EECE 4029: Operating Systems and System Programming

SPRING 2022

MAKE-UP/BONUS QUESTIONS

Given: Apr. 12, 2022

Programming problem:

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

a. FCFS

b. SSTF

c. SCAN

d. C-SCAN

e. LOOK

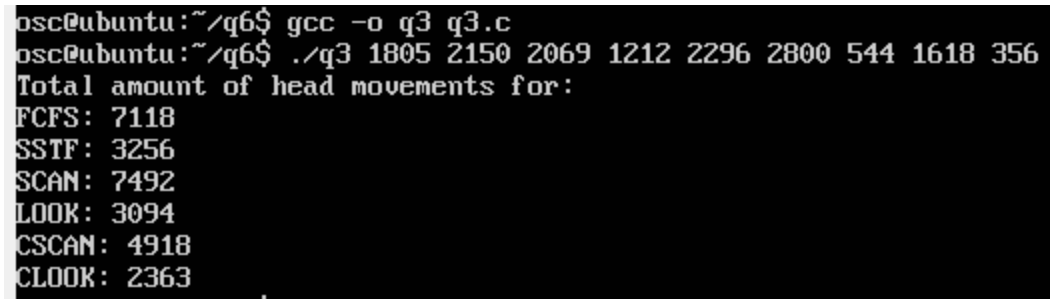
f. C-LOOK

Your program will service a disk with 5,000 cylinders numbered 0 to 4,999. The program will generate a series of requests and serviq3ce them according to each of the algorithms listed above. The program will report the total amount of head movement required by each algorithm.

Test your program using the conditions in Homework 5, Question 3:

The drive is currently serving a request at cylinder 2150, and the previous request was at cylinder 1805. The queue of pending requests, in FIFO order, is: 2069, 1212, 2296, 2800, 544, 1618, 356.

Please submit your source code for this question. To receive full credits for this problem, please include screen shots of your test results.


osc@ubuntu:~/q6$ gcc -o q3 q3.c
osc@ubuntu:~/q6$ ./q3 1805 2150 2069 1212 2296 2800 544 1618 356
Total amount of head movements for:
FCFS: 7118
SSTF: 3256
SCAN: 7492
LOOK: 3094
CSCAN: 4918
CLOOK: 2363