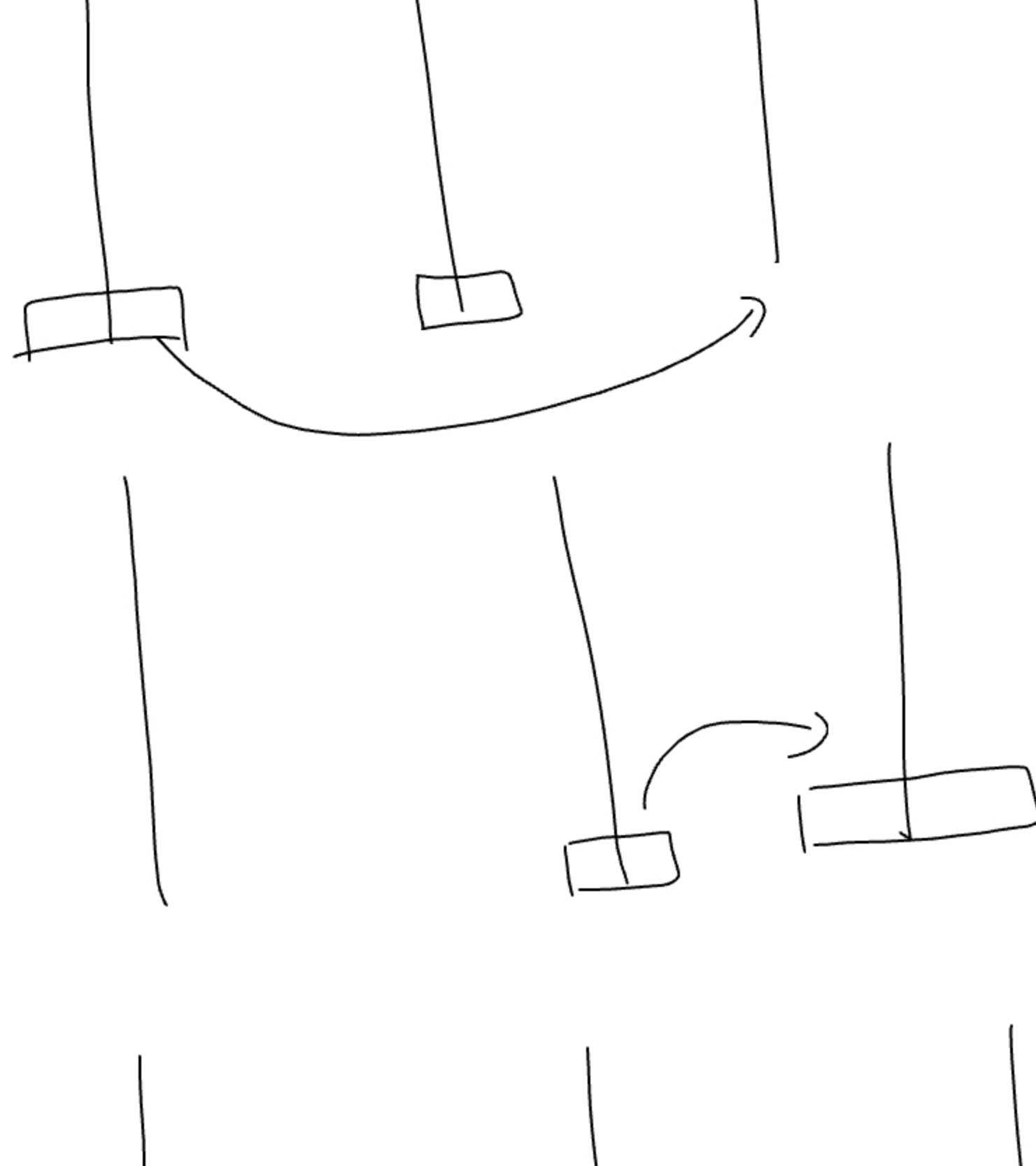
