Disk

block read time

seek time + rot latency + transfer time

head
platter
surface
cylinder
spindle
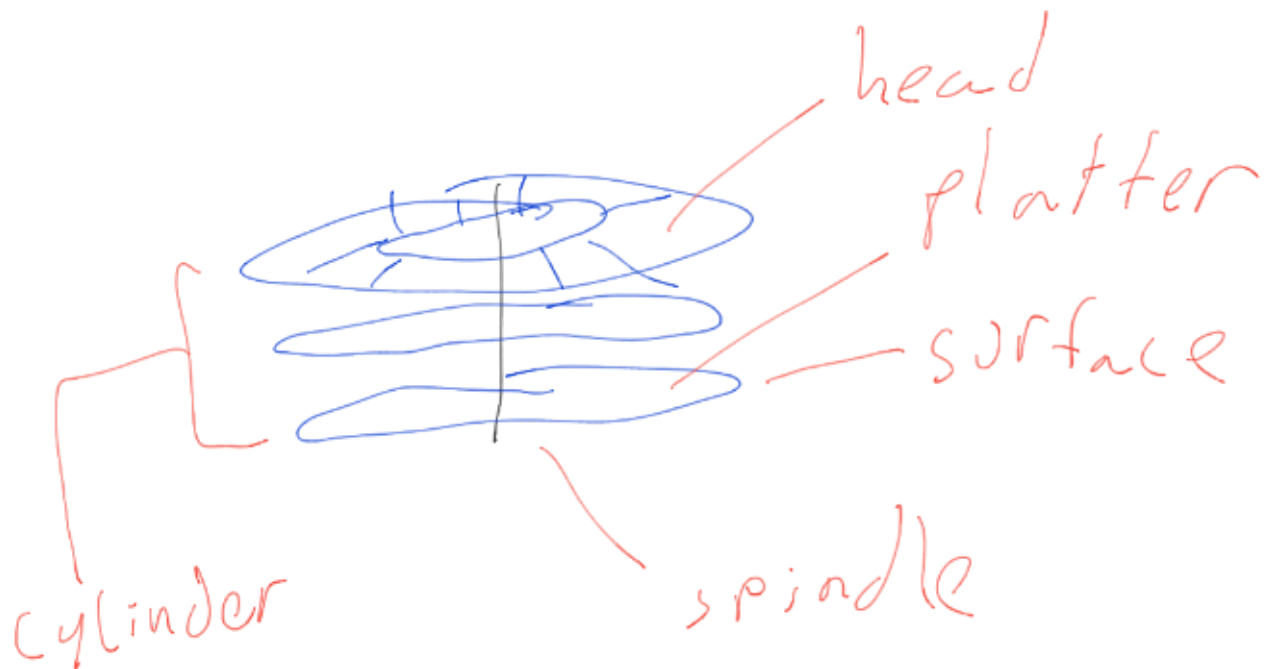
Scheduling

83, 72, 14, 147, 16, 150, 65

Start here

FIFO

$|65 - 150| = 85$
$|150 - 16| = 134$
$|16 - 147| = 131$
$|147 - 14| = 133$
$|14 - 72| = 58$
$|72 - 83| = 11$

$$\boxed{552 \text{ tracks}}$$

SSTF

14 16 150 147 83 72 (65)

$$
\begin{array}{l|l}
65\text{-}72 & =7 \\
72\text{-}83 & =11 \\
83\text{-}147 & =64 \\
147\text{-}150 & =3 \\
150\text{-}16 & =134 \\
16\text{-}14 & =2
\end{array}
$$

$$\boxed{221 \text{ tracks}}$$

Elevator

150 147 83 72 14 16 (65)

$$
\begin{array}{l|l}
65-16 & =49 \\
16-14 & =2 \\
14-72 & =58 \\
72\text{-}83 & =11 \\
83-147 & =64 \\
147-150 & =2
\end{array}
$$

$$\boxed{187 \text{ tracks}}$$

CSCAN

$$\left| \begin{matrix} 65 - 16 \\ 16 - 14 \\ 150 - 147 \\ 147 - 83 \\ 83 - 72 \end{matrix} \right| \begin{matrix} = 49 \\ = 2 \\ = 3 \\ = 64 \\ = 11 \end{matrix}$$

729 tracks

Improving Performance

partition = collection of cylinders
& treated as 2 disks

SSD = no moving parts
~ read block (tens of us)
~ write block (tens of us)
~ erase block (several ms)

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