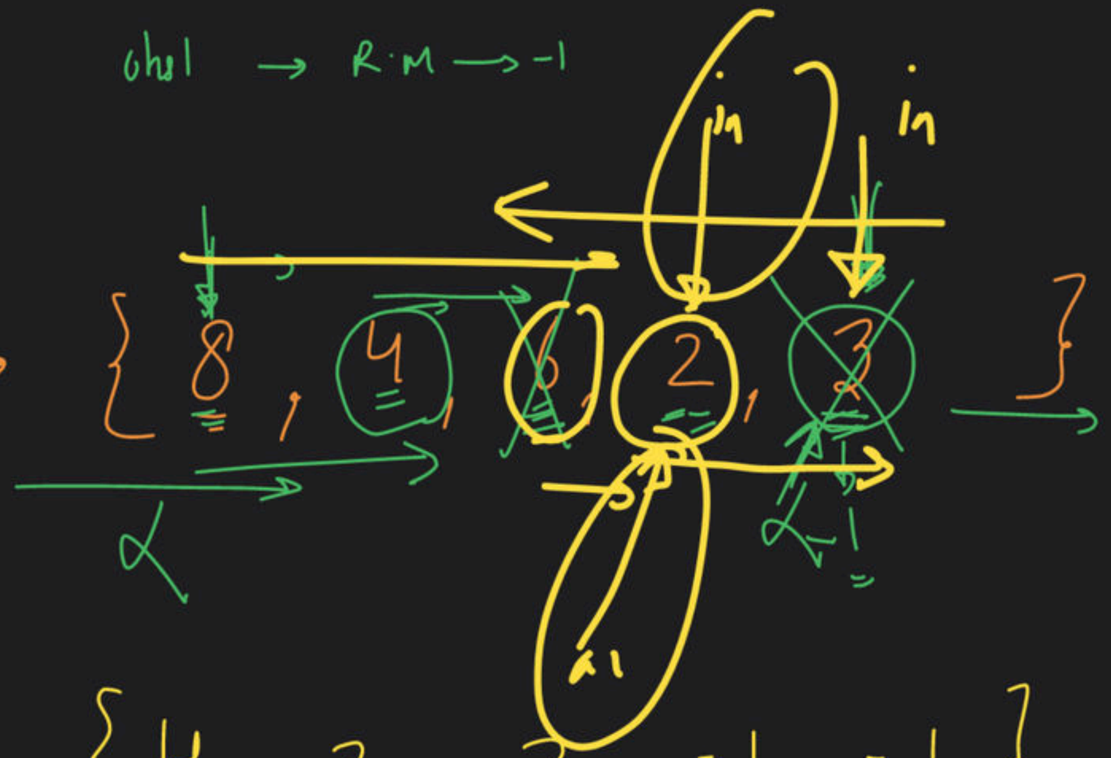
Stack Class - 3

Special class

Love Babbar • Aug 1, 2024

→ Next smaller element

→ i/p → arr → { 8 , 4 , 6 , 2 , 3 }