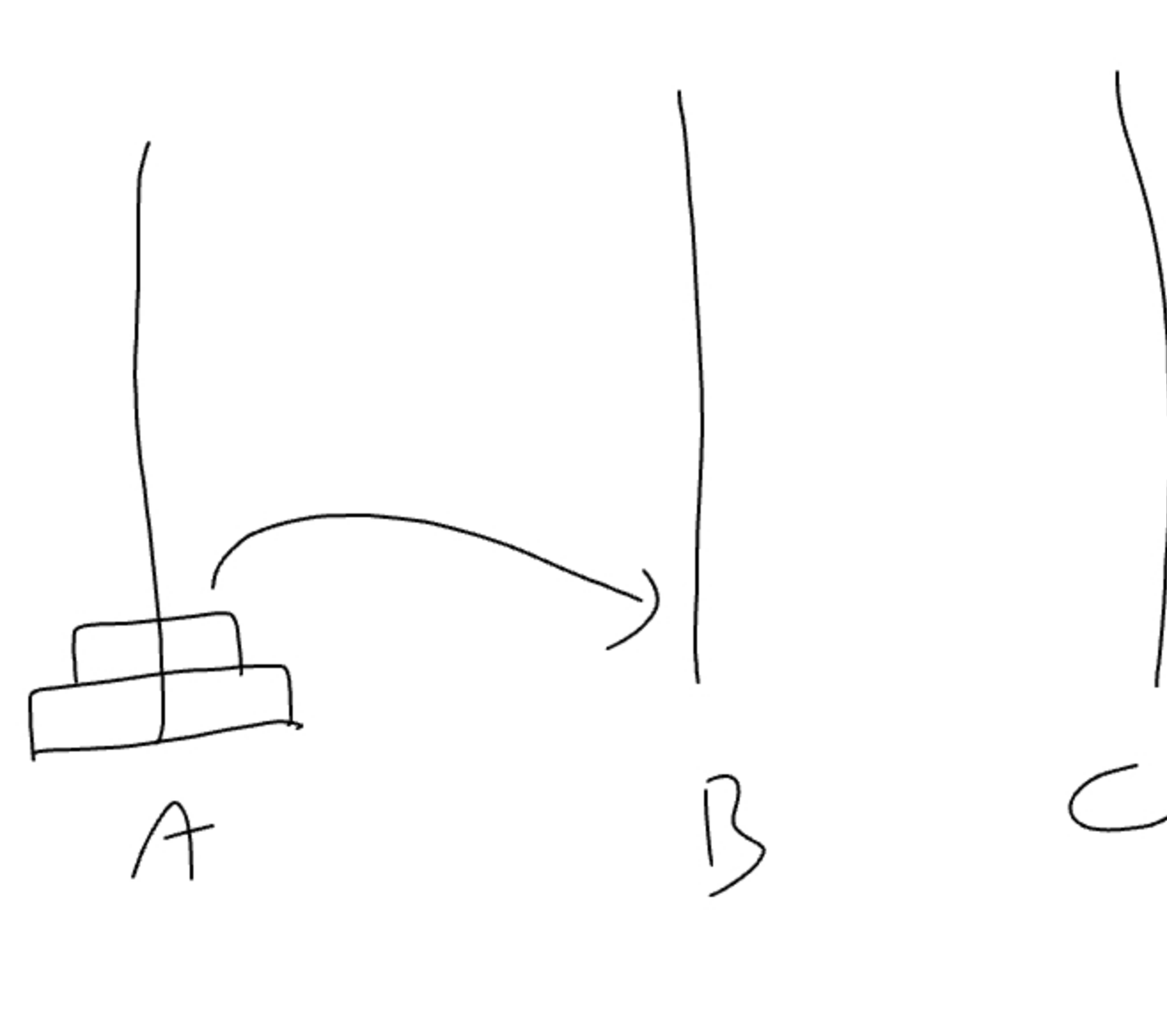
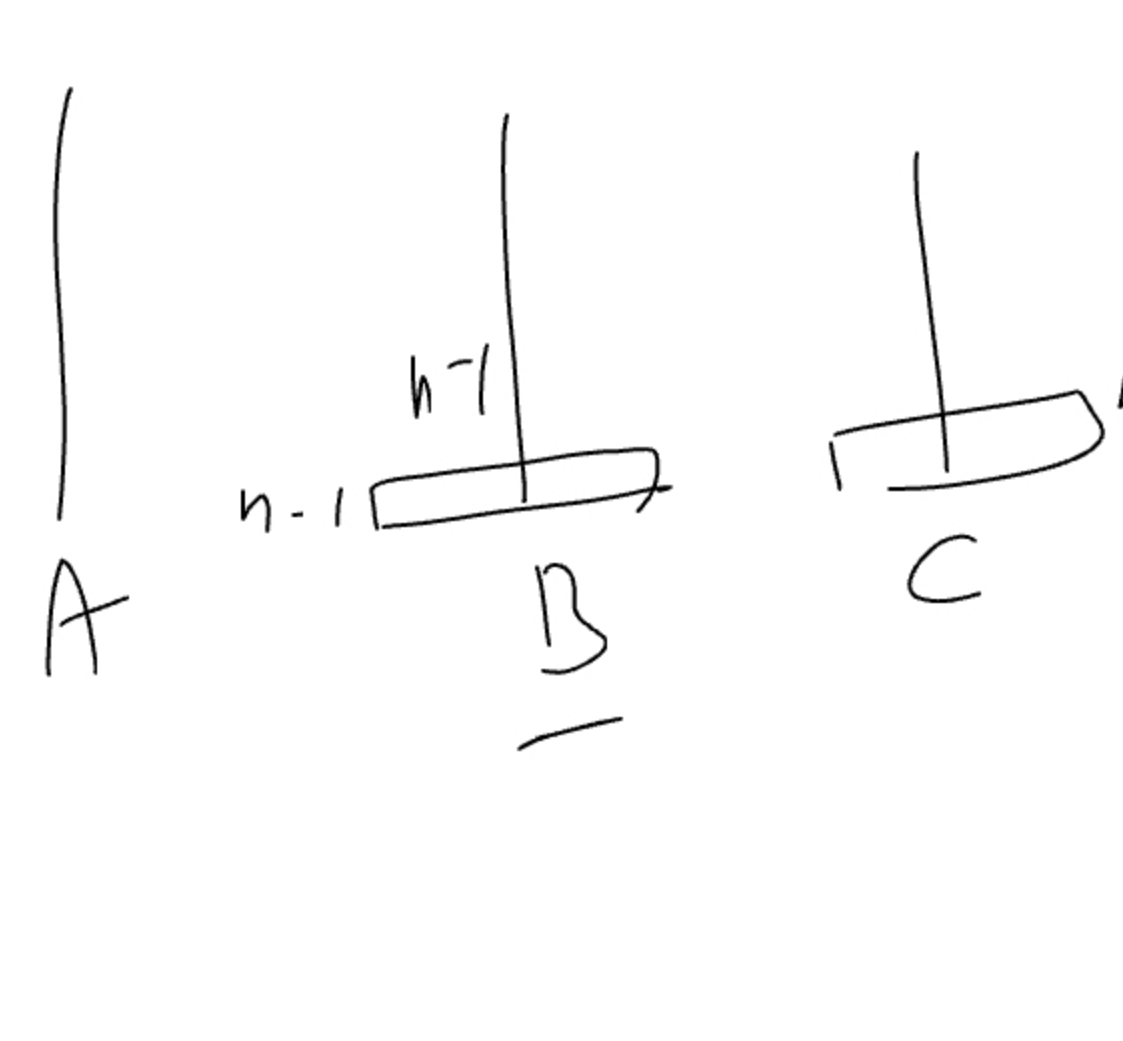
