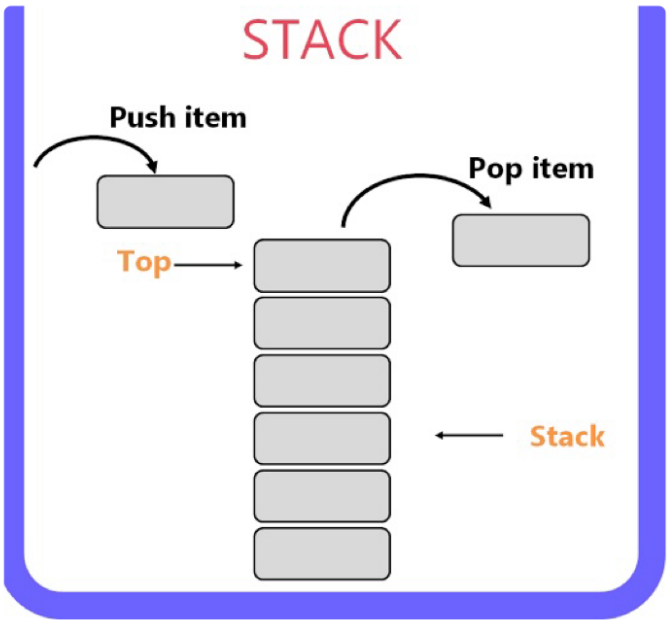

STACK.ogg
video 17



- Push
- Pop
- Top

Leetcode - 85 Hard

Facebook
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codestorywithMIK

Easy

Company :-

SAMSUNG

Microsoft

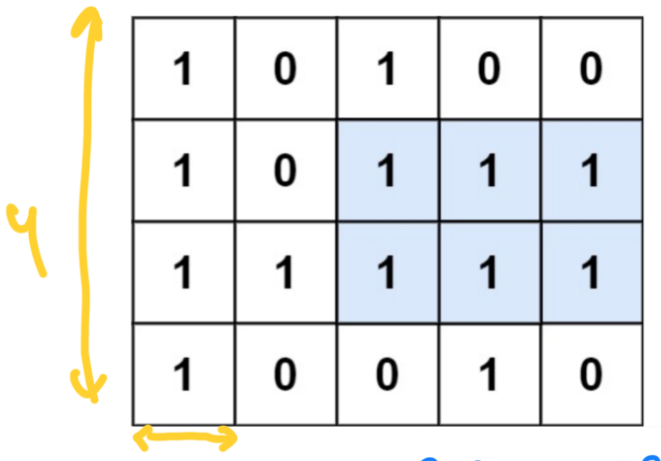
amazon

85. Maximal Rectangle

Hard 9777 169 Add to List Share

Given a `rows x cols` binary `matrix` filled with `0`'s and `1`'s, find the largest rectangle containing only `1`'s and return *its area*.

Example 1:



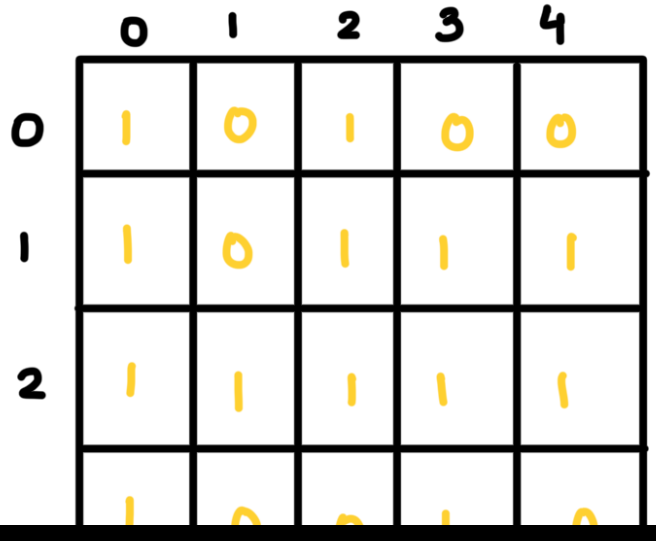
1*5 = 5
1*3 = 3
3*2 = 6
Output = 6

Can we apply DFS & find no of connected 1's?

Why it is marked as HARD?

→ It has more than one Qn hidden inside it.
Otherwise it's Easy. TRUST ME ...

Thought Process ...

