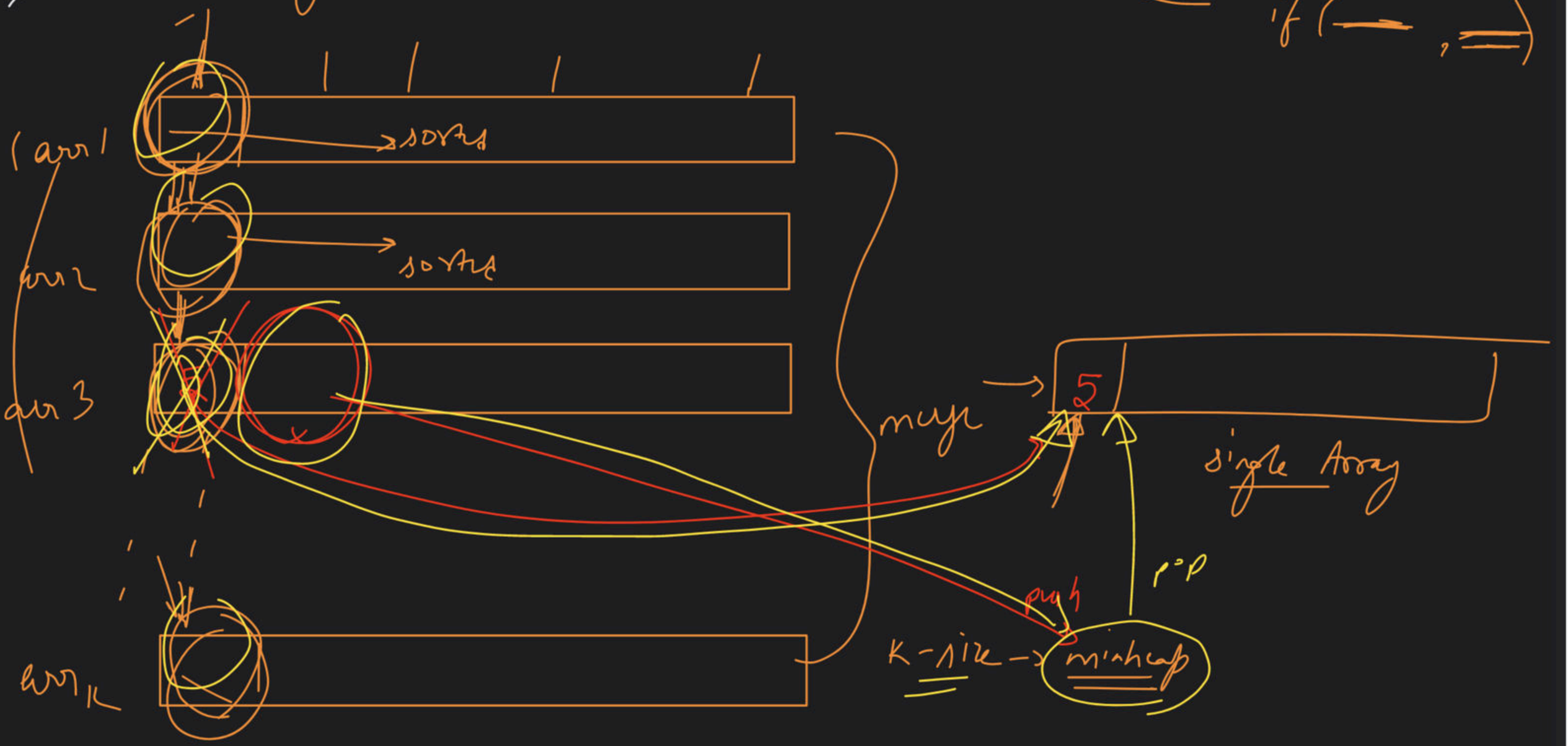
Heaps Class - 3

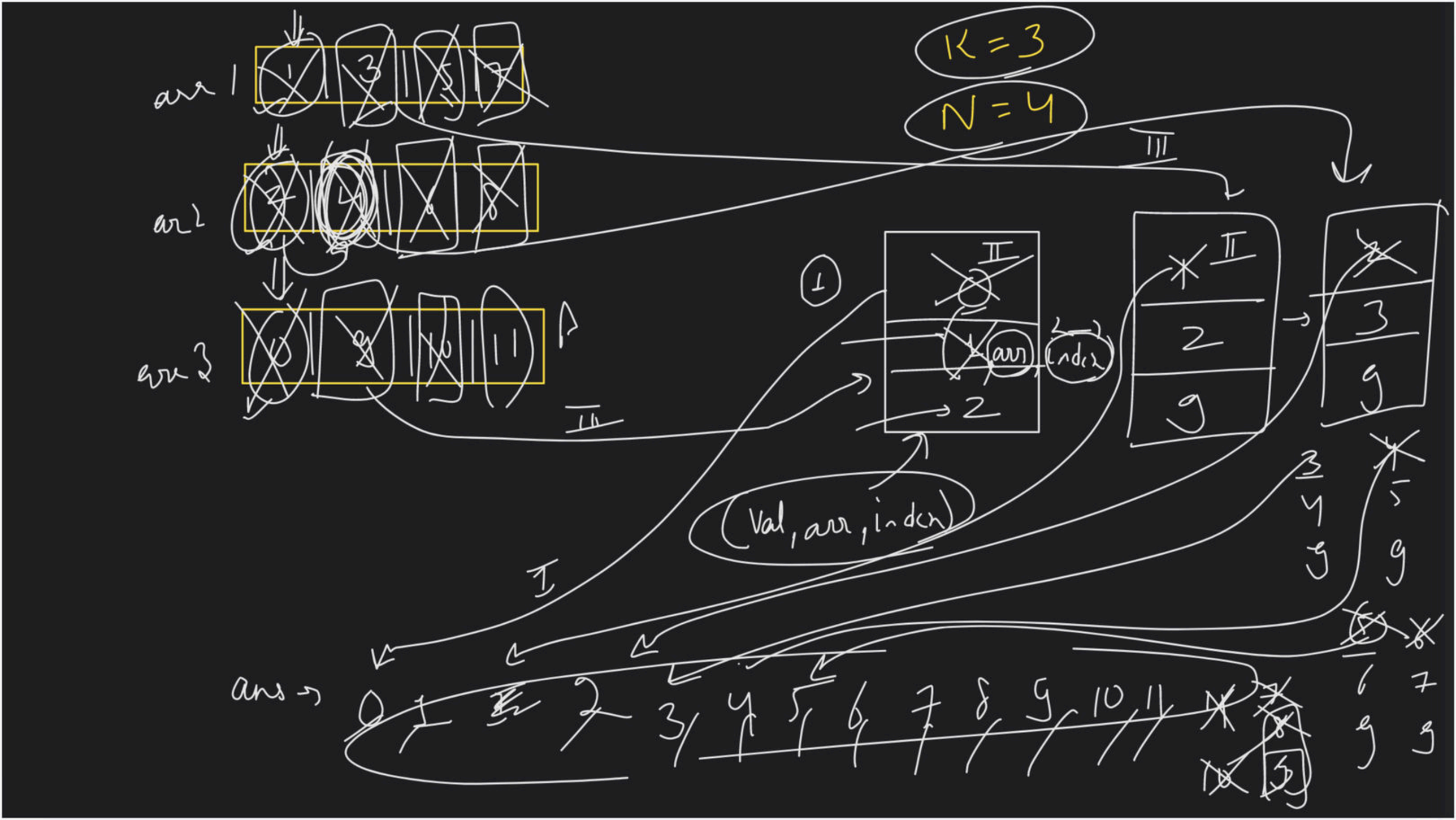
Special class

