**Metropolitan State University**

**ICS 462-01 Operating Systems**

**Summer 2019 - Assignment 6 Report**

The following tables represent analysis from running the four disk scheduling algorithms (Look, C-Look, SSTF, and FCFS) against low and high delays of request generation as well as varying total number of requests. Details of these results are provided after the tables.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Delay** | **Requests** | **Algorithm** | **Tracks Moved** | **Time Spent** |
| 1 ms | 500 | Look | 2045 | 428 |
| C-Look | 2171 | 423 |
| SSTF | 2029 | 427 |
| FCFS | 161314 | 4507 |
| 5000 | Look | 2046 | 1047 |
| C-Look | 2163 | 1045 |
| SSTF | 1095 | 1017 |
| FCFS | 1723431 | 48340 |
| 10000 | Look | 2046 | 1052 |
| C-Look | 2053 | 1052 |
| SSTF | 2046 | 1054 |
| FCFS | 3406332 | 95435 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Delay** | **Requests** | **Algorithm** | **Tracks Moved** | **Time Spent** |
| 250 ms | 500 | Look | 171232 | 4787 |
| C-Look | 170204 | 4773 |
| SSTF | 167954 | 4697 |
| FCFS | 174949 | 4906 |
| 5000 | Look | 1702964 | 47719 |
| C-Look | 1684229 | 47207 |
| SSTF | 1704259 | 47807 |
| FCFS | 1707480 | 47874 |
| 10000 | Look | 3353490 | 93924 |
| C-Look | 3375126 | 94574 |
| SSTF | 3373605 | 94530 |
| FCFS | 3345870 | 93749 |

Clearly, as the delay between requests increases, the performance between algorithms appears negligible. C-Look and SSTF appear to have a slight advantage over the other algorithms, given a relatively moderate number of requests serve.

When the delay is very small, for any range of requests, the FCFS algorithm has the worst performance. This is intuitive, since the disk arm’s next move is at the whim of the next requests in-queue. However, it is surprising to note that, despite the increase in the number of requests for low request generation delays, the other algorithms (Look, C-Look, and SSTF) each exhibited approximately the same performance. It would appear that one of these three algorithms would be a best-choice in any real-world application. This also appears to align with the textbook, as it is noted that, “Either SSTF or LOOK is a reasonable choice for the default algorithm.”