[1, 2, 3, 4, 5, 6, 7, 8, 9, 10] d = 5

order of the packages is

imp

Capacity → Max wt the Ship can carry

Minimum Capacity of the Ship

Minimize the max wt. Ship can carry

tw = 10 days lost = 0 1 2 3 4

mid = 15

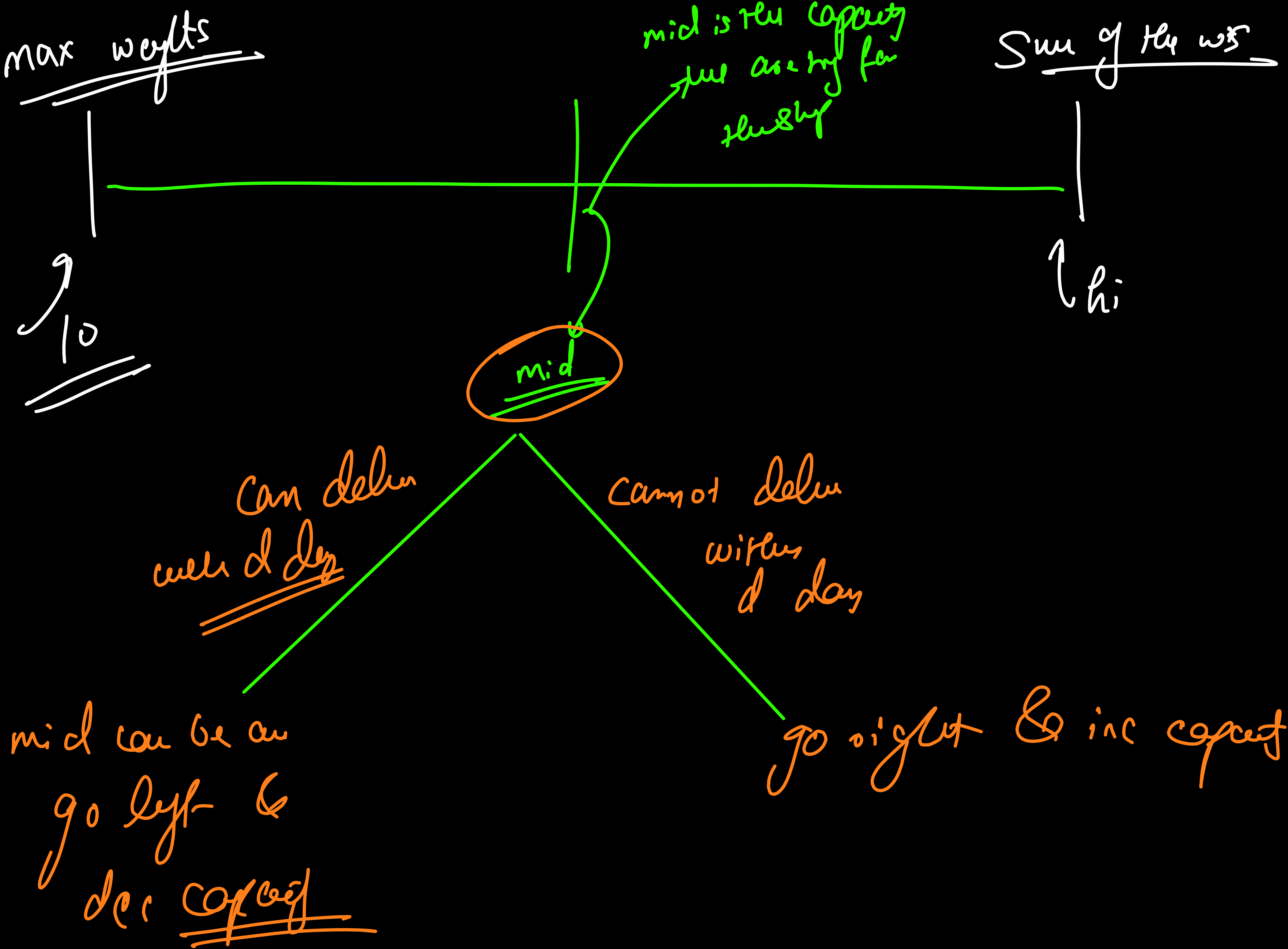
[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

Can the min capacity be 15 kg ??