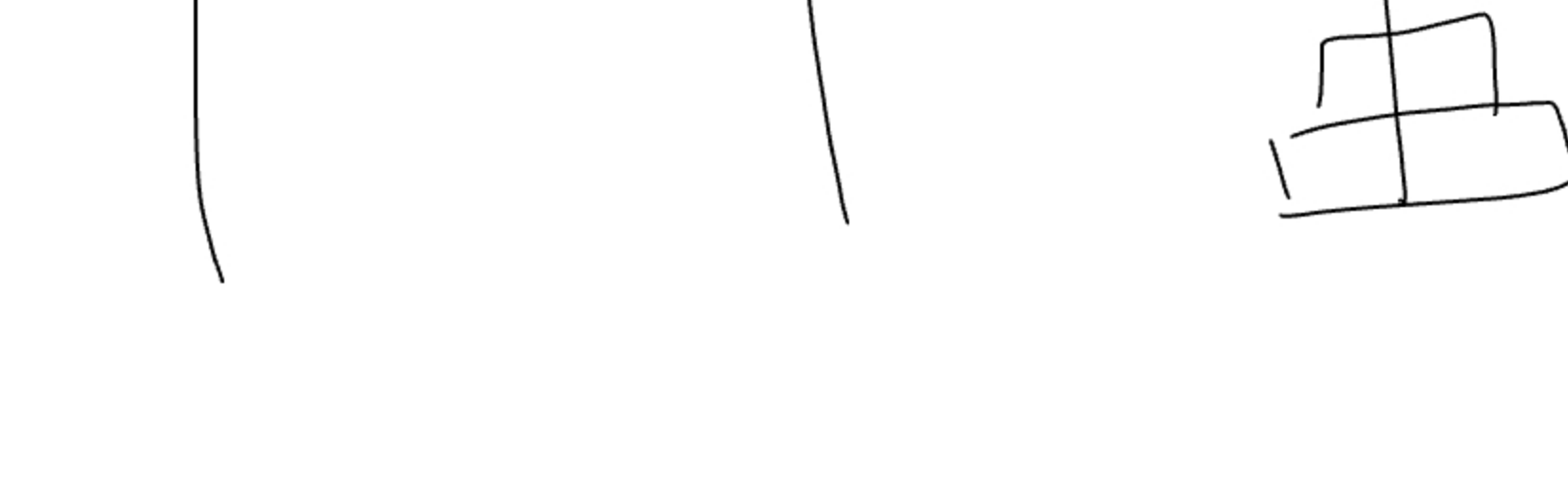


