Metropolitan Stat University, Saint Paul, Minnesota
ICS 462 Operating Systems
Assignment 6 Part 4

Points: 25

Goal: To learn to program using concurrent data structures and compare disk scheduling algorithms

Problem: In this part of the assignment, you will implement the following disk scheduling algorithms and compare them and write a report.

1) Look (already implemented)
2) CLook
3) SSTF
4) FCFS

Proceed as in Part 3 of this assignment. Implement the incomplete parts of Scheduler.java and implement FCFS.java, CLook.java, and SSTF.java. I will make my implementation of Look.java on July 25.

After getting your algorithms to work, execute them for different rates of generation (delay between requests: from very low to very high values of Analyzer.DELAY_BETWEEN_REQUESTS). Write a report comparing the performance of the four algorithms (as implemented): a) which one performs best under relatively high rates of request generation (low values of Analyzer.DELAY_BETWEEN_REQUESTS) and b) their performance for very low request generation requests. Note that there is some comparison of these algorithms in the book. See if your conclusions conform to the book's.

1) Keep the number of requests at a large value to ensure that the numbers are more meaningful.
2) Repeat the same experiment multiple times. You can do this programmatically.
3) Don't have other processes running concurrently.

The grade will be based on correctness of each of the three algorithms (FCFS, SSTF, and CLook: 5 points each) and the report (10 points).

You need to submit the implementation (the source code for the classes Scheduler and Look, and nothing else) by 11:59 PM on July 6. I will accept late submissions until 11:59 PM on August 7. There will be a 10% penalty for late submissions.