

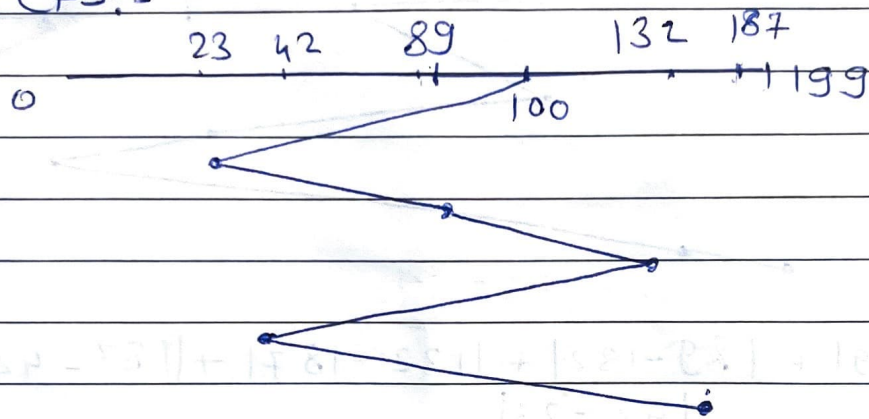
Disk Scheduling

Ex ① Work queue - 23, 89, 132, 42, 187

There are 200 cylinders numbered from 0 - 199.

disk head starts at number 100.

① FCFS:-



Total head movement -

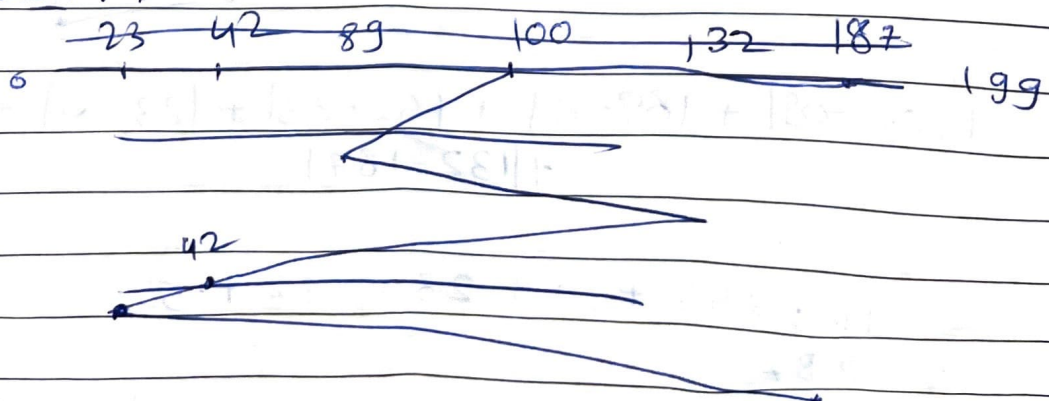
$$(100 - 23) + |23 - 89| + |89 - 132| + |23 - 132| + |132 - 42| + |42 - 187|$$

$$= 77 + 66 + 43 + 109 + 90 + 145$$

$$= 530$$

$$\frac{530}{5} = 106$$

② SSTF:-



8

② SSTF

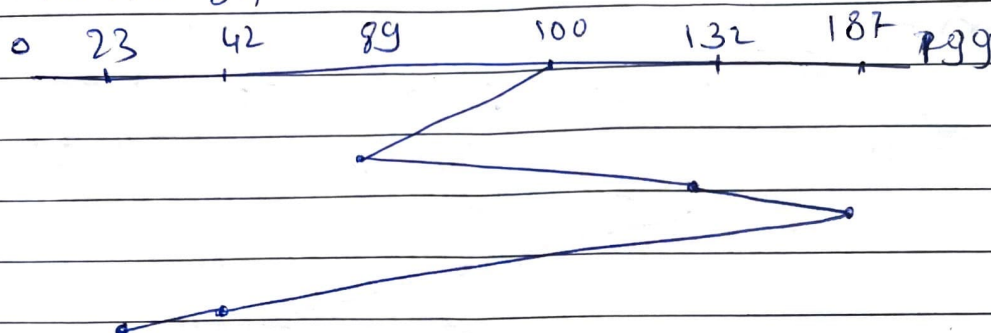
$$|100 - 23| = 77$$

$$|100 - 89| = 11 \leftarrow \text{start with this}$$

$$|100 - 132| = 32$$

$$|100 - 42| = 58$$

$$|100 - 187| = 87$$



$$|100 - 89| + |89 - 42| + |42 - 23| + |23 - 0| + |0 - 132| + |132 - 187| + |187 - 199|$$