o/p → { 4 , 2 , 2 , -1 , -1 }

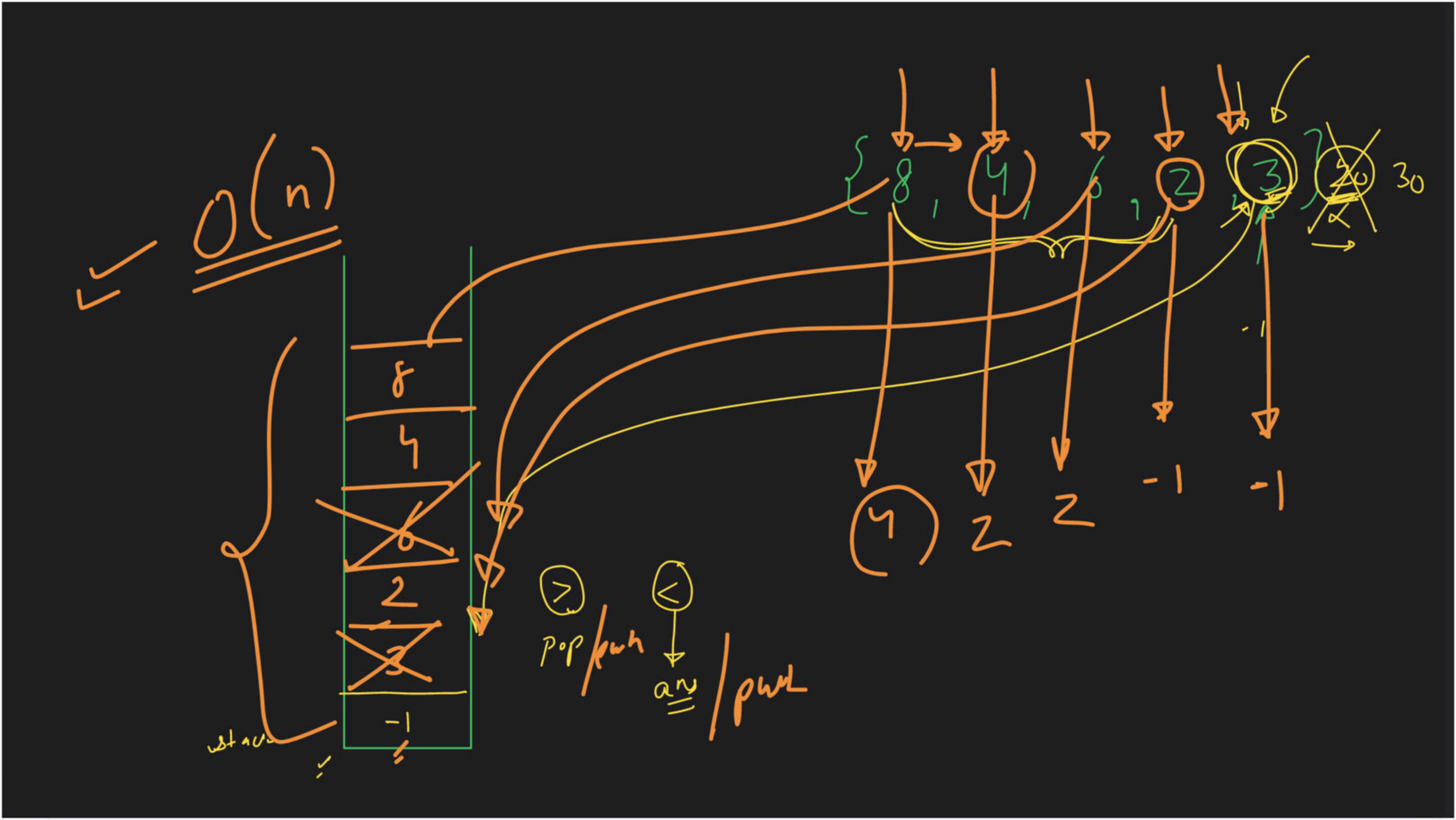
Approach

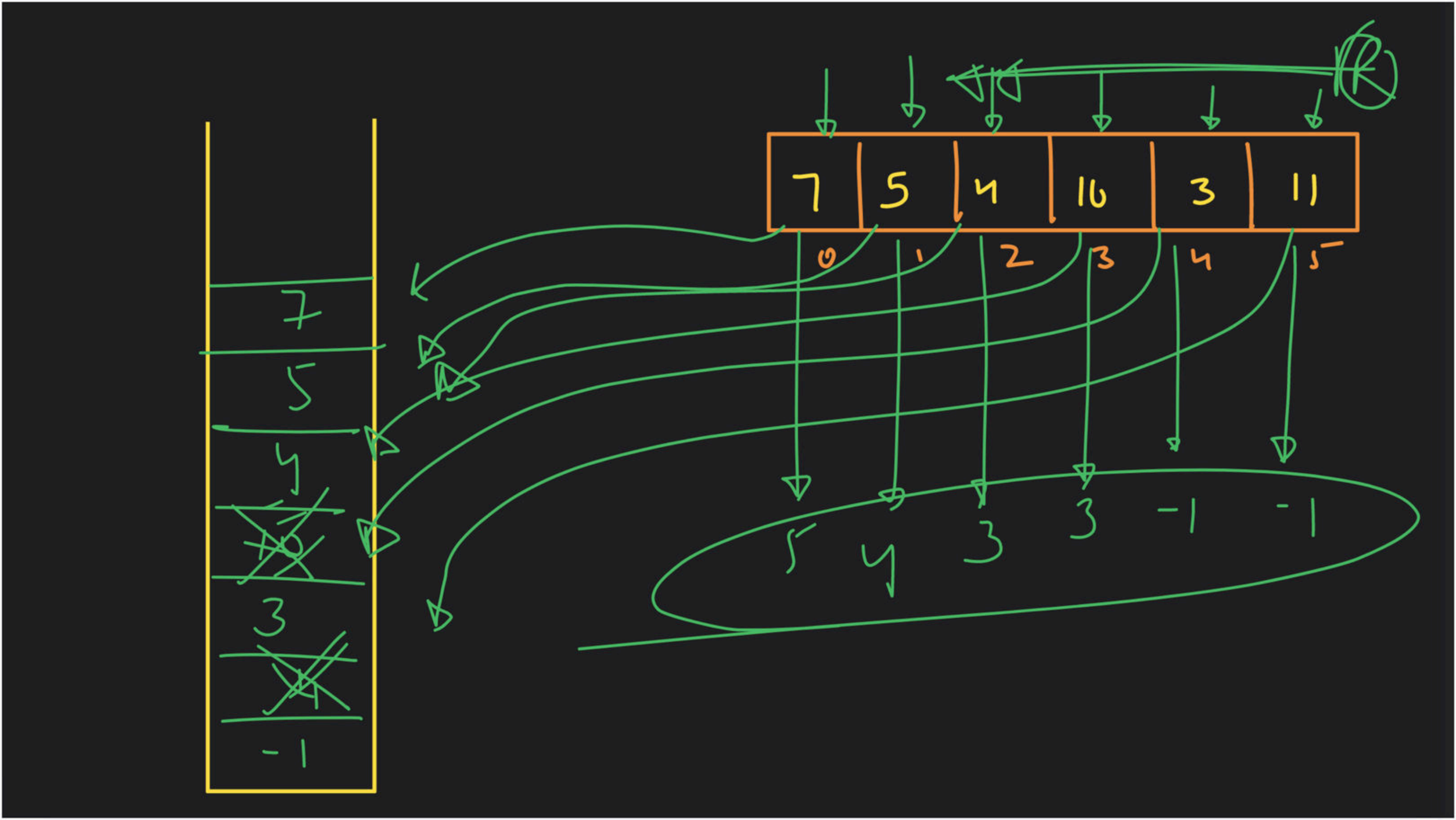
→ B·F → 2 Loop → O(n²)