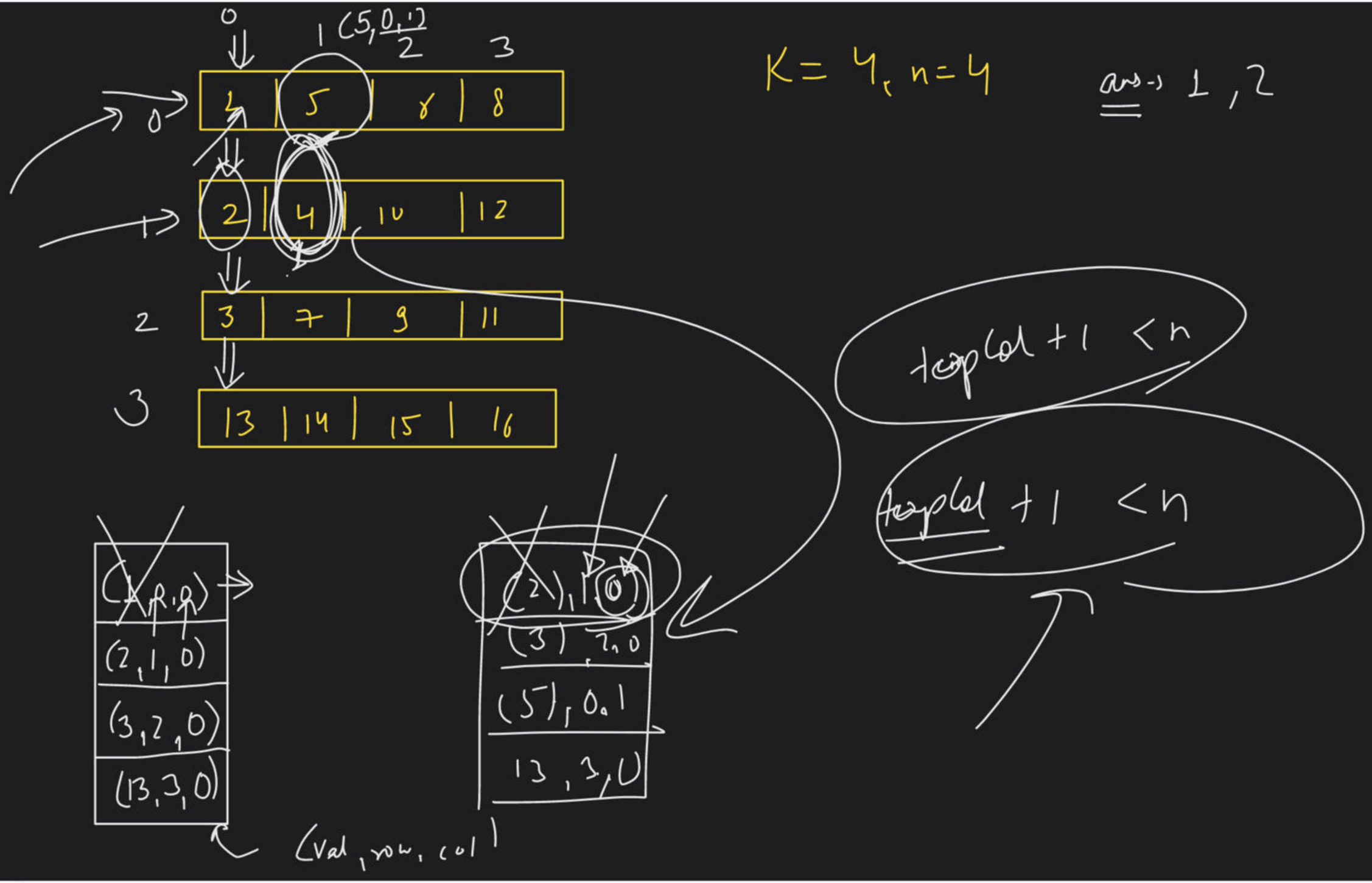
Love Babbar • May 26, 2023

Merge "K" sorted Array

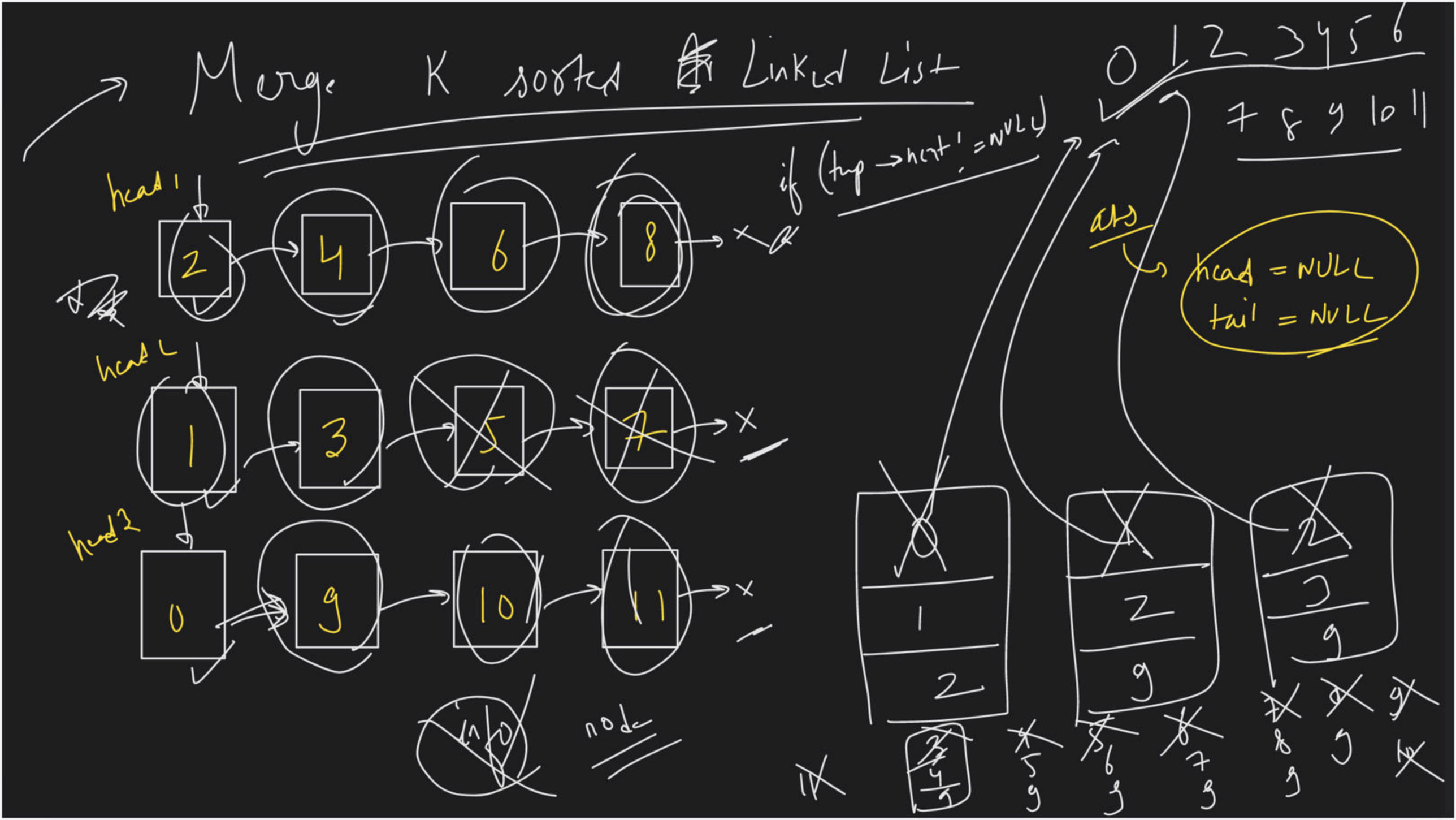
