Q1 Consider a system with 3 page frame and the topology for the page string
7,0,1,2,0,3,0,4,2,3 apply the optimal page.

7	7	7	2	2	2	2	2	2	2
	0	0	0	0	0	0	4	4	4
		1	1	1	3	3	3	3	3

7 0 1 2 0 3 0 4 2 3

(F) (F) (F)

Q2 Compare segmentation with paging as memory management techniques. Evaluate which scheme provides better memory utilization and program flexibility in modern operating system, and justify your answer with suitable example

=> paging => This divides memory in small fixed size blocks called page.
segmentation => the program is divided into various size block called segmentation.

1) => Better memory utilization =>
-> segmentation suffers from external fragmentation as segmentation have located variable memory block and break into many small subsets that is too small
=> paging entire each mapped any will can be used and page. It only having minor internal fragmentation.

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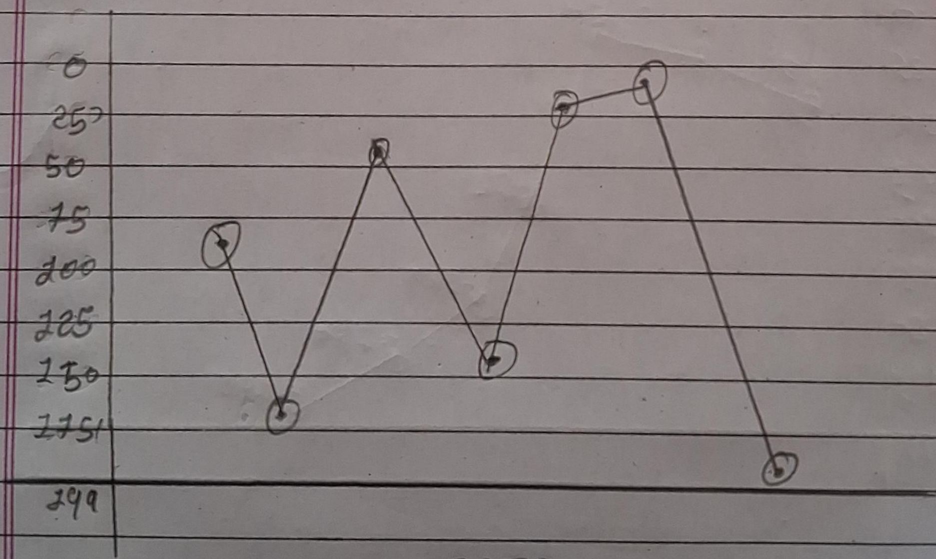
2) Better page flexibility
→ paging is the foundation of virtual memory the can OS to run program that are much long them the physical ...

Q3 A disk queue contains requests for the following tracks
82, 170, 43, 140, 24, ~~20~~ 16, 190
The disk head is currently at position 50 and move for high number tracks FCFS, SSTF, SCAN

1) FCFS



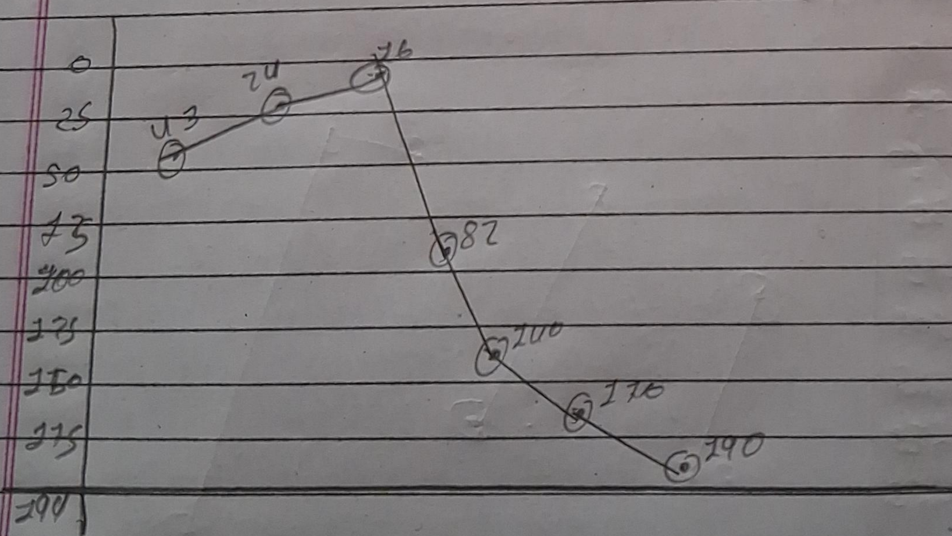
FCFS

2026

next track accessed	numbers of tracks
82	32
170	88
43	127
140	97
24	116
16	8
190	174

642 = 91.71

2) SSTF



Next tracks ucc	number of Tracks
43	7
24	19
16	8
82	66
140	58
170	30
190	20
	29.71

3) SCAN