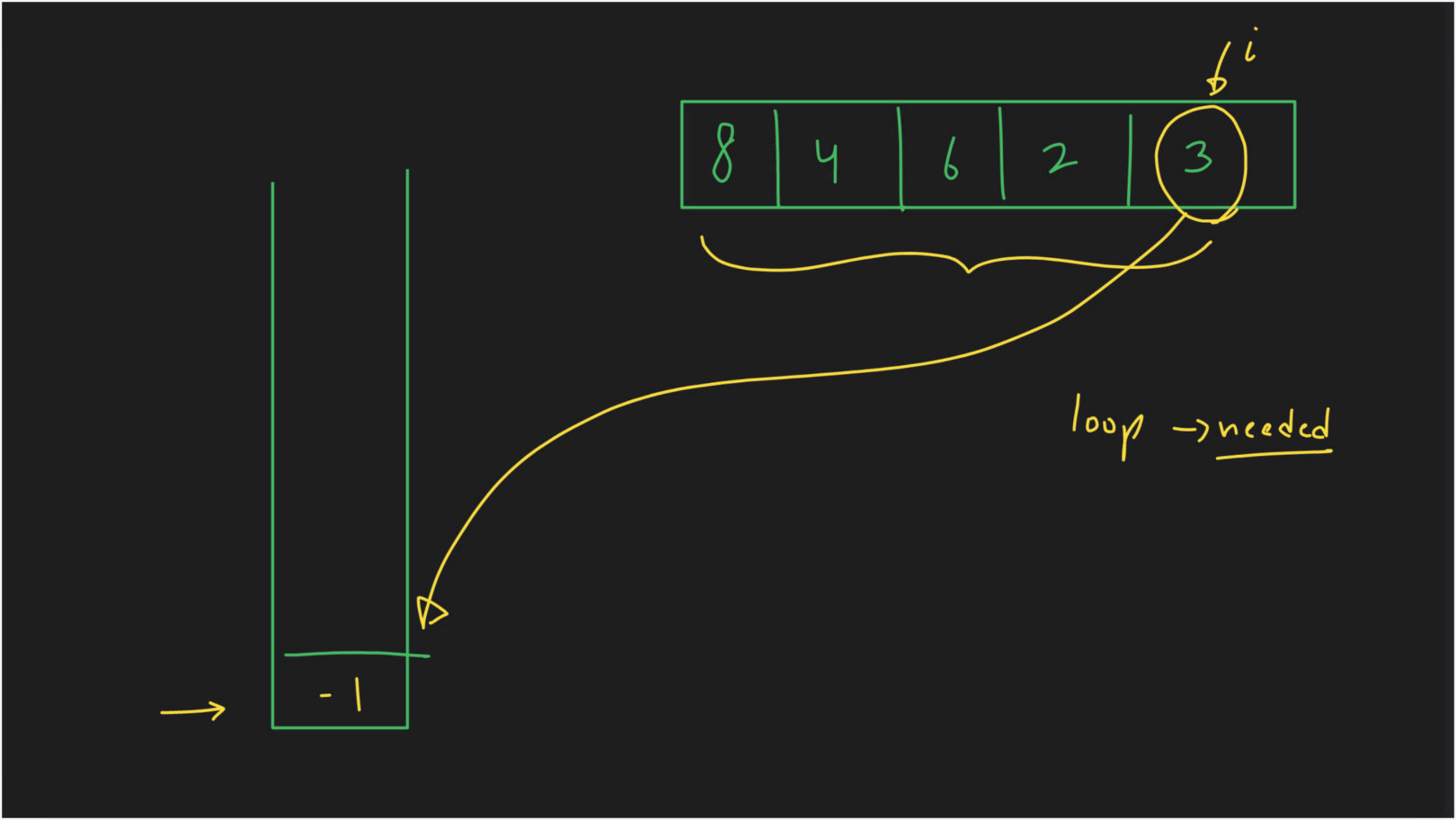
O(n) → single pass

Logic

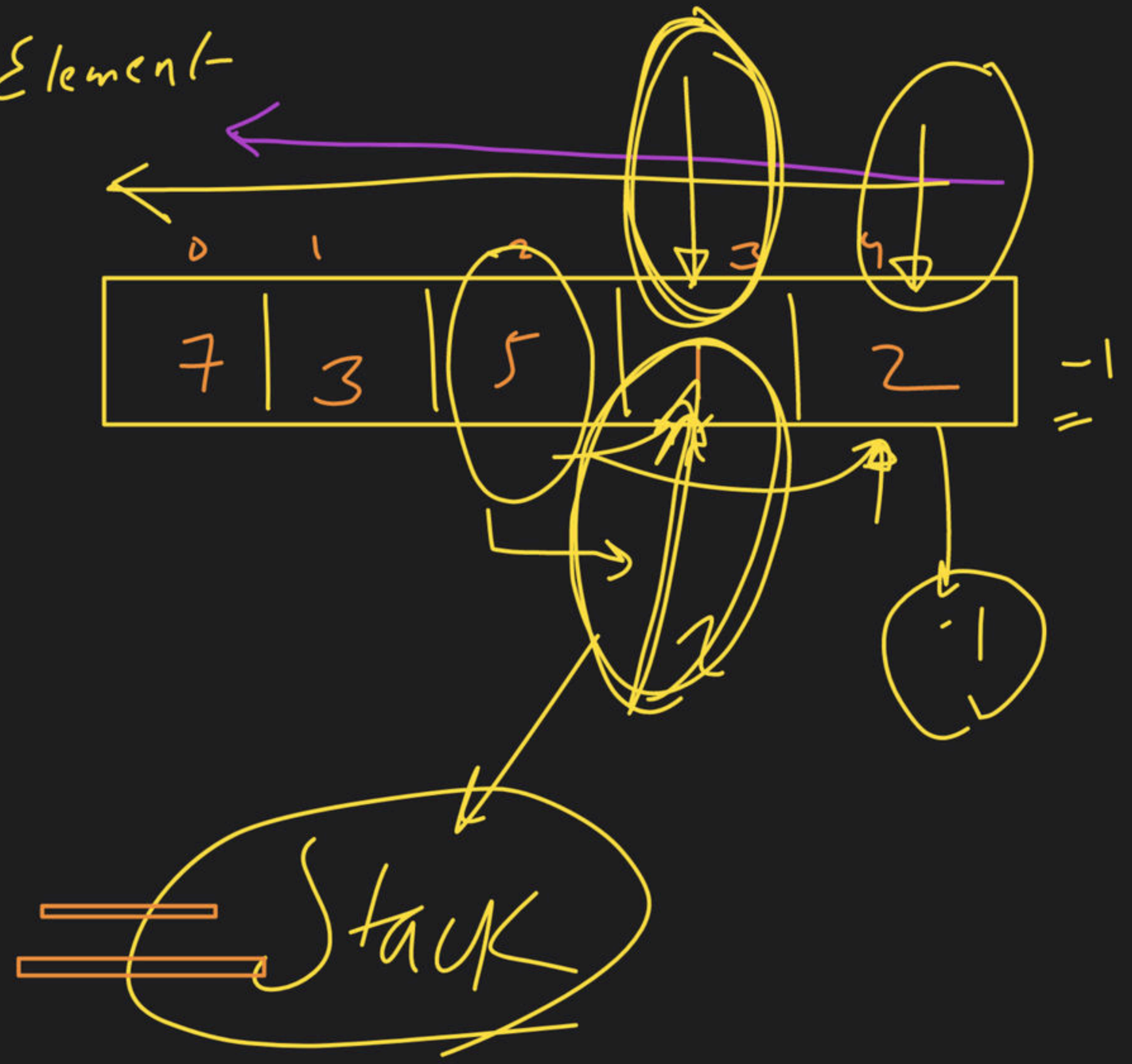
Trick

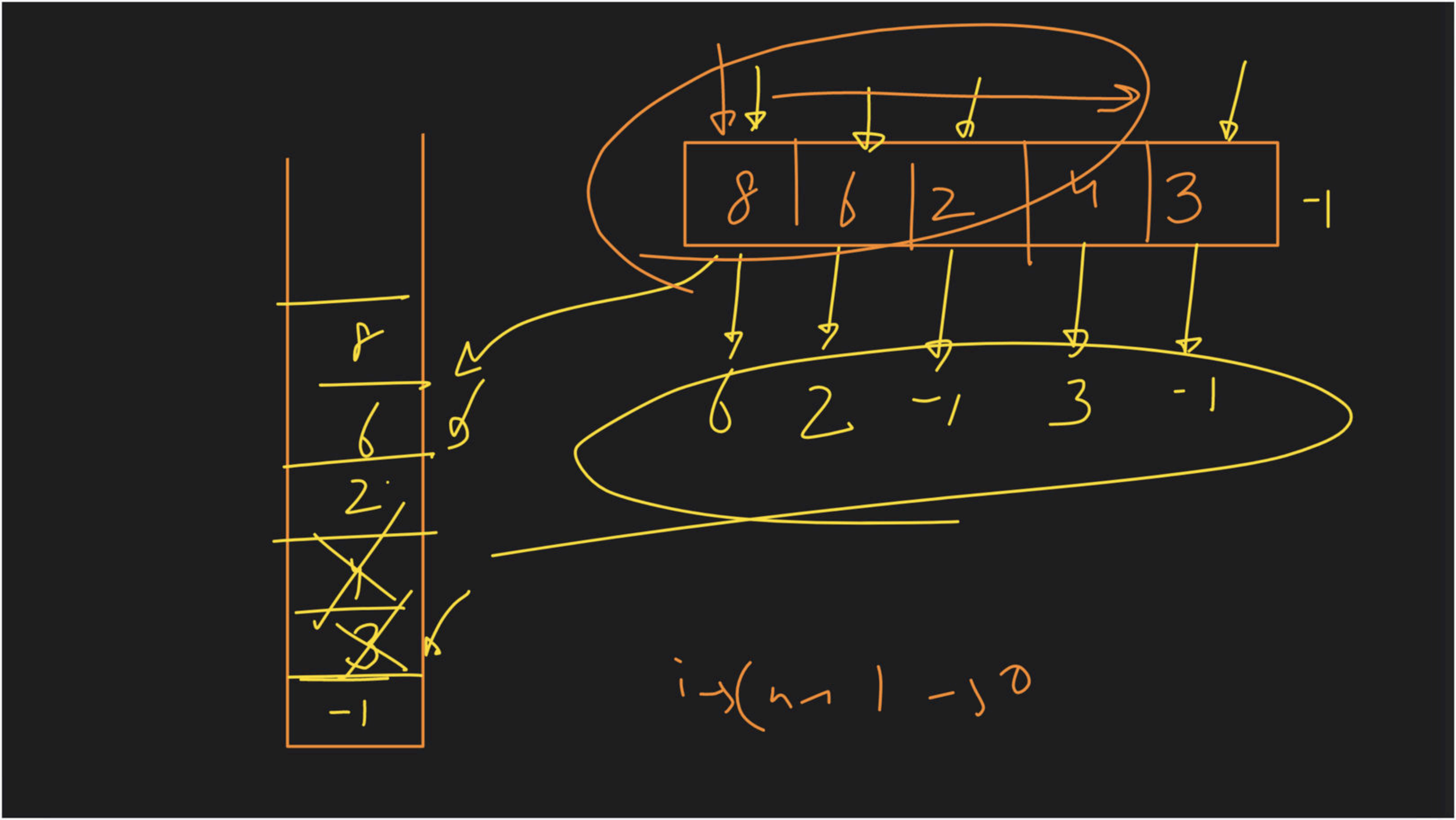

