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Practical No-2

★ Aim :

Design an algorithm to write a C program for Disk scheduling algorithms to find seek time for the following problem, Suppose that a disk drive has 5000 cylinders numbered from 0 to 4999. The drive is currently serving a request at cylinder 143 and previous request was at cylinder 125. The queue of pending request in FIFO is 86, 1470, 913, 1774, 948, 1509, 1022, 19, 1750, 130 starting from the current head position, what is the total distance that the disk arm moves to satisfy all the pending request for each of the following disk scheduling algorithms a) FCFS OR SSTF b) SCAN OR LOOK.

★ Learning objective :

To learn and understand disk scheduling algorithm using FCFS, SSTF, SCAN, OR LOOK algorithm.

★ Theory :

(i) Disk Scheduling Algorithms :

Disk scheduling is done by operating systems to schedule I/O requests arriving for the disk. Disk scheduling is also known as I/O scheduling.

(ii) FCFS disk scheduling algorithm :

FCFS is the simplest disk scheduling algorithm. As the name suggest, this algorithm entertains requests in the order they arrive in the

disk queue.

(iii) SSTF disk scheduling algorithm:

SSTF stands for Shortest Seek Time First. This algorithm services that request next which requires least number of head movements from its current position regardless of the direction.

(iv) SCAN disk scheduling algorithm:

In SCAN algorithm the disk arm moves into a particular direction and services the requests coming in its path and after reaching the end of disk, it reverses its direction and again services the request arriving in its path.

(v) LOOK disk scheduling algorithm:

LOOK Algorithm is an improved version of the SCAN Algorithm. Head starts from the first request at one end of the disk and moves towards the last request at the other end servicing all the requests in between. After reaching the last request at the other end, head reverses its direction. It then returns to the first request at the starting end servicing all the requests in between. The same process repeats.

★ Conclusion :

We successfully understand disk scheduling algorithm using FCFS, SSTF, SCAN OR LOOK algorithm.