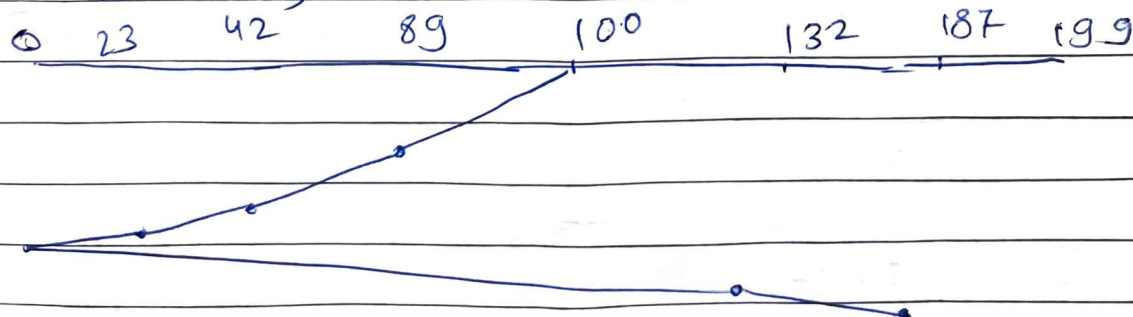
$$= 11 + 47 + 19 + 23 + 132 + 55 + 12$$

$$= 273$$

$$\& \frac{273}{5} = 54.6 \text{ Avg seek time}$$

③ SCAN

Assume we are going inwards (i.e towards left $\rightarrow 0$)



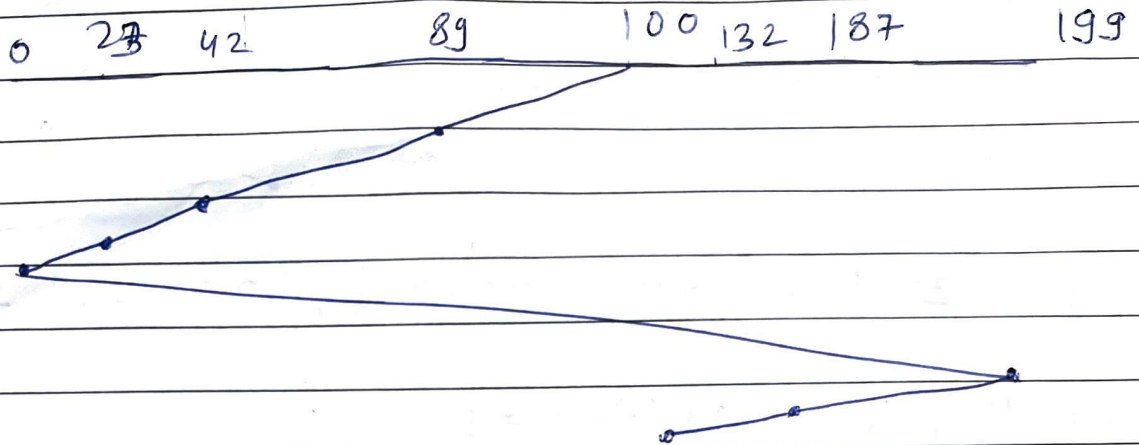
$$|100 - 89| + |89 - 42| + |42 - 23| + |23 - 0| + |0 - 132| + |132 - 187| + |187 - 199|$$

$$= 11 + 47 + 19 + 23 + 132 + 55 + 12$$

$$= 287$$

$$\frac{287}{5} = 57.4 \text{ Avg seek time}$$

④ C-SCAN - (going towards one end & then other end)



