Disk Scheduling

Cs347 m lecture
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Disk

Head moves

Rotating platters

Tracks – outer to inner

Sectors – logical blocks on the tracks

Cylinder – all those tracks with same track on each platter

Sector 0 first block on outtermost track

Per sector typically 512 bytes, 1kb, 2kb, 4kb

Two heads- per platter, one on each side

Performance

- Seek time
  - Move the head to the desired cylinder
- Rotational Latency time
  - Time for the disk to rotate so that the sector comes under the head
- Disk bandwidth
    - Bytes per second (consider total time)

Disk scheduling
--minimise seek time--

- FCFS
- Shortest seek time first
- SCAN
- LOOK
- C-SCAN
- C-LOOK

Work out total seek movemement in terms of cyclinders

- Requests: 10 100 11 55 88 3 167 9
- say Head starts at 0. At the end, it stays at 9

fcfs

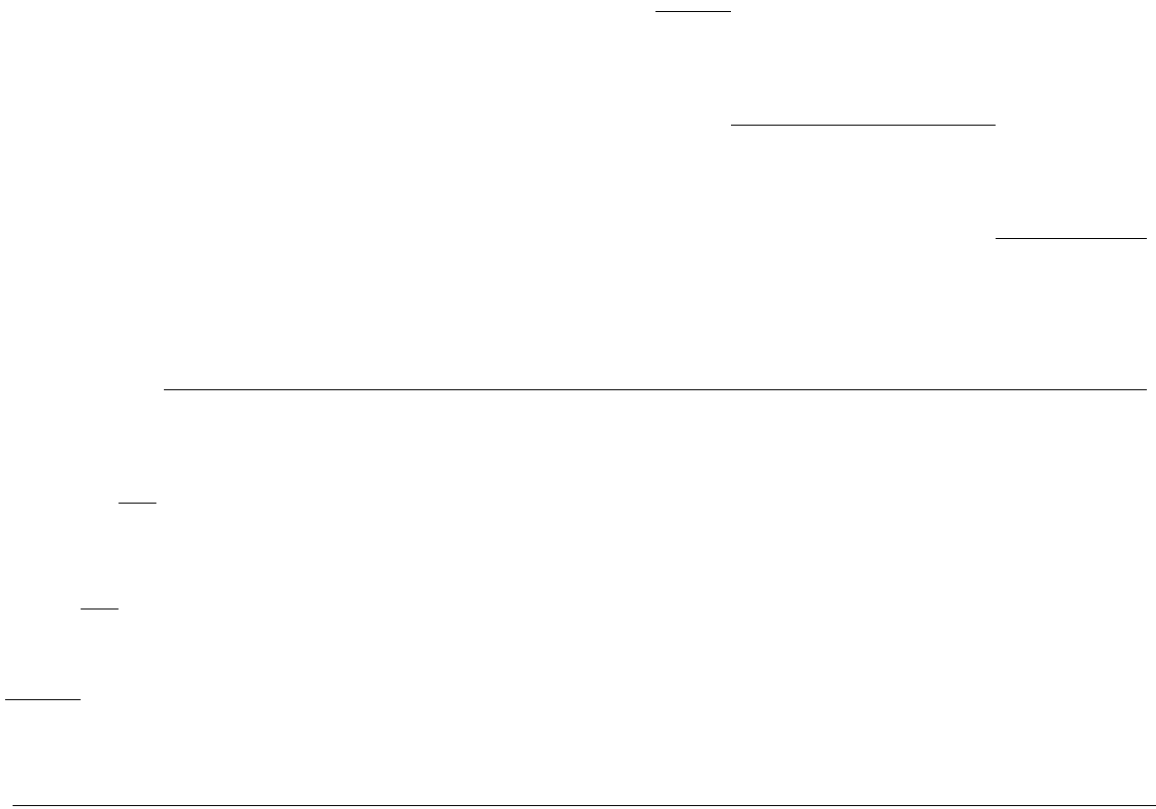
Work out total seek movemement in terms of cyclinders

- Requests: 10 100 11 55 88 3 167 9
- if Head starts at 35.