(1) Merge 2 sorted Array



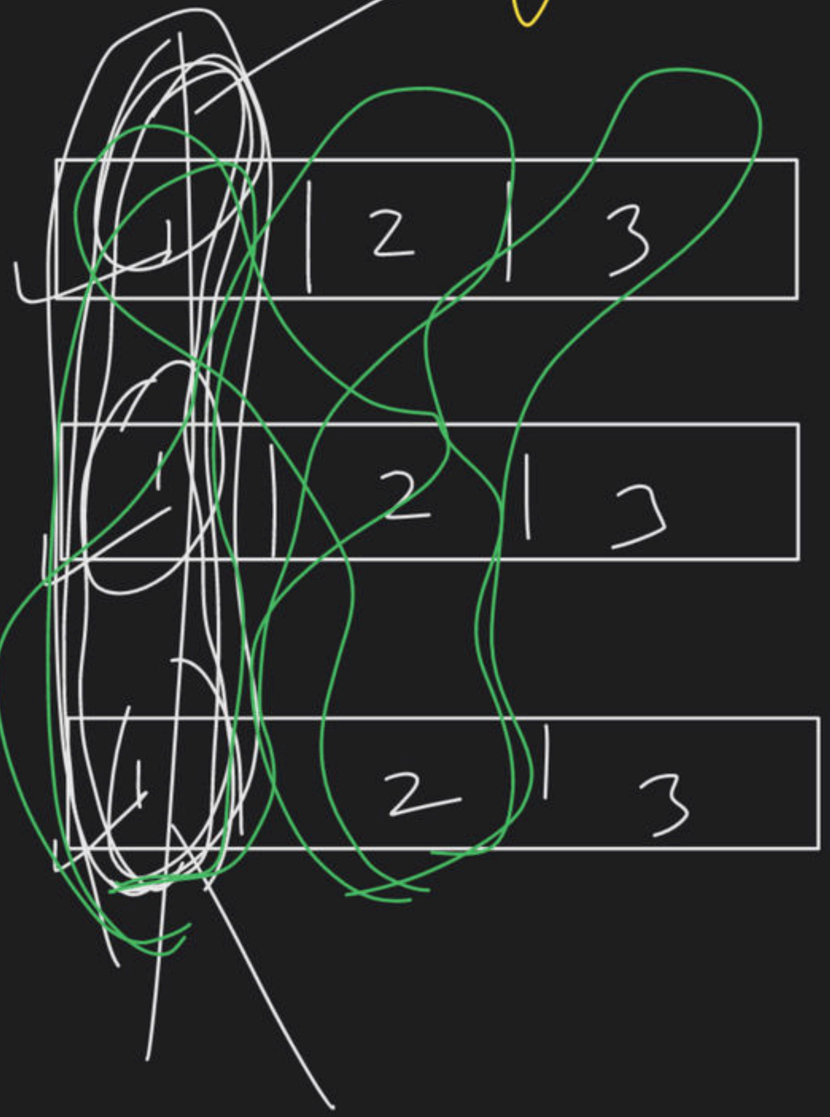

K=3
N=4
arr1
arr2
arr3
ans →
(Val, arr, index)
arr
index
2
3
9


0
1
2
3
(5,0,1)
K = 4, n = 4
ans -> 1, 2
0
1
2
3
1 | 5 | 8 | 8
2 | 4 | 10 | 12
3 | 7 | 9 | 11
13 | 14 | 15 | 16
top[col] + 1 < n
top[col] + 1 < n
(1,R,0)
(2,1,0)
(3,2,0)
(13,3,0)
(2),1,0
(3),2,0
(5),0,1
13,3,0
(Val, row, col)

