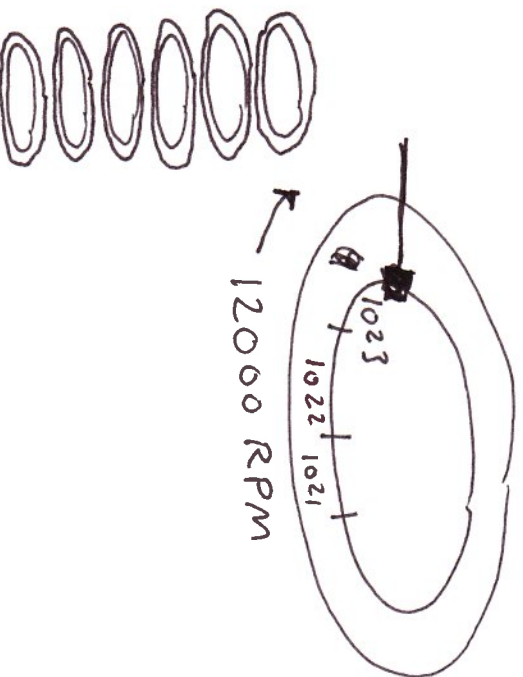


How long does it take to read a disk with 500 cylinders, each containing six tracks, of 1024 sectors?

First, all the sectors of track 499 are to be read starting at sector 1023, ~~then~~ (counting down), then all the sectors of track 498, starting at sector 1023 and so on.

The rotation rate is 12000 RPM, and a ~~sector~~ 12 msec 3 msec between adjacent cylinders and switching between tracks of a cylinder for the worst case.

- (a) can be done instantaneously
(b) takes 1 msec



(a) 12000 RPM \Rightarrow $\frac{5 \text{ msec}}{\text{revolution}}$

avg: takes $\boxed{6 \text{ msec}}$ to find track 499

with $\boxed{2\frac{1}{2} \text{ msec}}$ for sector 1023

takes $6 + 5 \text{ msec} = \boxed{30 \text{ msec}}$ to read all tracks 499 of cylinder 499

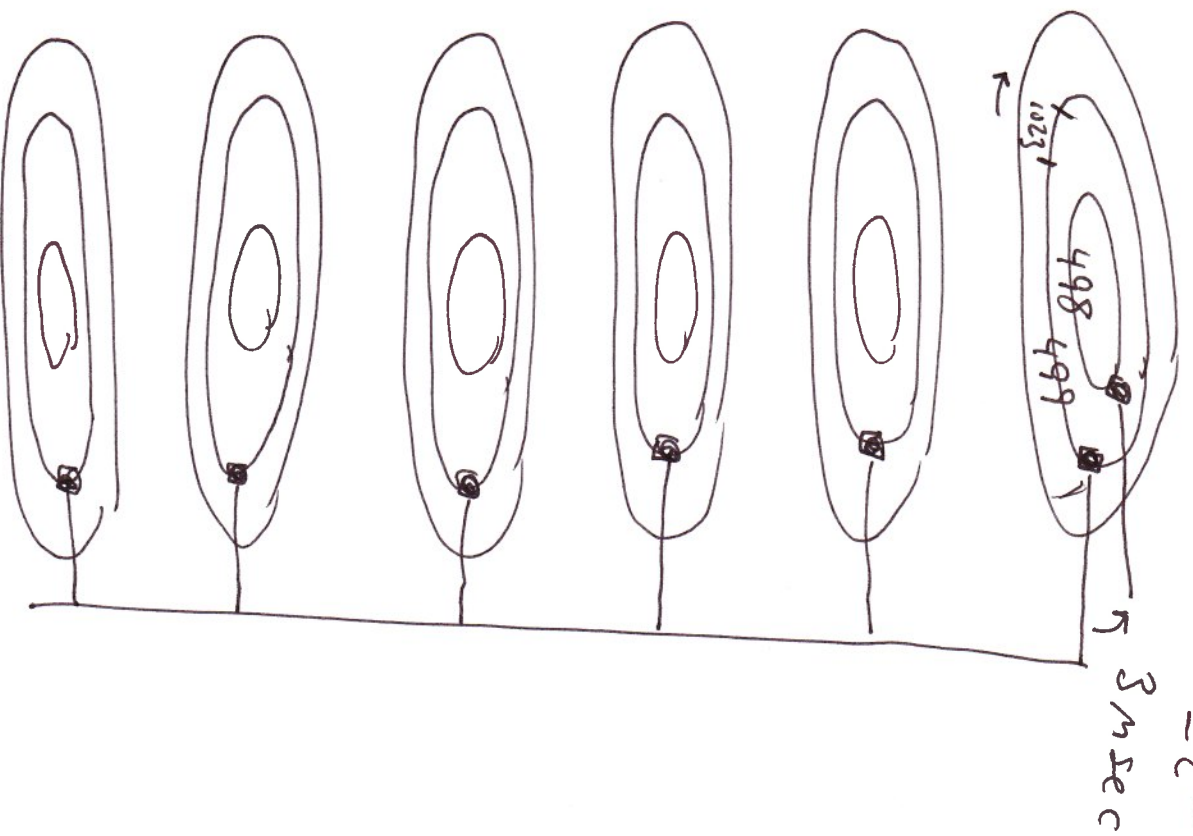
Repeat 500 times

wait for $5 - 3 = \boxed{2 \text{ msec}}$ for sector 1023 to return

takes 5 msec away one time
don't move or wait after reading track 0

$6 + 2\frac{1}{2}$
 $17500 - 5$

$17503\frac{1}{2} \text{ msec}$



(b) Add 1 msec move time + 4 msec wait - for sector - 1023 - time per platter "move": $6 \times 5 \times 498 = 0$ or add $5 \times 5 \times 498$ is also fine
already taken into account

Starting chapter 3

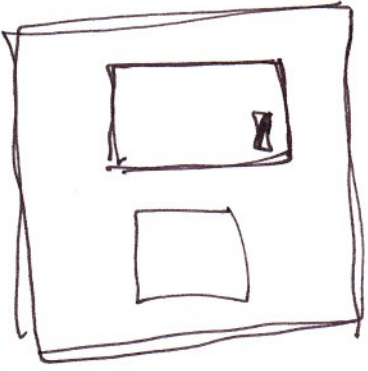
work for a company

50k

80k

///

2x
1 1/2



~~make~~ own company

own hours

no boss

more freedom

accomplishment

your ideas

learn

network

partner

independence

resume

← direct stakeholders

markus friend

ian reid

- Quiz:
- HDD
 - everything from Tuesdays lab
 - Hamming
 - cache