fcfs

Work out total seek movemement in terms of cyclinders

- Requests: 10 100 11 55 88 3 195 9
- if Head starts at 35



sstf

Work out total seek movemement in terms of cyclinders

- Requests: 10 100 11 55 88 3 195 9
- if Head starts at 35

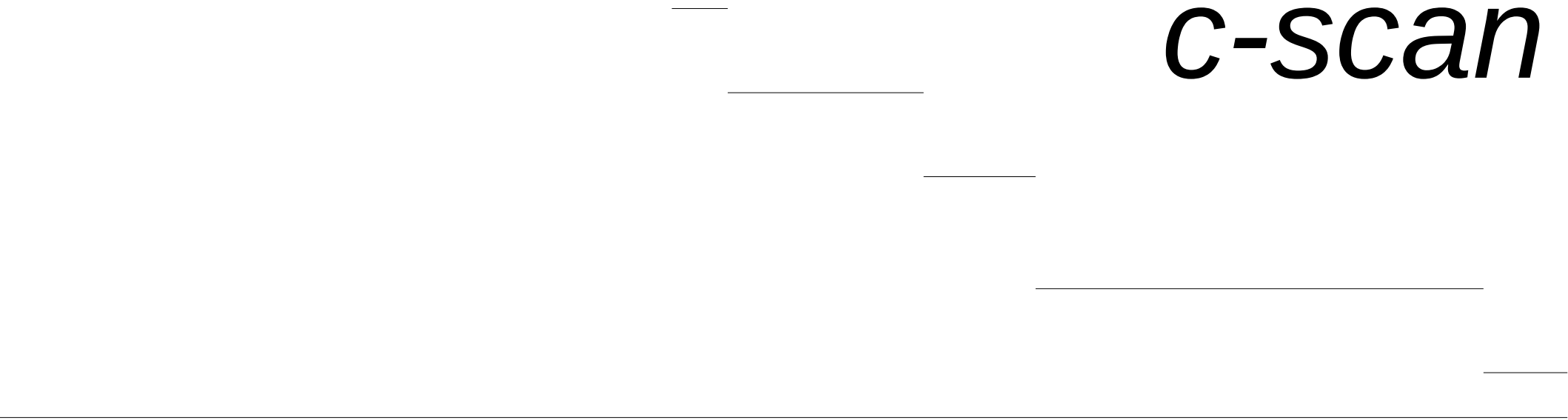
scan

end to end, serve in both directions like an elevator

Work out total seek movemement in terms of cyclinders

- Requests: 10 100 11 55 88 3 195 9
- if Head starts at 35

c-scan

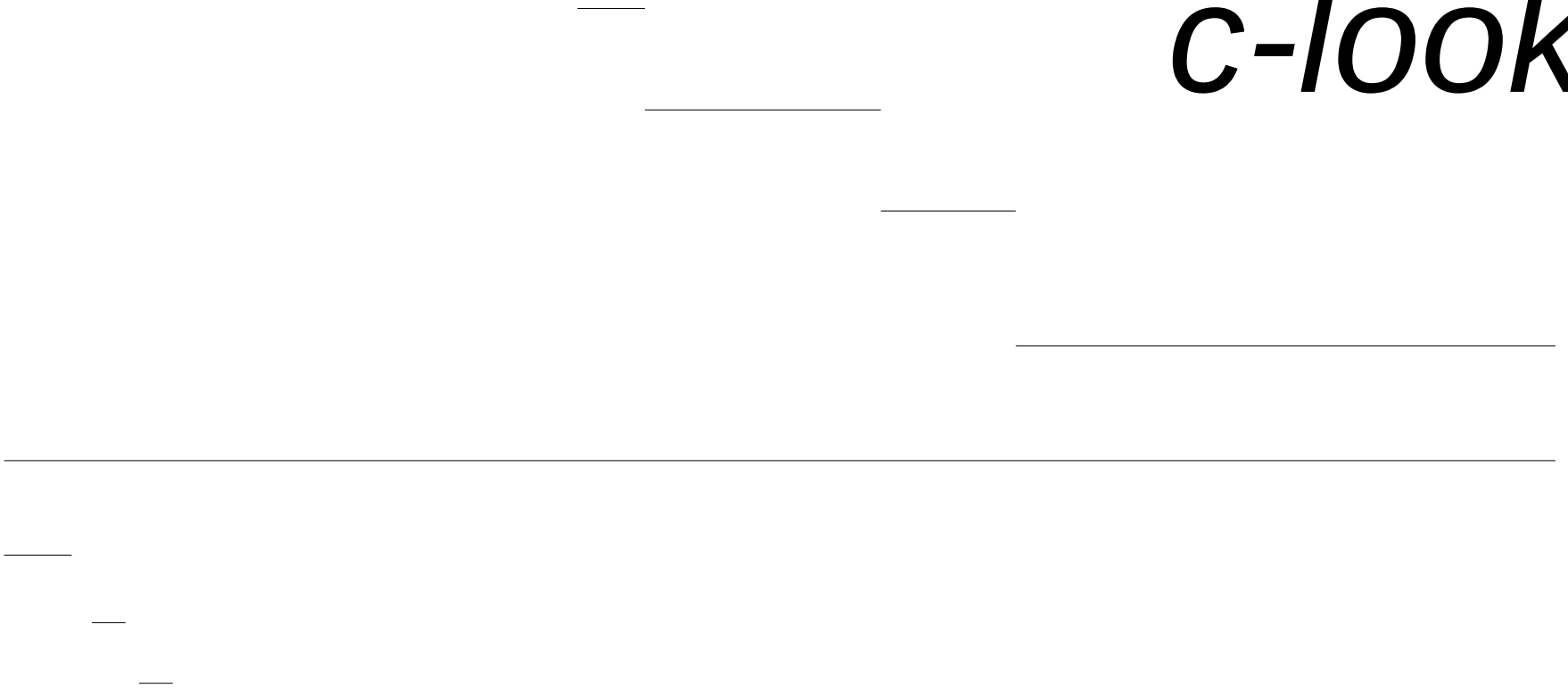


