CS3500 - Operating System, August 2022

Lab 7: Disk Scheduling

Due Date: Friday, 26th October 11.59PM in Moodle.
Demo Date (if required): 28/10/2022

Problem Definition

Write a program that implements the following disk-scheduling algorithms:
1. FCFS
2. SSTF
3. SCAN
4. C-SCAN
5. LOOK
6. 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 take two arguments, initial position of the disk head (default value 2000) and the algorithm to be used. The program will output the sequence in which the requests were served and after the sequence it will print the average & total amount of head movement for the requests. Make report comparing the average & total amount of head movement required by each algorithm.

Reference: Section 10.4 Disk Scheduling, Avi Silberschatz and Peter Baer Galvin and Greg Gagne. Operating System Concepts (10th Edition). Wiley, 2018.