take the following command-line arguments (in this sequence): the name of the data file, a sequence of strings (maximum three) from the following sets: FF, LF, LR (meaning the above three algorithms respectively). The simulator simulates only the algorithms specified in the command line. If no algorithm is specified, all three are simulated.

Submit the file *page.c* containing a *main* function, and the implementation of the above three algorithms. Each of the algorithms should be implemented as a separate function that is called from the *main* function.