Array : Video - 70

~~Medium~~

Leetcode - 1424

...E.A.S.Y...

Diagonal Traverse - II

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1424. Diagonal Traverse II

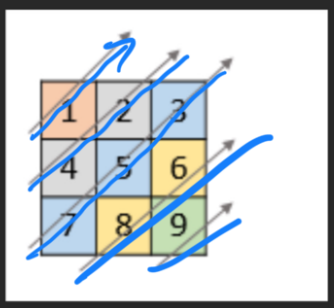
Hin

Medium 1.3K 102

Companies

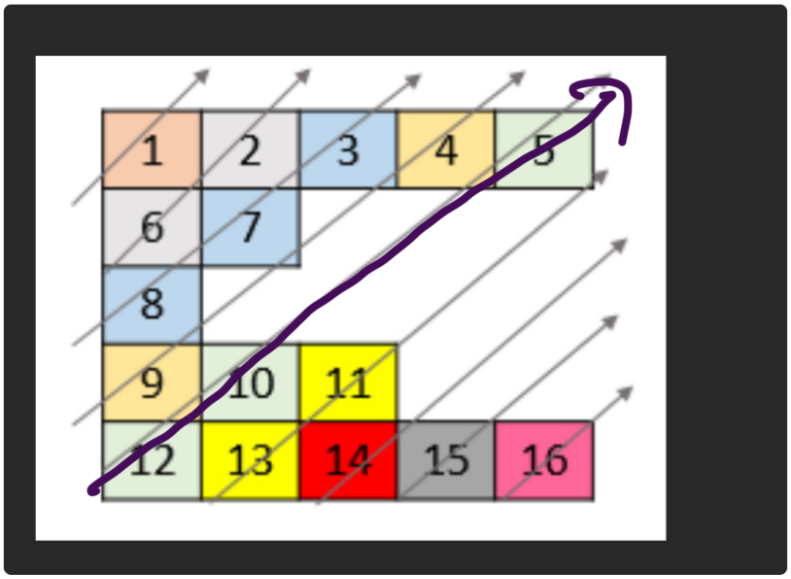
Given a 2D integer array `nums`, return *all elements of* `nums` *in diagonal order as shown in the below images.*

Example 1:



1, 4, 2, 7, 5, 3, 8, 6, 9

```
Input: nums = [[1,2,3],[4,5,6],[7,8,9]]
Output: [1,4,2,7,5,3,8,6,9]
```

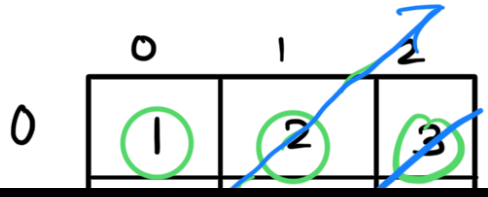


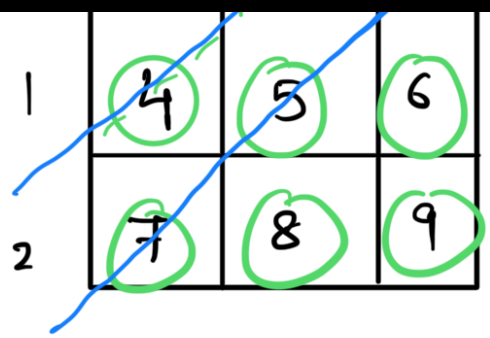
Approach- 1 ...

map.

Whenever asked to do "Diagonal" traversal in Tree, 2-D matrix etc.

