☆ Disk Scheduling:

Due to multiple disk access request at any point of time disk scheduling algorithms are required.

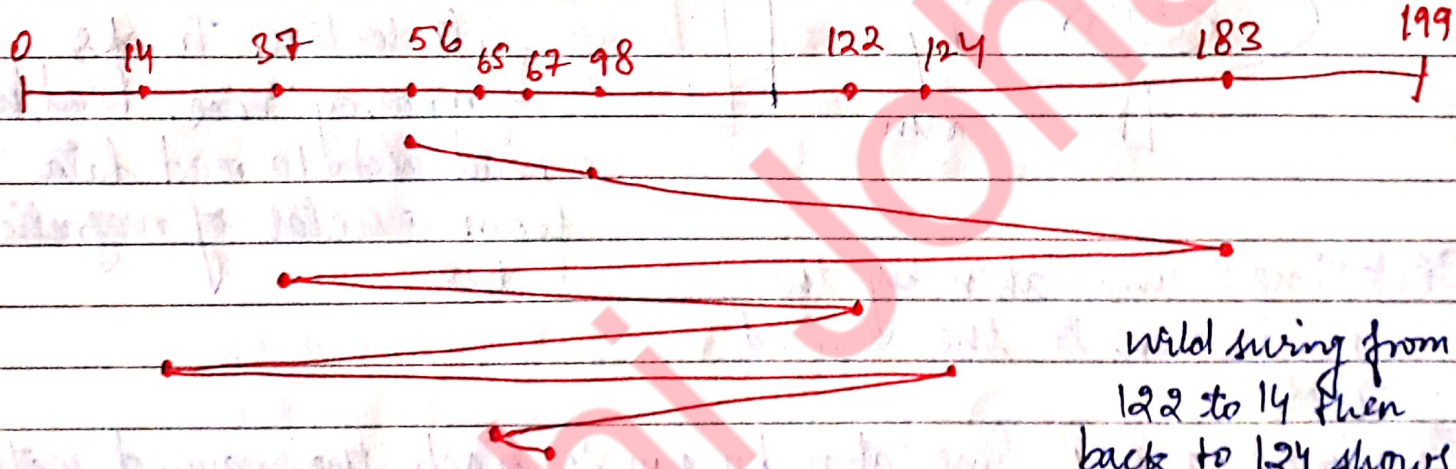
① FCFS (First come, first serve):

→ Request is served in the order in which it was asked.

Example:

~~98~~ 98 183 37 122 14 124 65 67

Assume head is initially at cylined 56. So the order in which head moves is:



Wild swing from 122 to 14 then back to 124 shows that this algo. is not optimised.

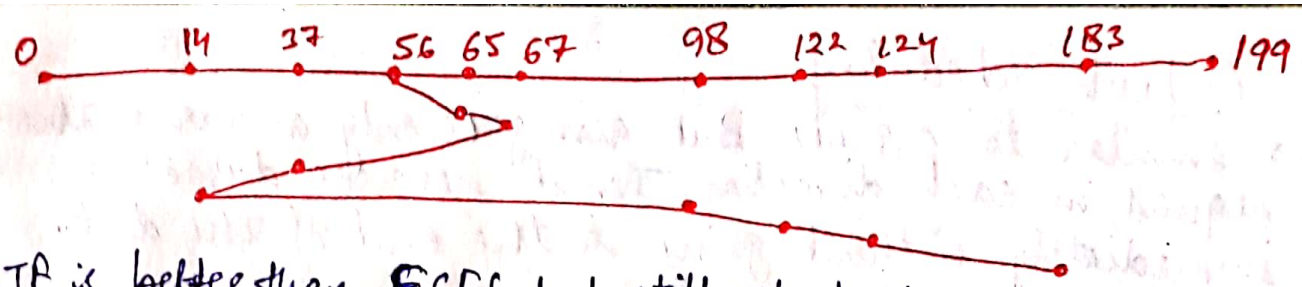
② SSTF (Shortest Seek Time first)

→ Here position which is closest to current head position is chosen first.

Example:

98, 183, 37, 122, 14, 124, 65, 67.

Head initially at 56.



SSTF is better than FCFS but still not best since we can move head from 56 to 37 and then to 14 and then turn to other services in other direction.

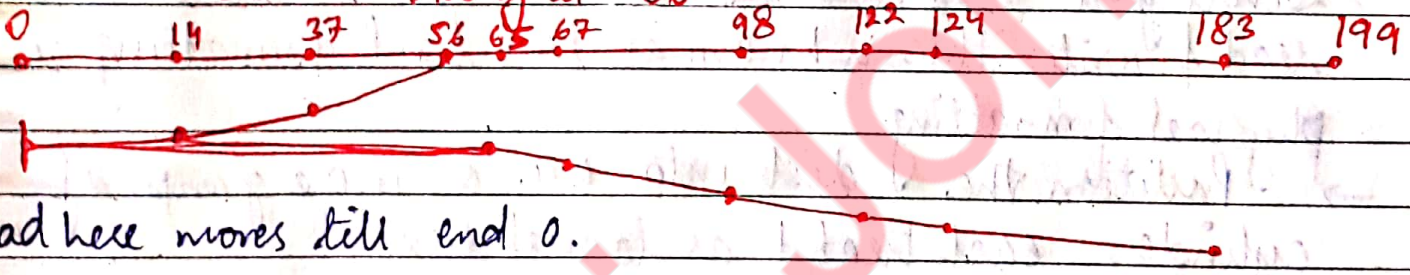
(3) SCAN Algorithm:

→ Also called elevator algo. → Head moves from one end to another.

→ Head moves in one direction cover full path and then moves in opposite direction to cover remaining requests.

Example: 98, 183, 37, 122, 14, 124, 65, 67

Head initially at 56



Head here moves till end 0.