Merge K sorted Linked List



Smallest range in K list



min-max

smallest

maxi =

mini =

mini -> maxi

mini

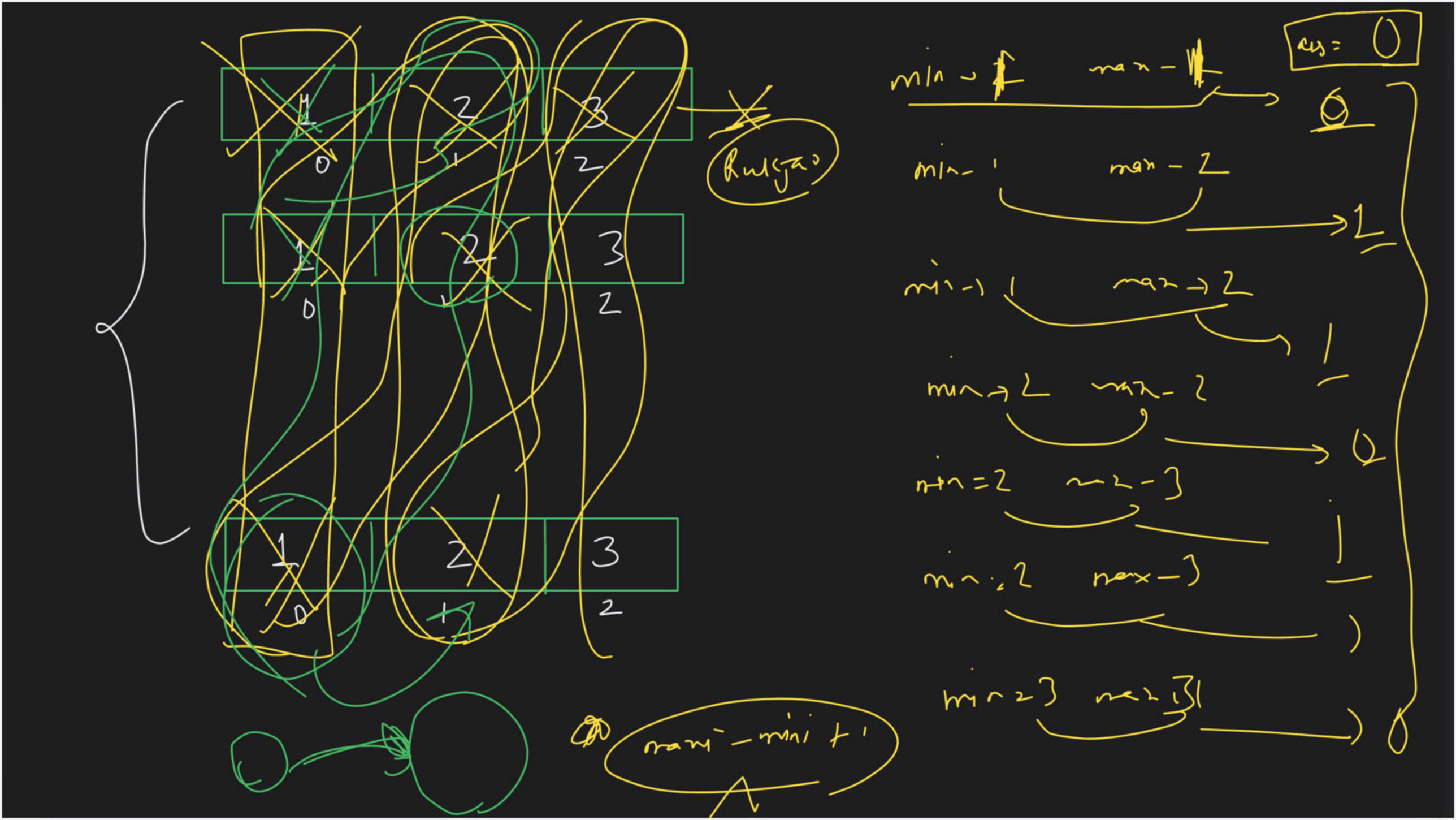
maxi

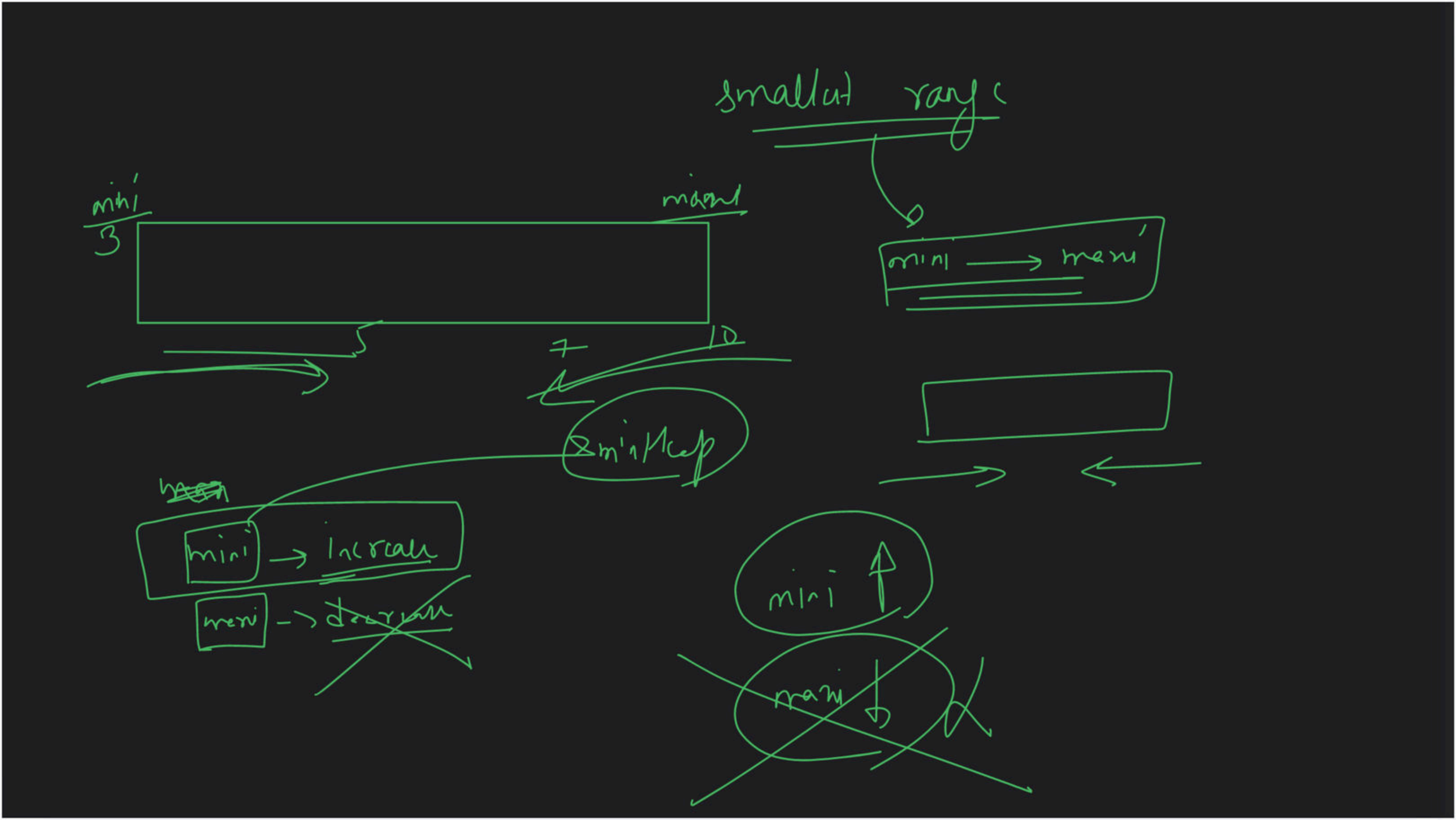