O(n)
8
4
6
2
3
30
-1
pop/push
any/push

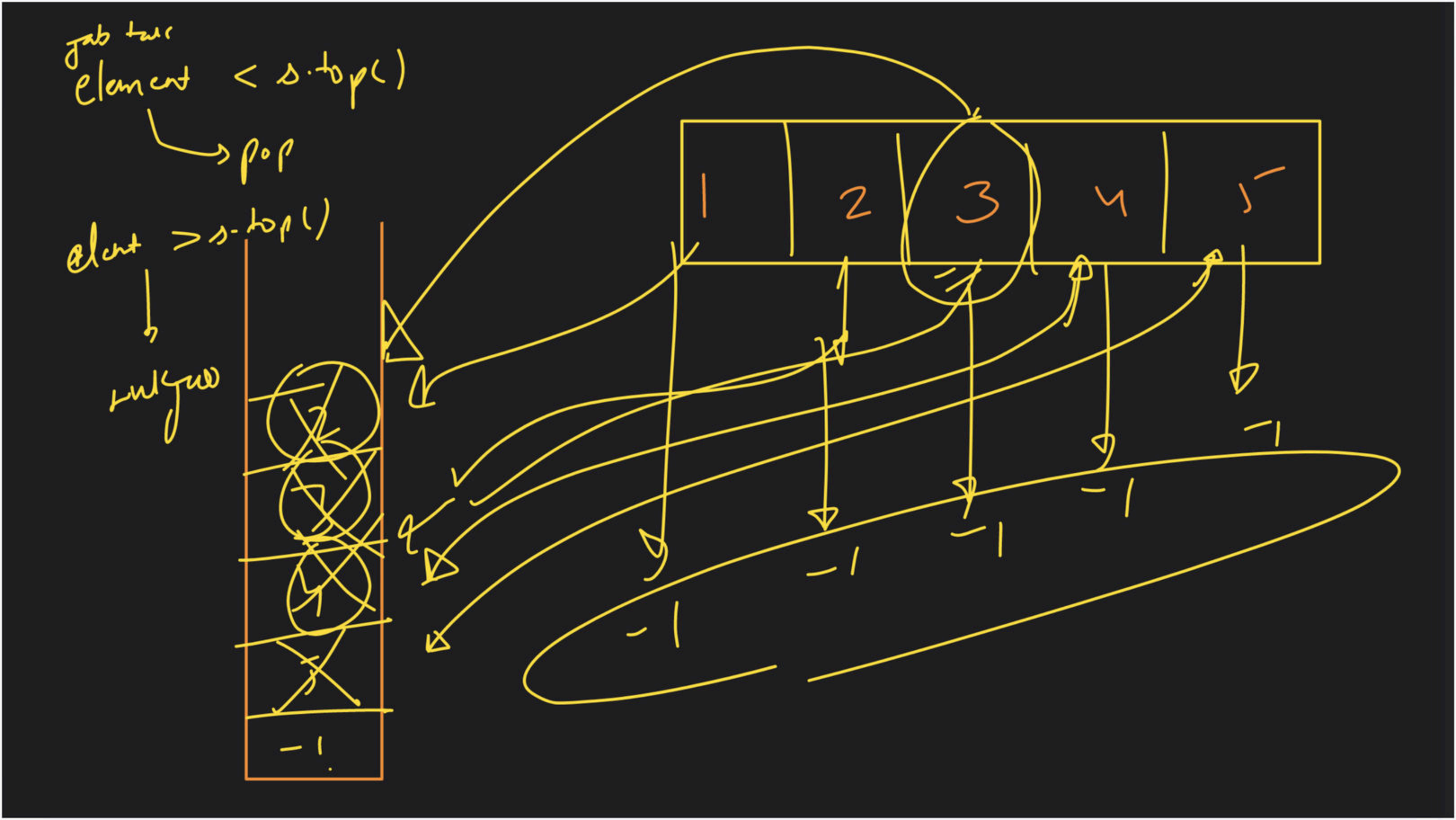

7
5
4
16
3
11
0
1
2
3
4
5
7
5
4
3
-1
-1
5
4
3
3
-1
-1


i
8
4
6
2
3
-1