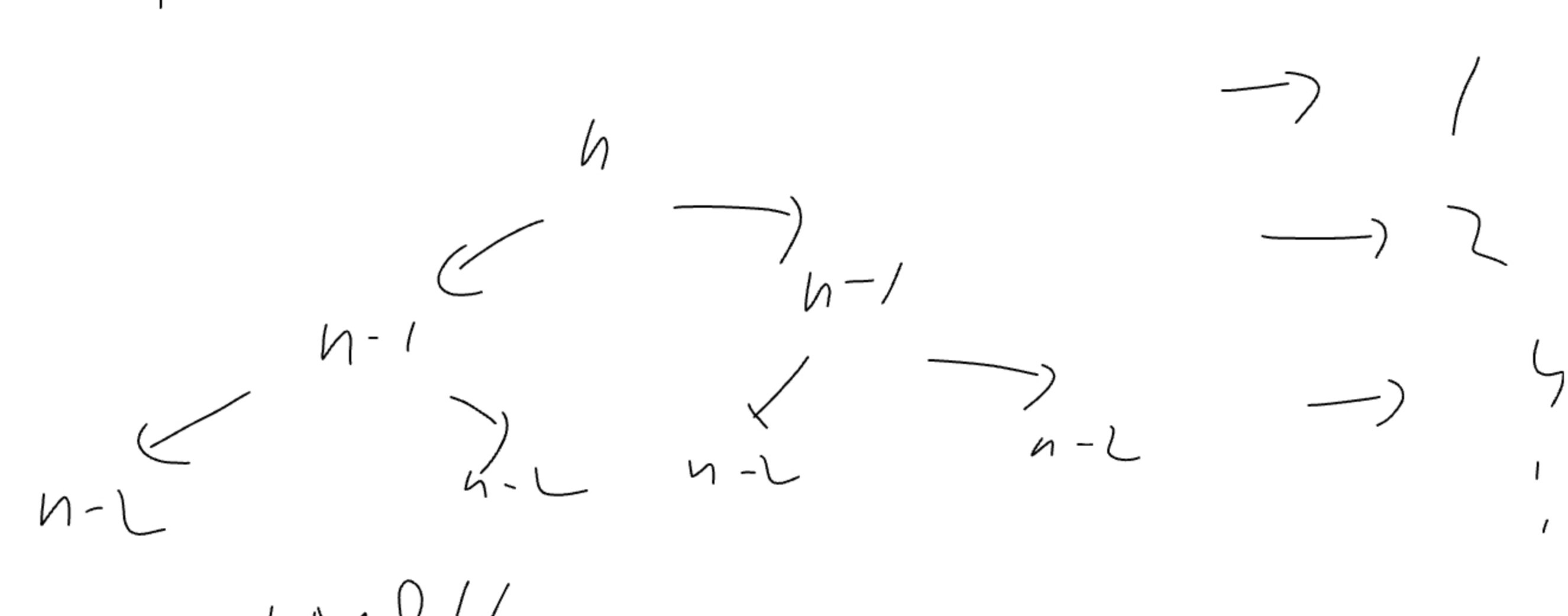