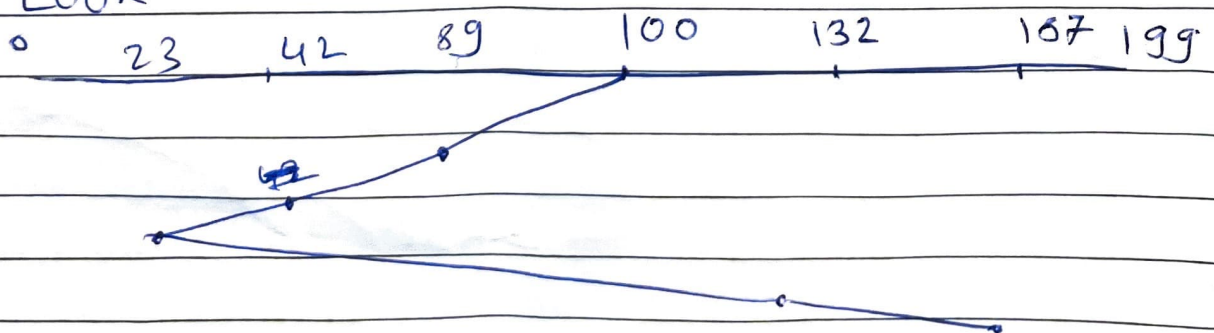
$$= |100 - 89| + |89 - 42| + |42 - 23| + |23 - 0| + |0 - 199| + |199 - 187| + |187 - 132|$$

$$= 11 + 47 + 19 + 23 + 199 + 12 + 45$$

$$= 356$$

$$\frac{356}{5} = 71.2 \quad \text{Avg. seek time}$$

⑤ Look

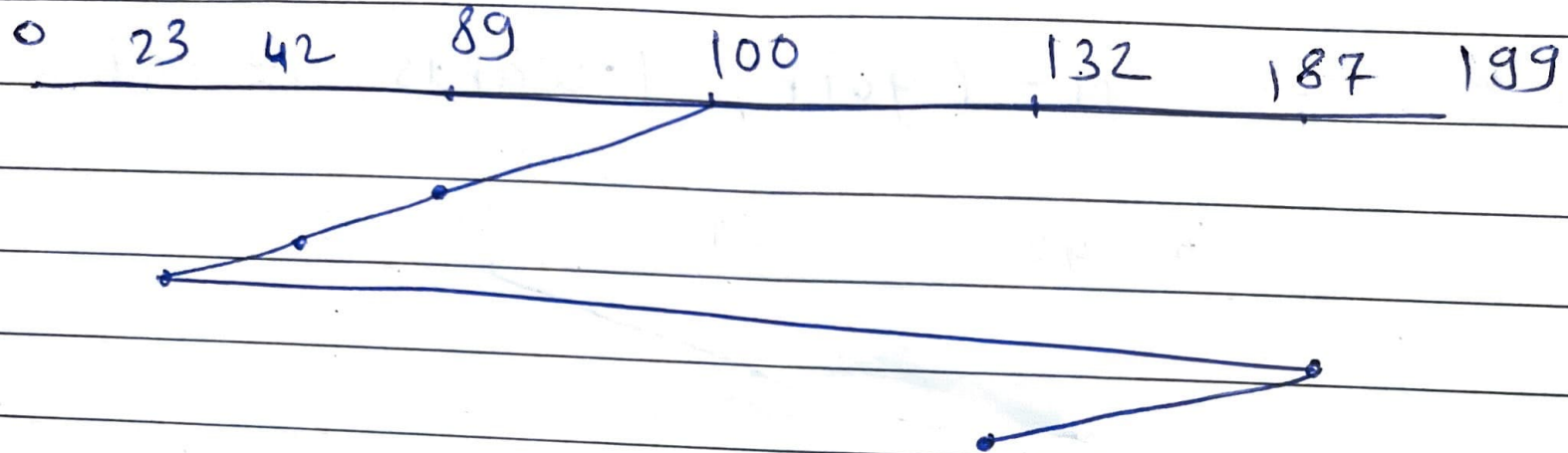


$$|100 - 89| + |89 - 42| + |42 - 23| + |23 - 132| + |132 - 187|$$

$$= 11 + 47 + 19 + 109 + 55 = 241$$

$$= \frac{241}{5} = 48.2 \quad \text{Avg. seek time}$$

⑥ C-LOOK



$$\begin{aligned}
 & |100 - 89| + |89 - 42| + |42 - 23| + |23 - 0| + |0 - 187| + |187 - 199| + |199 - 132| \\
 &= 11 + 47 + 19 + 23 + 187 + 12 + 67 \\
 &= 296
 \end{aligned}$$

$$\frac{296}{5} = 59.2 \text{ Avg seek time.}$$