→ Map ←





2

{1} = [0][0] → row+col = 0

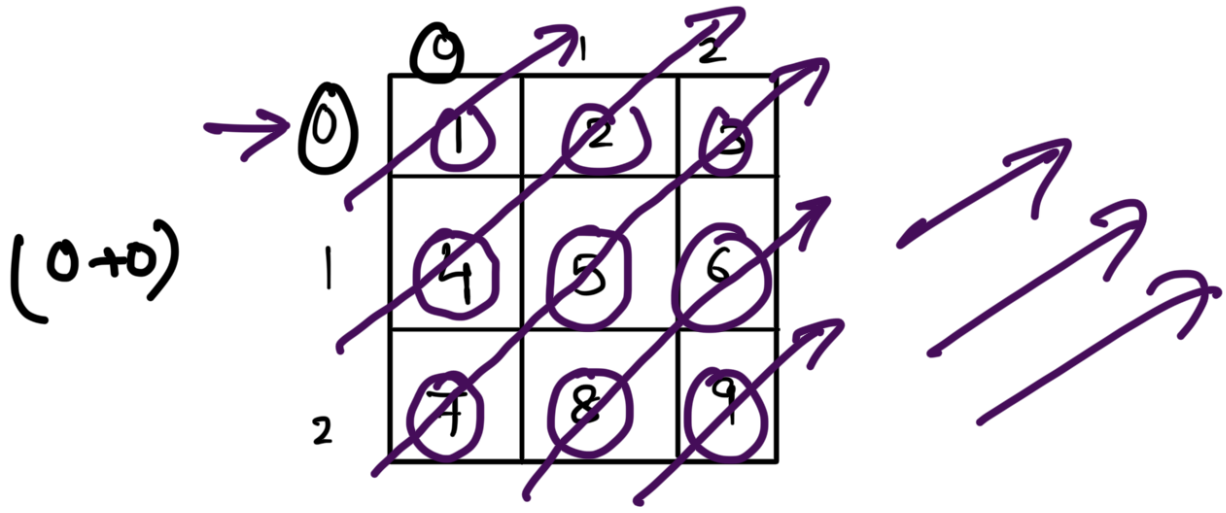
{4,2} = [1][0] , [0,1] → 1+0=1 , 0+1=1

{7,5,3} = [2,0] , [1,1] , [0,2]