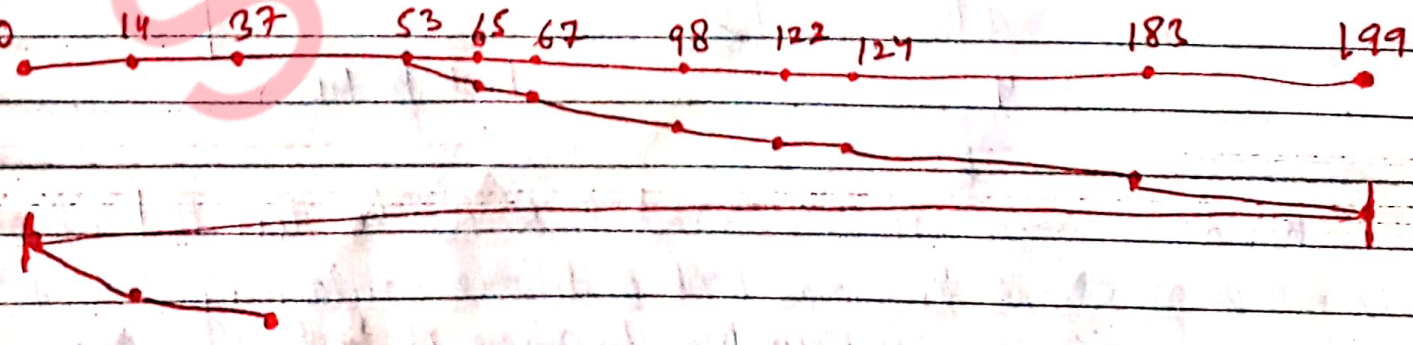
(4) C-SCAN: Circular SCAN Algo:

→ Like SCAN here also head moves from one end to another.

→ In this when head reaches end it immediately reaches other end i.e. begining of disk without servicing any request on returning.

Example: 98, 183, 37, 122, 14, 124, 65, 67.

Head starts at 53.

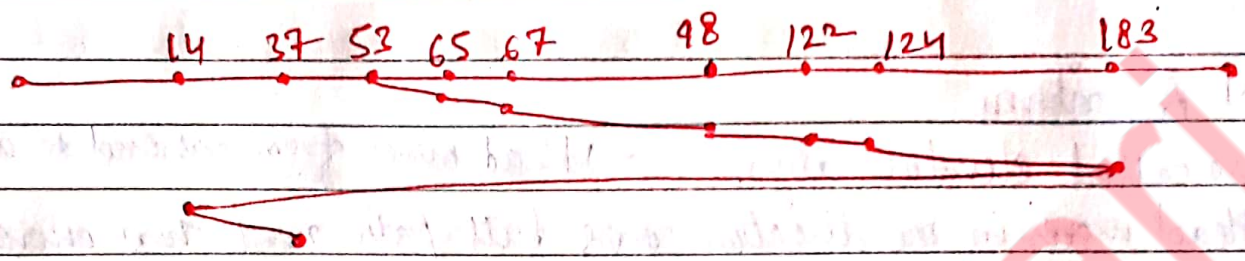


(5) C-Look Scheduling

→ similar to C-SCAN. But arm goes only as far as the final request in each direction. Then it reverses direction immediately without going to the end of the disk.

Example: 98, 183, 37, 122, 14, 124, 65, 67

Head starts at 53

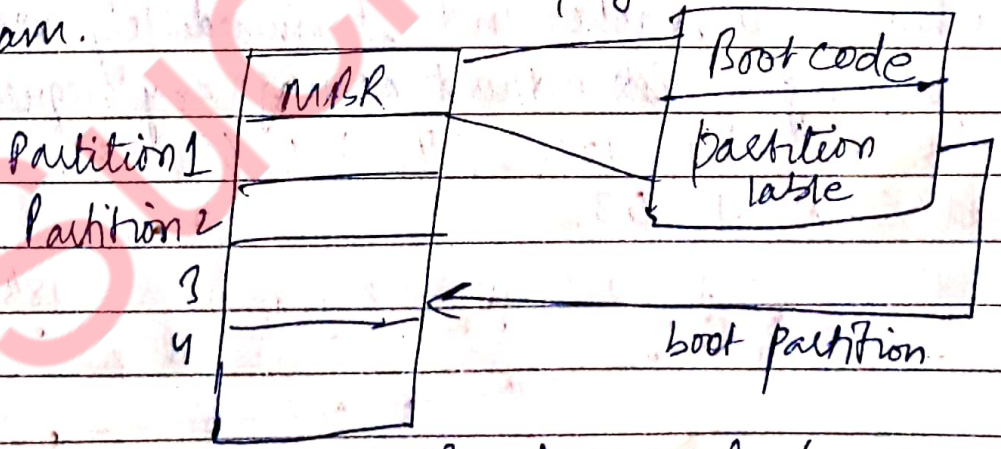


★ Disk Management (1) Disk formatting:

→ Dividing a disk into sectors that disk controller can read & write. This is known as low-level formatting or physical formatting.

→ Partition the disk into one or more groups of cylinders each treated as logical disk.

(2) Boot Block: When system is powered up or rebooted it must have an initial program to run i.e. bootstrap program.



Windows 2000 allows hard disk to be divided into one or more partitions known as boot partitions containing OS & device drivers. First in the begining of booting a Boot code i

which is resident in ROM. This code directs the system to read boot code from MBR. MBR also contains ~~listing~~ table containing listing of partitions. Once system identifies boot partitions it reads first sector from that partition and continues with remainder of boot process

(B) Bad blocks: When one or more sectors becomes defective they are called bad blocks. So the controller can replace each bad sector logically with one of the spare sectors. This scheme is known as sector sparing or forwarding