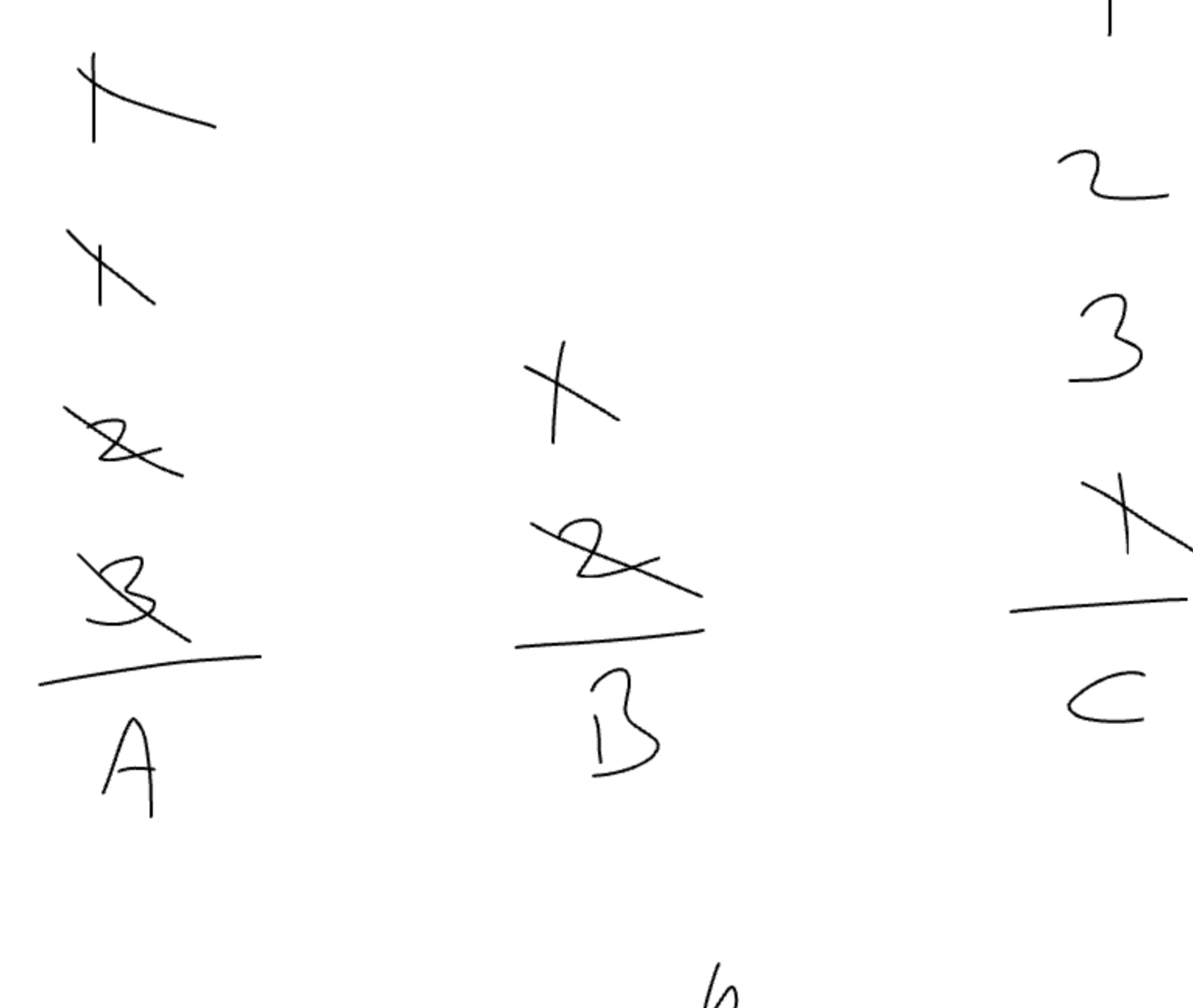
$n=2$