2 2 2

(row+col)	Values (int)
0	{1}
1	{2, 4}
2	{3, 5, 7}
3	{6, 8}
4	{9}

1, {4,2}, {7,5,3}, {8,6}, 9



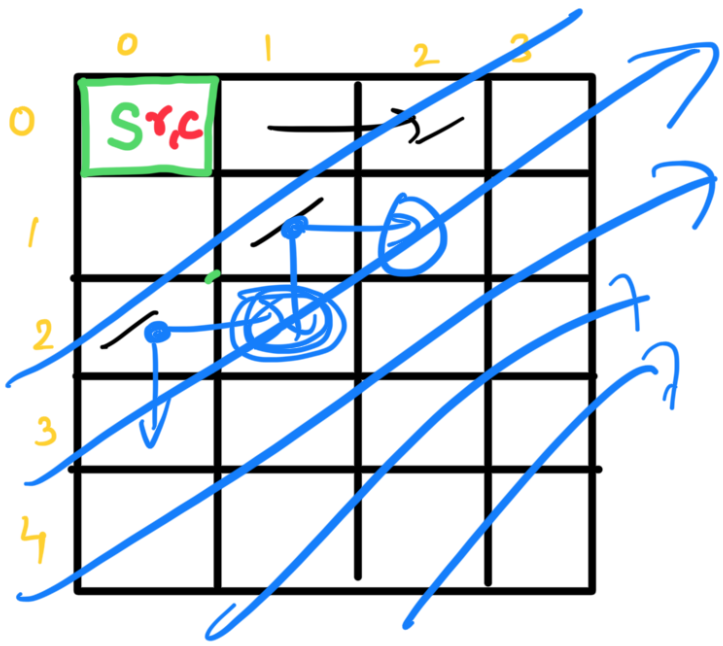
map

(row+col)	values
2	{7,5,3}
3	{8,6}
4	{9}
1	{4,2}
0	{1}

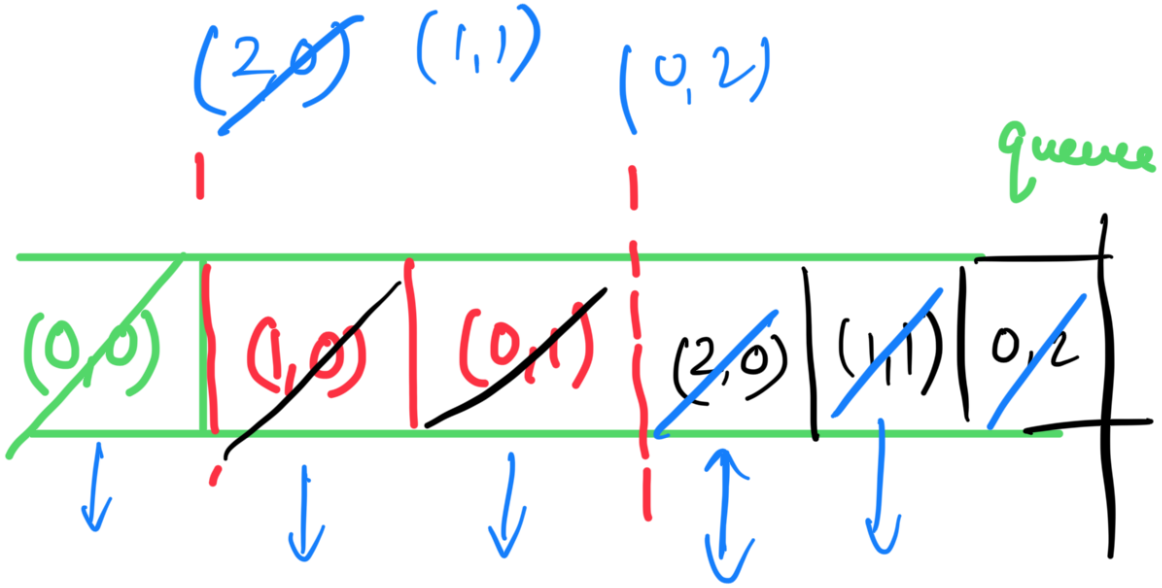
diagonal = {1, 4, 2, 7, 5, 3, 8, 6, 9}

Approach - 2 (BFS)??

Intuition :-

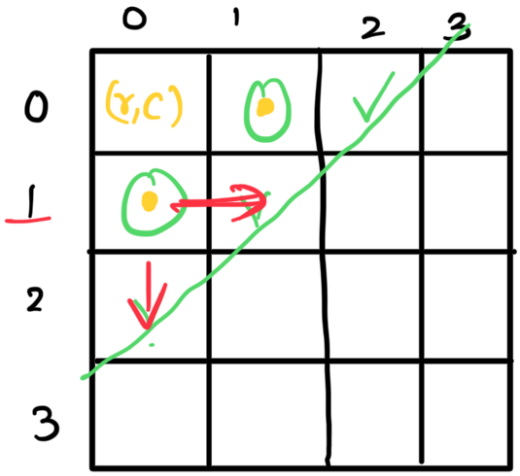


visited
(1,1) → True



(3,0) ,(2,1) ,(1,2)

Avoiding extra visited Data Structure



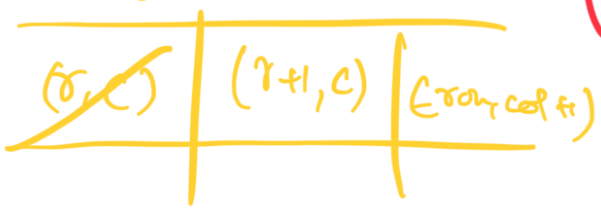
↳ (r+1, c)

↳ row, col+1

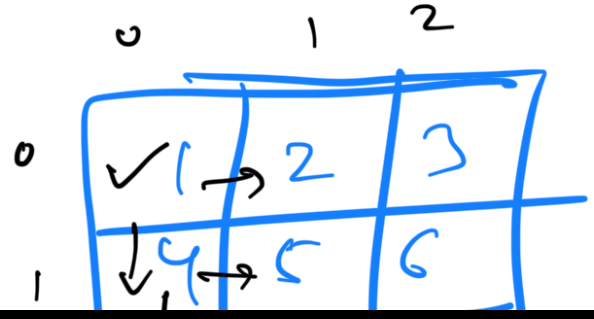
r,c
(0,0)

if(col == 0 && row+1 <)
que.push(row+1, col)

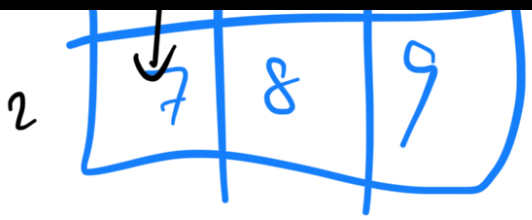
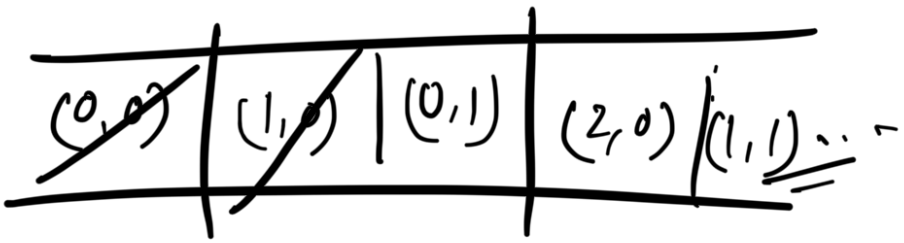
queue



if(col+1 <) .
que.push(row, col+1)



1,



r c
(1,0)