The bare min capacity should be max (weights)

Reduce it to 9

B.S



max → Sum of cycles

$O(n)$

$\log(\text{sum} - \max) \approx \log \text{sum}$

$O(n \log(\text{sum of cubes}))$

Space $O(1)$

minimize the maximum diff → B.S

$p_1 \to 2$

$p_2 \to 1$

$p_3 \to 6$

cap 4

$|x - y|$ → absolute diff

$|-7| \to 7$

$|7| \to 7$

$p_1 \to 3$

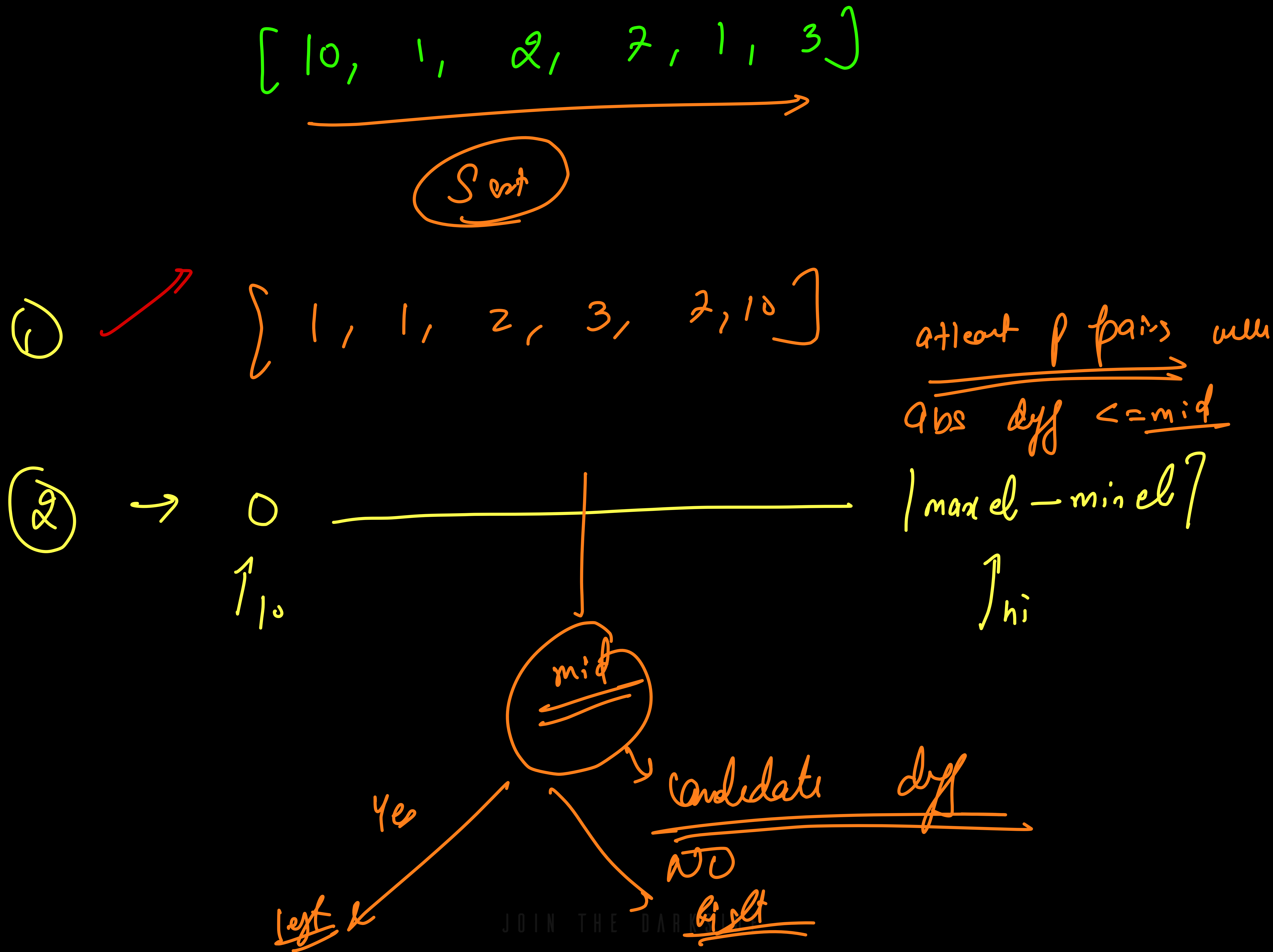
$p_2 \to 4$

$p_3 \to 5$

cap 2

→ $|x - y|$ → very large $x \longleftrightarrow y$

