

# Assignment #5

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## Disk scheduling algorithms:

Suppose that a disk drive has 5000 cylinders, numbered 0 to 4999. The drive is currently serving a request at cylinder 2255, and the previous request was at cylinder 1723. The queue of pending requests, in FIFO order, is:

Previous	1723									
Current	2255									
Queue	2055	1175	2304	2700	513	1680	256	1401	4922	3692
Sorted	256	513	1175	1401	1680	2055	2304	2700	3692	4922

**Q1:** For each of the following disk-scheduling algorithms, starting from the current head position, what is the order of cylinders visited by the head?

**Q2:** What is the total distance (in cylinders) that the disk arm moves to satisfy all the pending requests for each of the following disk-scheduling algorithms?

## FCFS:

First Come First Serve

**A1.1:**

2055	1175	2304	2700	513	1680	256	1401	4922	3692
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**A1.2:**

Total Distance = 13,079

## SSTF:

Shortest Seek Time First

**A2.1:**

2055	2304	2700	3692	4922	1680	1401	1175	513	256
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**A2.2:**

Total Distance = 7533

## SCAN: Elevator Algorithm

Serving in both directions and always starts at cylinder 0 to the highest cylinder and then reverses direction

**A3.1:**

2055	2304	2700	3692	4922	4999	1680	1401	1175	513	256
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**A3.2:**

Total Distance = 7687

## LOOK:

Similar to SCAN in serving in both directions, however it reverses as soon as there is no more requests in the moving direction

**A4.1:**

2055	2304	2700	3692	4922	1680	1401	1175	513	256
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**A4.2:**

Total Distance = 7533

## C-SCAN:

Similar to SCAN but serving in one direction only

**A5.1:**

2055	2304	2700	3692	4922	4999	0	256	513	1175	1401	1680
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**A5.2:**

Total Distance = 9623

## C-LOOK:

Correspond to C-SCAN. Similar to LOOK but serves in one direction only.

**A5.1:**

2055	2304	2700	3692	4922	256	513	1175	1401	1680
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**A5.2:**

Total Distance = 8957