loop → needed

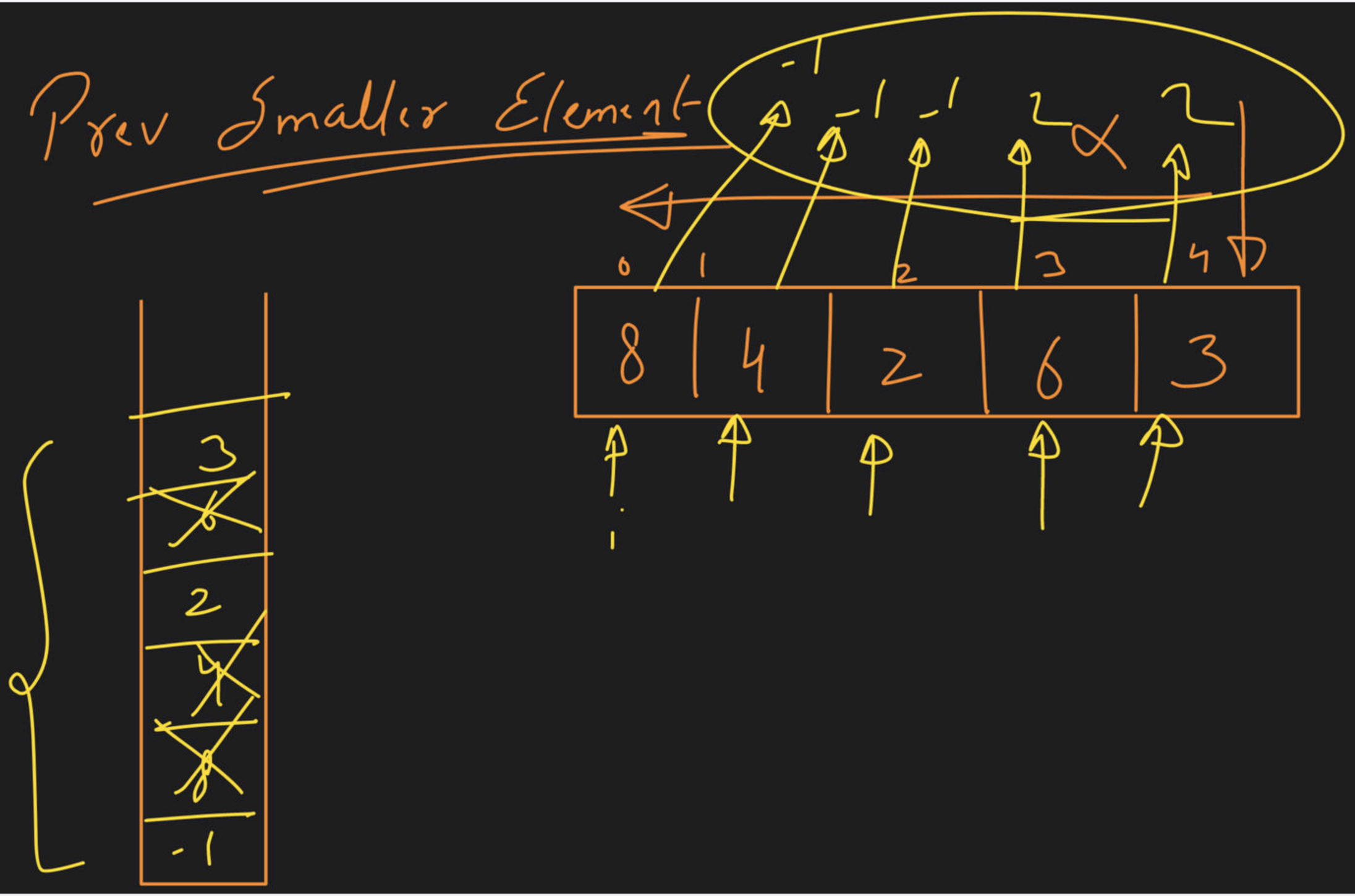
→ Next Smaller Element-

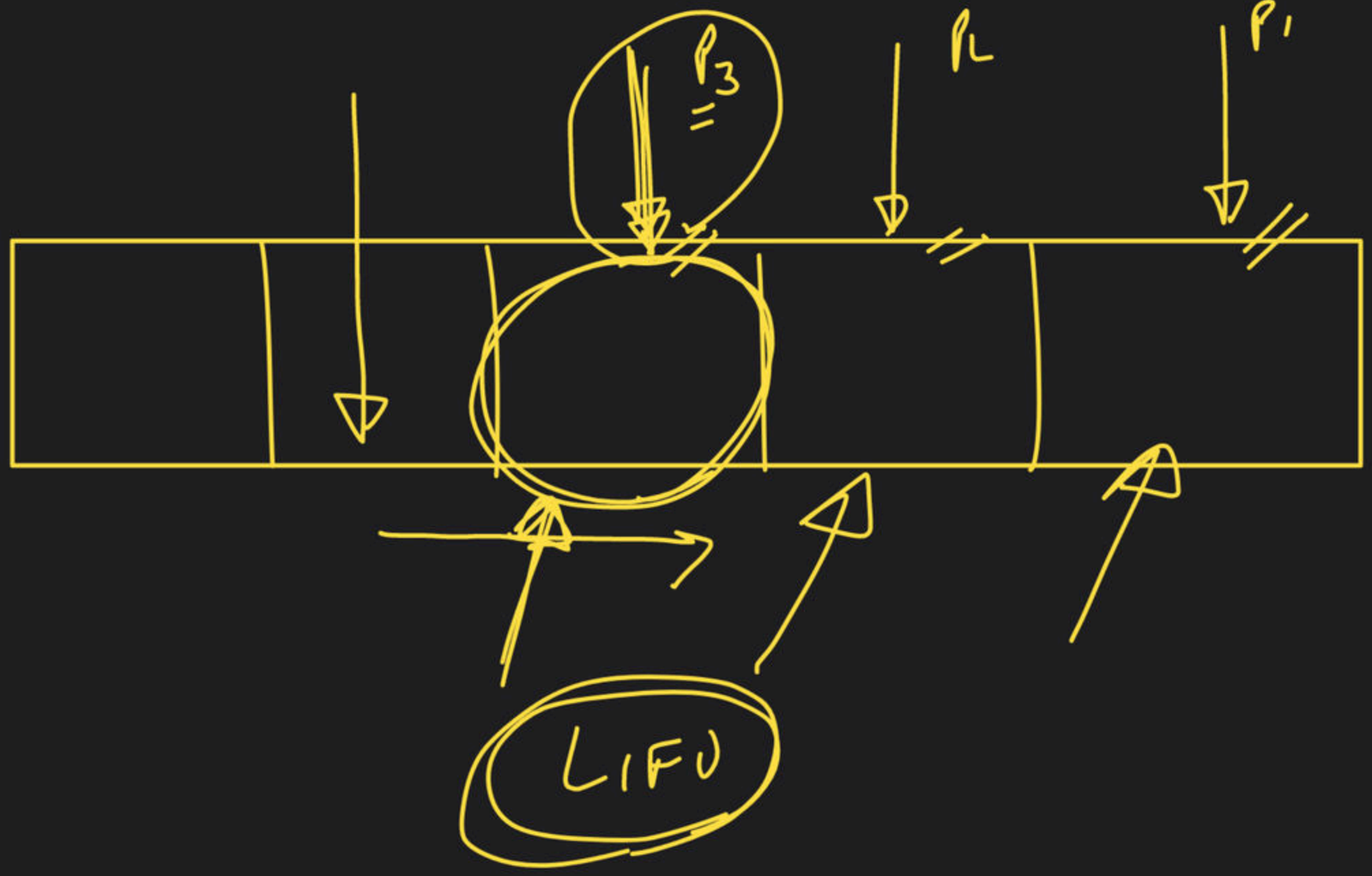



8
6
2
4
3
-1
8
6
2
-1
3
-1
8
6
