Lab 7

Disk Scheduling Algorithms

Shortest Seek First Algorithm

This is a direct improvement upon a first-come first-served (FCFS) algorithm. The drive maintains an incoming buffer of requests, and tied with each request is a cylinder number of the request. Lower cylinder numbers indicate that the cylinder is closer to the spindle, while higher numbers indicate the cylinder is farther away. The shortest seek first algorithm determines which request is closest to the current position of the head, and then services that request next.

TASK: Write a program (C,Java,Python , etc.) which implements Shortest Seek First Algorithm, according to output below.

```
Enter initial head position:
50
Enter sequence:
45
34
20
40
64
32
170
77
Seek sequence is :
50
45
40
34
32
20
64
77
170
Total number of seek operations = 180
```

The Elevator Algorithm

The elevator algorithm (also SCAN) is a disk-scheduling algorithm to determine the motion of the disk's arm and head in servicing read and write requests.

This algorithm is named after the behavior of a building elevator, where the elevator continues to travel in its current direction (up or down) until empty, stopping only to let individuals off or to pick up new individuals heading in the same direction.

TASK: Write a program (C,Java,Python , etc.) which implements The Elevator Algorithm, according to output below.

```
Enter initial head position:
50
Enter direction  left  or  right:
left
Enter sequence:
170
77
32
40
64
20
34
45
Seek Sequence is
45
40
34
32
20
0
64
77
170
Total number of seek operations = 220
```