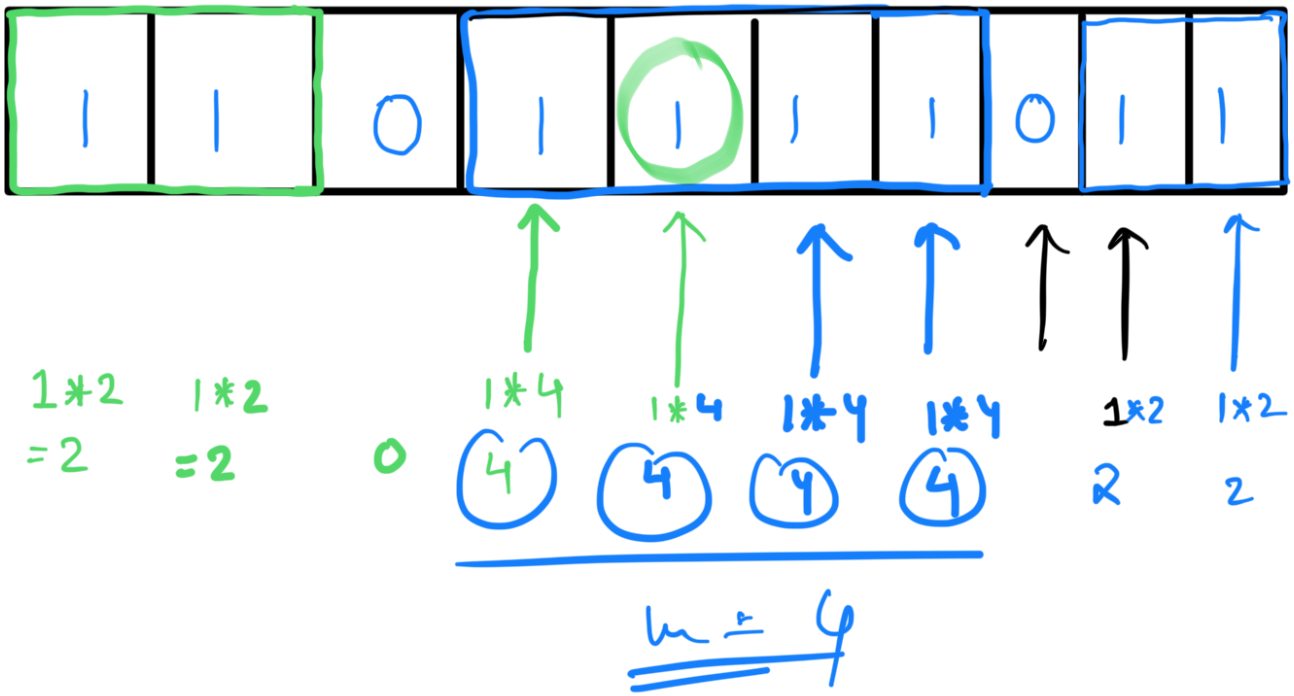


2-D

3

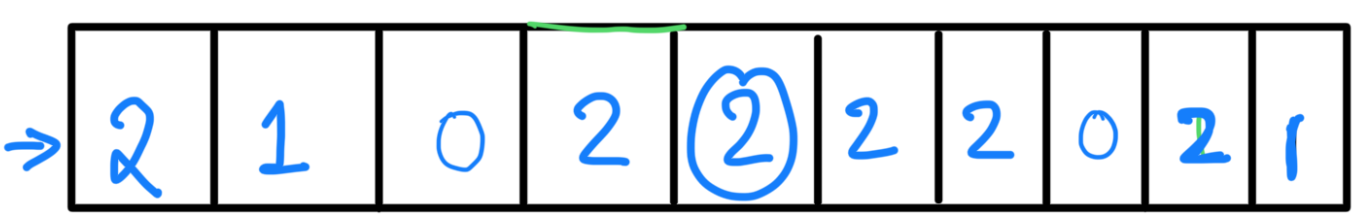
Hidden Qn-1...

1-D Array.