2
-1
i->(n-1->0


jab taak
element < s.top()
pop
elem > s.top()
1
2
3
4
5
-1
-1
-1
-1
-1
-1
-1

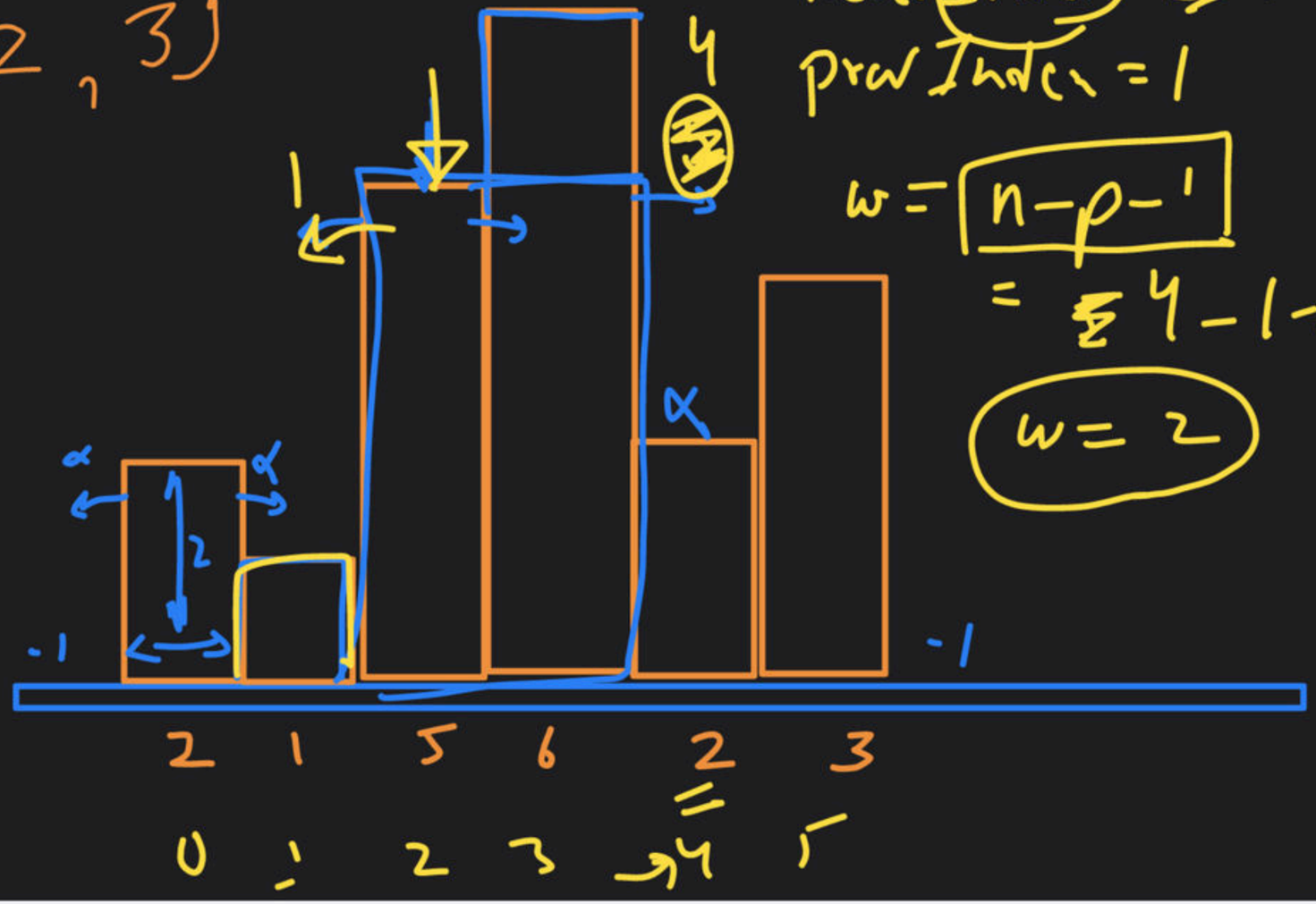
→ Prev Smaller Element

