CSC 456 Homework #3 – Due 4/28/2017

Disk-Scheduling Algorithms

Write a C or C++ program that implements the following disk-scheduling algorithms:

- FCFS
- SSTF
- SCAN
- C-SCAN
- LOOK
- C-LOOK

Your program will service a disk with 5,000 cylinders numbered 0 to 4,999. The program will generate a random series of 1,000 cylinder requests and service them according to each of the algorithms listed above. The program will be passed the initial position of the disk head (as a parameter on the command line) and report the total amount of head movement required by each algorithm. Make the program modular!

Required elements:

- Typing `disk_sched` will invoke your program.
- (90 pts) Implement the program components:
  - FCFS
  - SSTF
  - SCAN
  - C-SCAN
  - LOOK
  - C-LOOK

  The implementation should be safe, and handle errors gracefully.
- (10 pts) Documentation, a correct description of all the program parts.
- Incorrect file or program names will not be accepted.

Documentation

You need to provide a PDF file that describes all the parts of your program. The document should stand by its own, so the reader should not have to read your code to understand that is going on!

Submission method:

You will use the submit page to submit your program. The files need to be tarred and gzipped prior to submission. Please empty the directory prior to tar/zip. [You will tar up the directory containing the files: `tar -czf prog3.tgz prog3`] NOTE: A `makefile` to build all the programs, has to be included in your submission!