O/P = 3



- 1) Moving $(n-1)$ disks from A to B using C
- 2) Move n^{th} disk from A to C
- 3) Moving $(n-1)$ disks from B to C using A



IMP!!

Recursion TC

Step-1: Calculate the work done by the func ignoring the recursive calls $\rightarrow x$

Step-2: Calculate the upper limit on the no. of nodes in the rec. tree $\rightarrow y$

Step-3: $TC = O(xy)$

Rec AS

Height of the tree \times (AS occupied by each func call)

$fun([2, 3])$ $2 \rightarrow \underline{ABC}$
 $3 \rightarrow \underline{DEF}$

$[AD, AE, AF, BD, BE, BF, CD, CE, CF]$

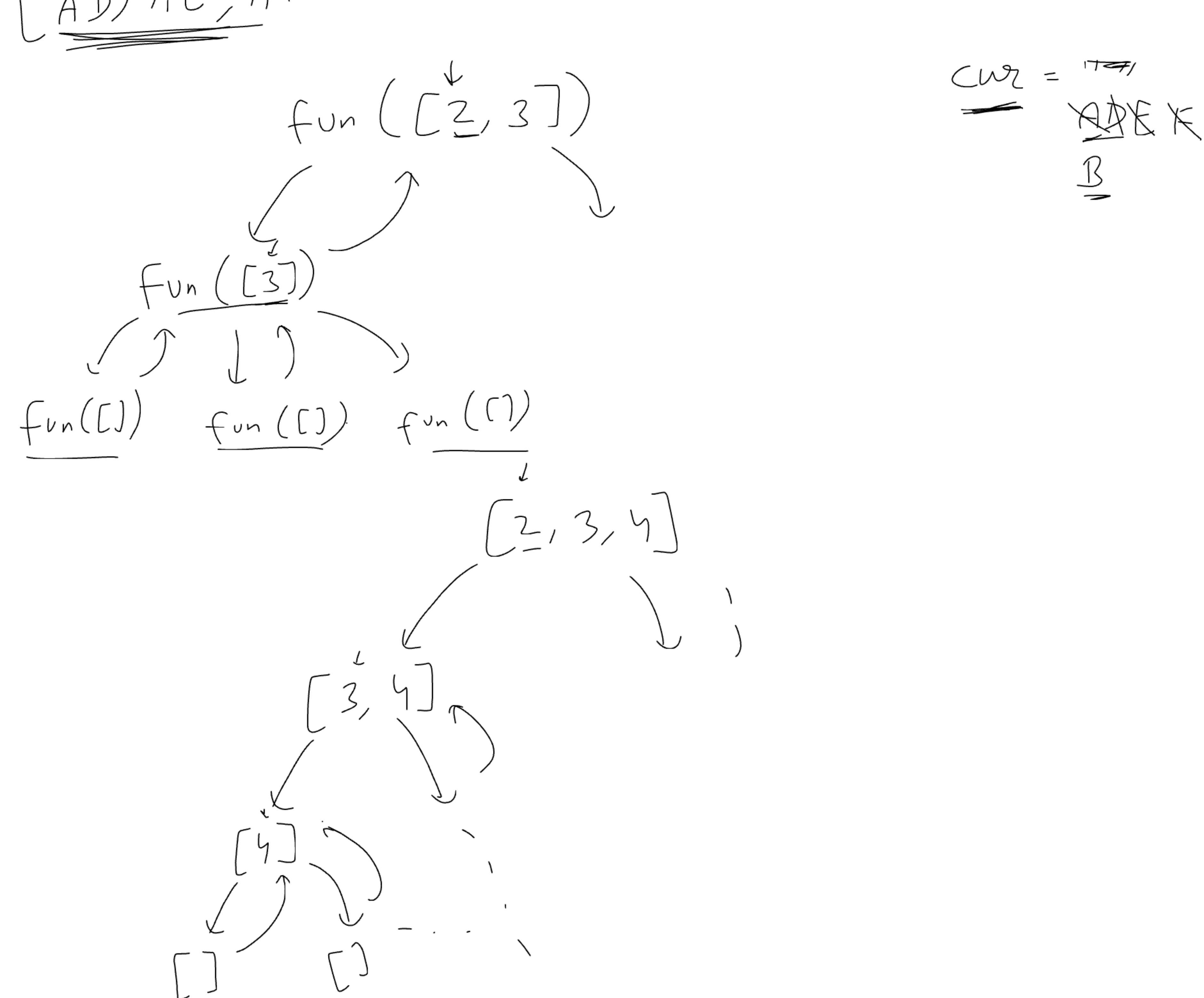
$fun([3])$ $\rightarrow [D, E, F]$

$fun([2, 3])$ $\rightarrow [AD, AE, AF, BD, BE, BF, CD, CE, CF]$

$fun([2])$ $\rightarrow [A, B, C]$

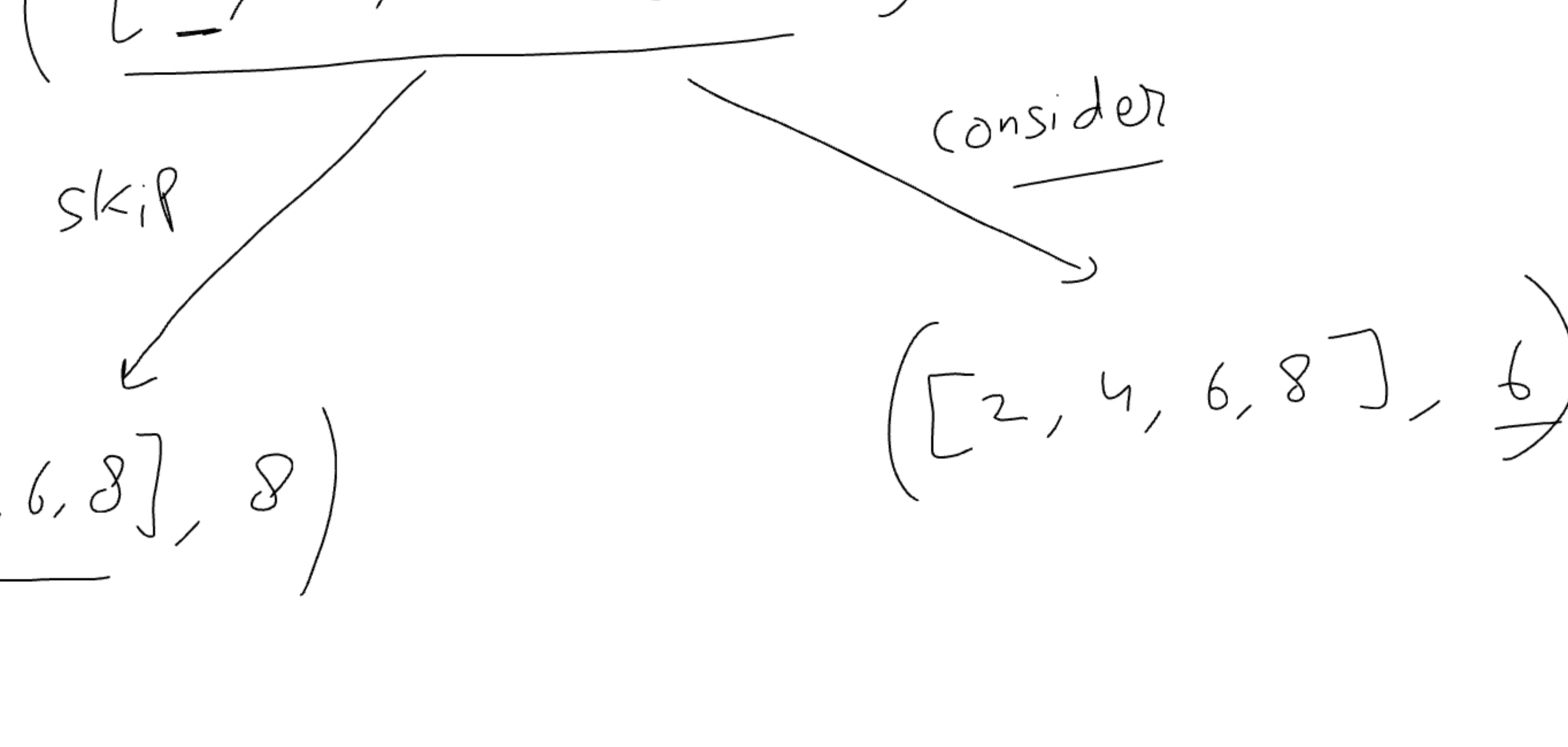
$fun([2, 3])$ $\rightarrow [AD, AE, AF, BD, BE, BF, CD, CE, CF]$

$[AD, AE, AF]$



cur = 1
~~AD~~
~~BE~~
~~CF~~
B

$([2, 4, 6, 8], 8)$



$([4, 6, 8], 8)$ $([2, 4, 6, 8], 6)$

$[2, 4, 6], 0$

$[2, 4, 6], 6$ $[2, 4, 6], 0$

$[2, 4, 6, 8], 8$



$\Rightarrow TC = O(2^{\max(n, \log_2 tar)})$