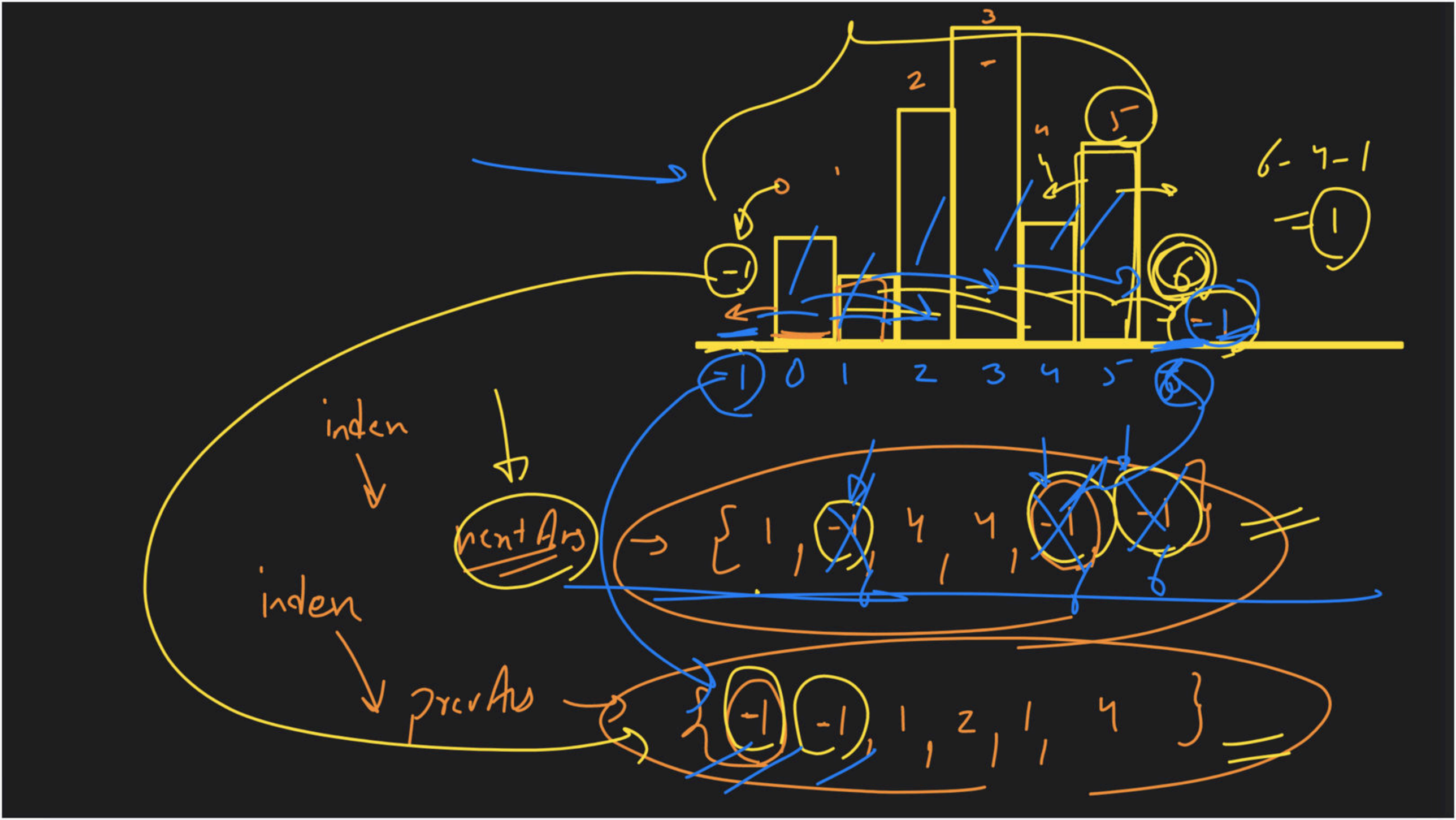


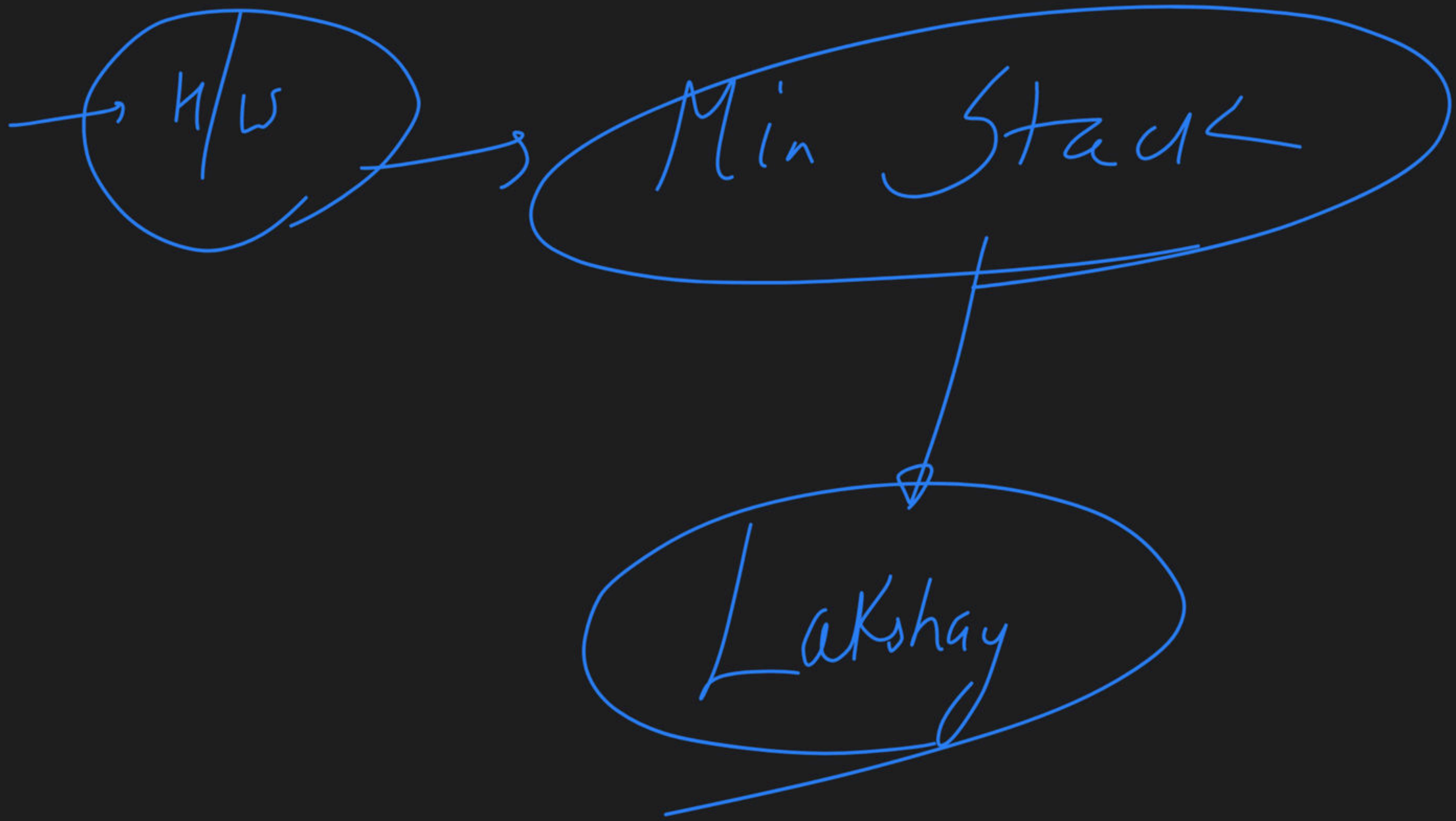

P3
PL
P1
LIFU

→ Largest Rectangular area in Histogram

i/p -> {2, 1, 5, 6, 2, 3}




3
2
4
5
6-4-1
-1
0 1 2 3 4 5
indeн
indeн
nextArr
prevArr
{ 1 , -1 , 4 , 4 , -1 , -1 }
{ -1 , -1 , 1 , 2 , 1 , 4 }


H/W
Min Stack
Lakshay