

# Programming Assignment 7

## Disk-Scheduling Algorithms

### Objective

The objective of this assignment is to become familiar with various disk scheduling algorithms.

### Assignment: Implementing the disk scheduling algorithm

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

- a. FCFS
- b. SSTF
- c. SCAN
- d. C-SCAN

Your program will service a disk with 5,000 cylinders numbered 0 to 4,999. Your program will read a disk file with 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 well as the cylinder file (as parameters on the command line) and report the total amount of head movement required by each algorithm.

**`./diskscheduler <initial position> <cylinder file>`**

Your program would output the total number of cylinder requests (amount of head movement) for each algorithm based upon the supplied cylinder file.

### Error Handling

Perform the necessary error checking to ensure the correct number of command-line parameters as well as an appropriate starting cylinder position

### Grading

The program will be graded on the basic functionality, error handling and how well the implementation description was followed. Be sure to name your program **diskscheduler.c** (no extra characters, capitals) Note that documentation and style are worth 10% of the assignment's grade!

## **Submission**

The program source code along with an appropriate README file should be posted to Canvas.