2	4	8	6	15	11

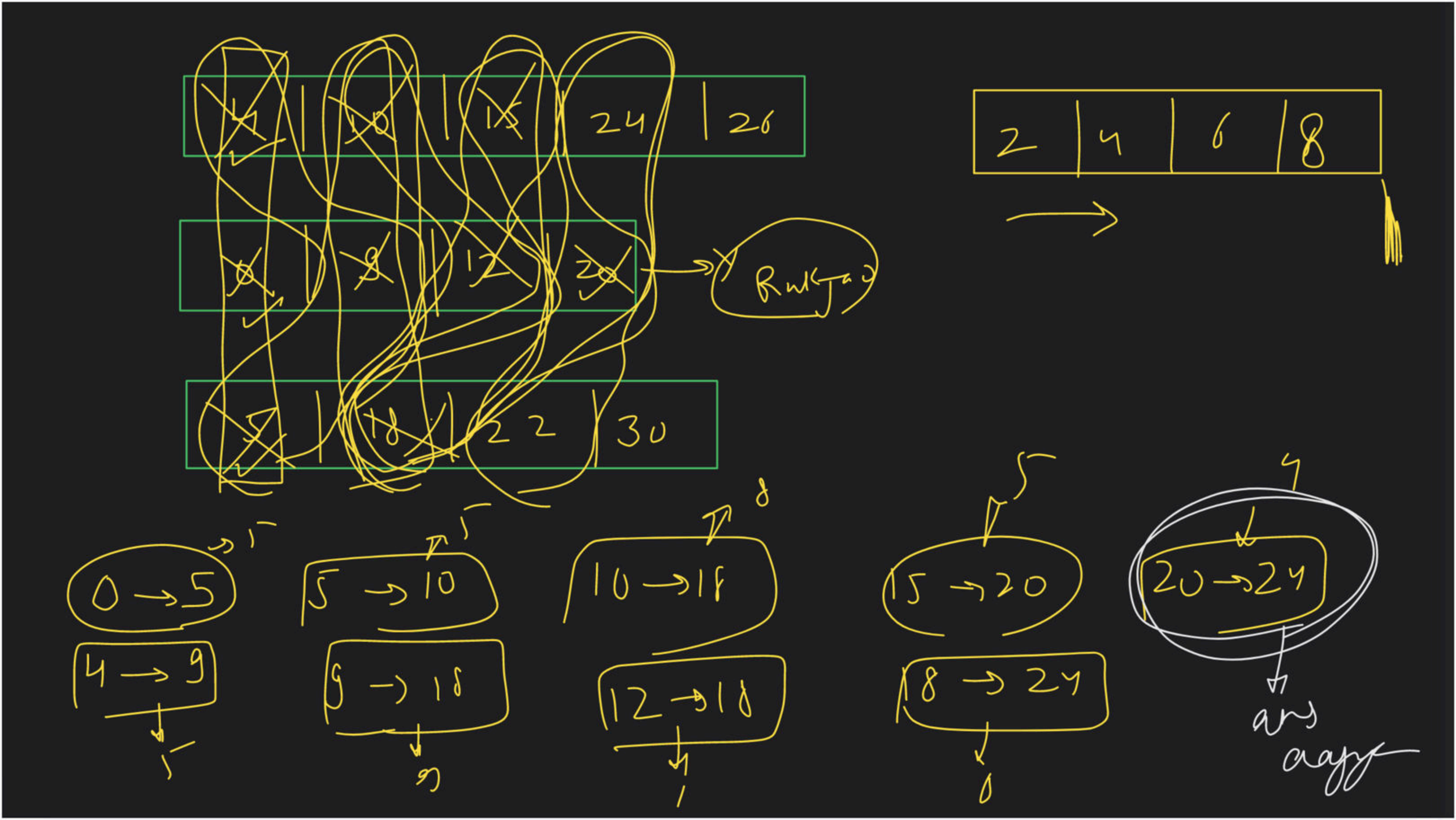
mini = 2

max = 15

2 ⟶ 15


Rulgan
min = 1 max = 1
ans = 0
0
min = 1 max = 2
1
min = 1 max = 2
1
min = 2 max = 2
0
min = 2 max = 3
1
min = 2 max = 3
1
min = 3 max = 3
max - min + 1


smallest range
mini
3
maxi
7
10
minHeap
mini
increase
maxi
mini
maxi


24
26
30
0 → 5
4 → 9
5 → 10
9 → 18
10 → 18
12 → 18
15 → 20
18 → 24
20 → 24
2
4
6
8
ans