move to one end, reset and restart

Work out total seek movemement in terms of cyclinders

- Requests: 10 100 11 55 88 3 195 9
- if Head starts at 35

c-look

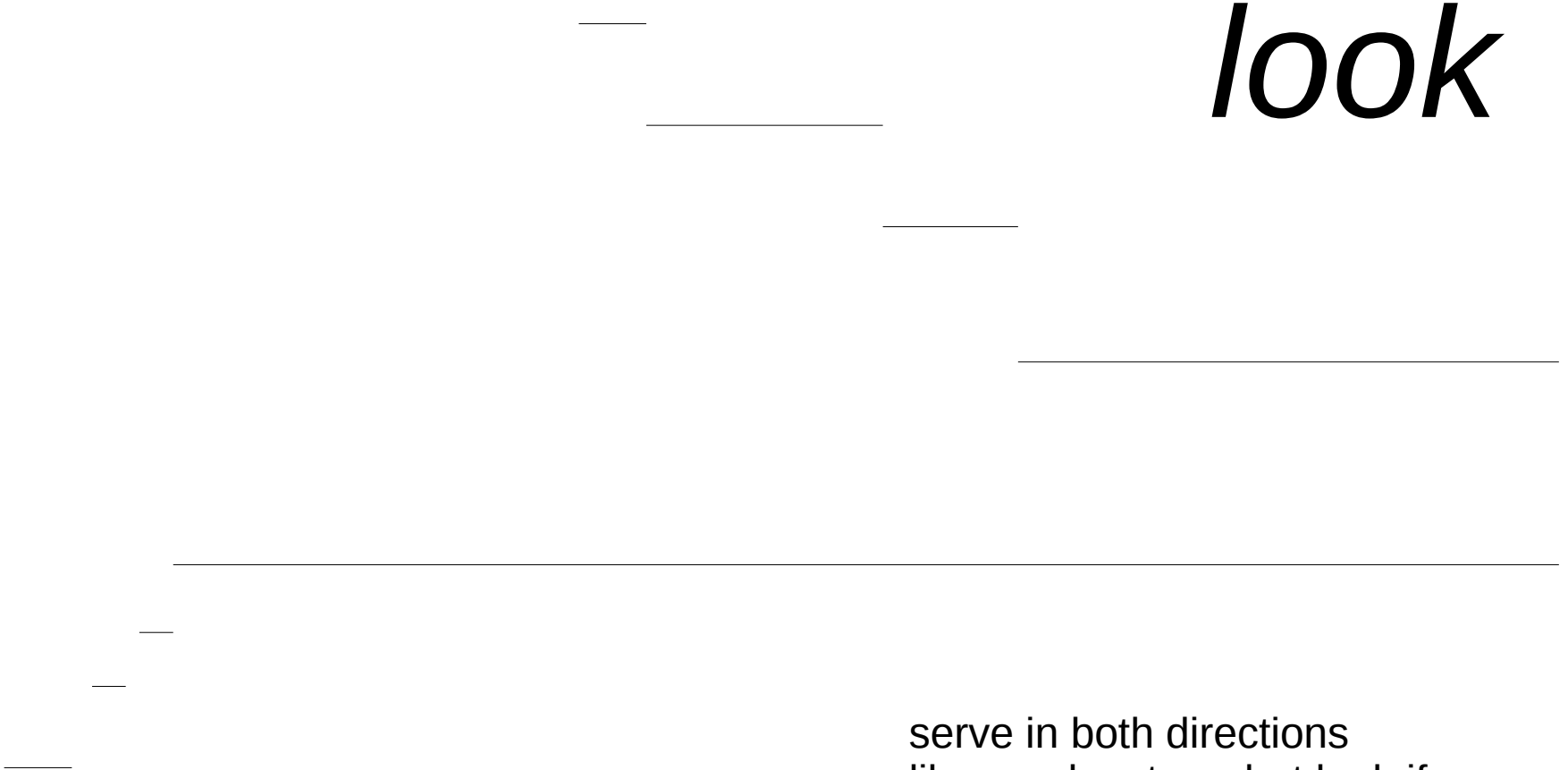


move to one end, reset and restart but look if you really need to reach till the end!

Work out total seek movemement in terms of cyclinders

- Requests: 10 100 11 55 88 3 195 9
- if Head starts at 35

look



serve in both directions
like an elevatorm but look if you really need to reach the end