CS 3413

Assignment 7

Due Date: November 27th, 2017 at 9:00 am

ASSIGNMENT IS TO BE COMPLETED INDIVIDUALLY BY ALL STUDENTS!

Your solution (containing all disk scheduling algorithms) should be submitted via D2L. All solutions are to be written in C.

1. Write a program that implements the following disk scheduling algorithms:
   - FCFS (F)
   - SSTF (T)
   - SCAN (S)
   - C-SCAN (C)
   - LOOK (L)
   - C-LOOK (O)

Your program will service a disk with 10,000 cylinders numbered 0 to 9999. The program will read a series of cylinder requests (no maximum) and service them according to each of the algorithms listed above. The program will be passed two parameters on the command line: i) a letter indicating the algorithm to use; and ii) the initial position of the disk head. After execution the program will report the total amount of head movement required.

To service requests, the OS can only maintain 10 requests at a time! So, your implementation should only read in the first 10 entries in the cylinders request file. When one of the requests are serviced, then you can read in the next request, perform any re-ordering of the requests that you may have to perform, and then service the next request.

Note: A sample file with cylinder requests is provided for the assignment on D2L.