CSC565: Operating Systems

Spring 2017

Assignment 4

Due Date: May 1, 2017 -- Due Time: 23:59

Project: Virtual Memory [100 points]

Write a C program that implements the FIFO, LRU, and optimal page replacement algorithms presented in Module 8 on Virtual Memory. First, generate a random page-reference string where page numbers range from 0 to 9. Apply the random page-reference string to each algorithm, and record the number of page faults incurred by each algorithm. Implement the replacement algorithms so that the number of page frames can vary from 1 to 7. Test with different numbers of page frames. Assume that demand paging is used.

Please upload a zipped directory containing:

- Your well commented code
- A README file explaining how to compile and run your code
- Screen shots showing the results of your three algorithms on:
    o Two different random strings
    o Using 3, 5 and 7 page frames
- i.e., you should show 18 different results. Please label the screenshots in a way that will make it easy for me to verify the validity of your program.