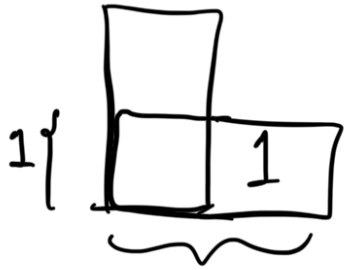
$n = 4$

Hidden Qn-2 :- MAH



2*1 =2
1*2 =2
2*4
2*4
2*4
2*4
2*1
1*2

=2 =2



	0	1	2	3	4
0	1	0	1	0	0
1	1	0	1	1	1
2	1	1	1	1	1
3	1	0	0	1	0

maxArea = ~~3~~ ~~8~~ 6

	0	1	2	3	4
Row = 0,1,2,3	4	0	0	3	0

4 * 1 = 4

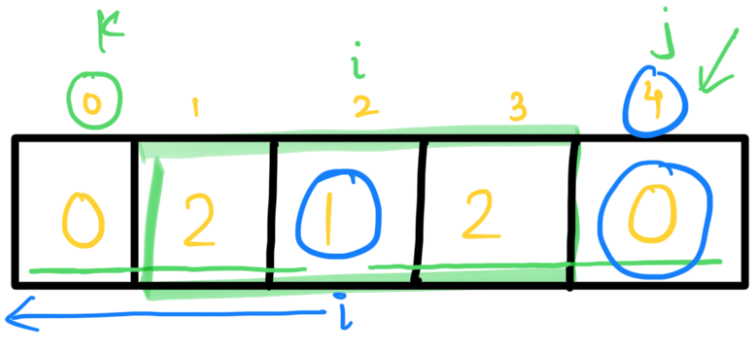
3 * 1 = 3

(•) Height →

(•) width → ???

(•) Area → Height[i] * width[i]

Hidden Qn-3 (width) :-



$O(n^2)$

Hidden Qn-4

NSR (Next Smaller to Right)

NSL (Next Smaller to Left)

$4 - 0 - 1 = 3$

i → Right hand side smaller → j

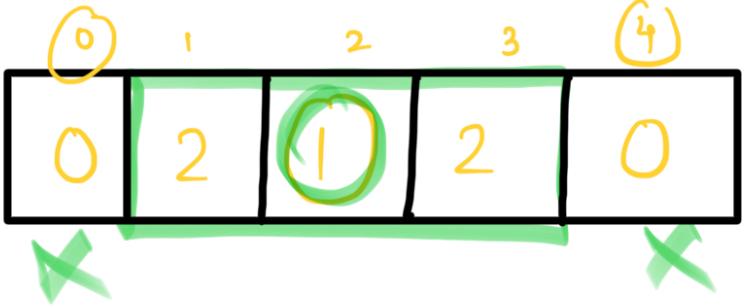
→ Left side → K

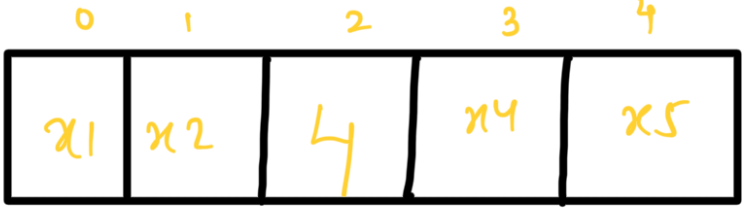
width = j - K - 1

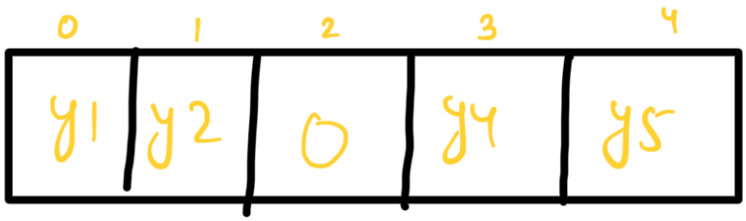
= 4 - 0 - 1 = 3

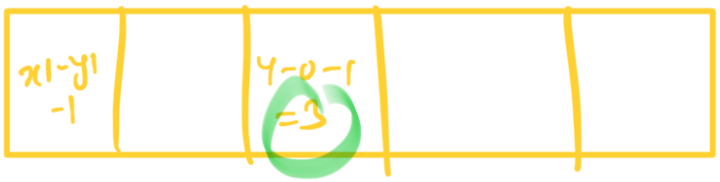
This is not optimal

width ~~O(n²)~~



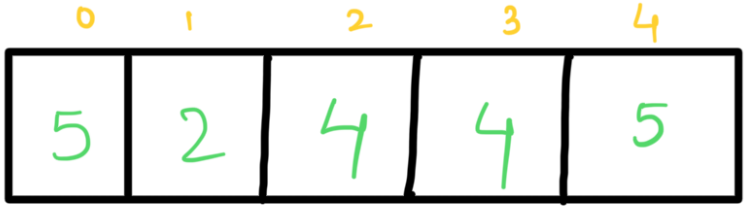






width[i] = NSR[i] − NSL[i] − 1

NSR



NSR index