→ very less → x & y closer

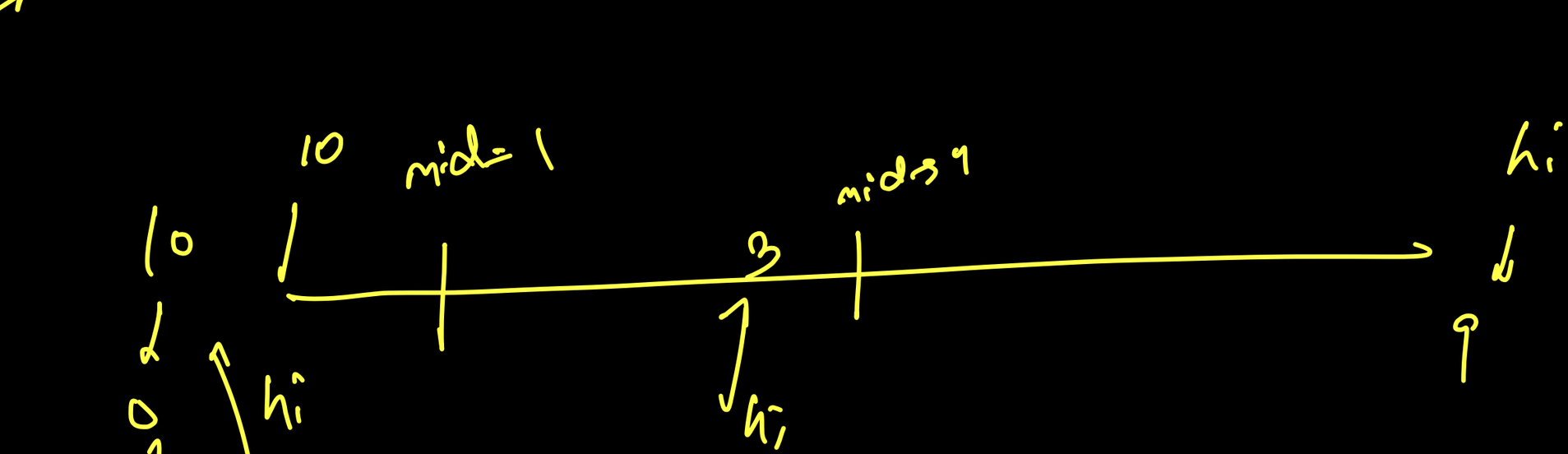

[10, 1, 2, 7, 1, 3]
Sort
①
[1, 1, 2, 3, 7, 10]
atleast p pairs
abs diff <= mid
②
0
lo
|max el - min el|
hi
mid
candidate diff
Yes
left
NO
right

Min the max dy

[1, 1, 2, 3, 7, 10]

pad

Ans = 1



[1, 2, 3, 4, 5]

K = 2

Split	Sums	Max
[1] [2, 3, 4, 5]	1, 14	14 →
[1, 2] [3, 4, 5]	3, 12	12 →
[1, 2, 3] [4, 5]	6, 9	9 → 9
[1, 2, 3, 4] [5]	10, 5	10 →

we need to find the least max sum.