

0	1	2	0
3	4	5	2
1	3	1	5

⇒

1	0	1	2	0
0	3	4	5	2
0	1	3	1	5

you

Add a extra row & col array.

Based on row & col  
mark the matrix

## #optimization

0	1	2	0
3	4	5	2
1	3	1	5

Common for  
row & col

0	1	2	0
3	4	5	2
1	3	1	5
7000			

Instead of having a  
separate row & col  
well will infuse them  
in main matrix

The common cell will create problems, so, add a extra variable to represent the cell

	Col			
0	1	2	0	
3	4	5	2	
1	3	1	5	

row

## Example

1	1	1	1
1	0	1	1
1	1	0	1
0	1	1	1

⇒

1				
1	1	1	1	
1	0	1	1	
1	1	0	1	
0	1	1	1	

$$\gamma_{0W} = 0$$

二

1	20	1	1
20	0	1	1
1	1	0	1
0	1	1	1

1000

1			
1	$\chi^0$	$\chi^0$	1
$\chi^0$	0	1	1
$\chi^0$	1	0	1
0	1	1	1

$\Rightarrow$

$\chi^0$			
1	$\chi^0$	$\chi^0$	1
$\chi^0$	0	1	1
$\chi^0$	1	0	1
0	1	1	1

$\Rightarrow$

row = 2

row = 3

# Step 2  
Now we start by filling the internal cells Excluding the Border

$\chi^0$			
1	$\chi^0$	$\chi^0$	1
$\chi^0$	0	0	0
$\chi^0$	0	0	0
0	0	0	0

$\rightarrow$  Fill only this cell, the border cell will say if current cells need to be converted to 0 or not

# Step 3: solve row first, then column

$\chi^0$			
1			1

This cell value is also dependent on col 0,

Hence we solve row first

If suppose we solve col 0, then cell 0 will be zero, making the last cell also zero (because entire

row becomes zero), which would lead to wrong answer

$\Rightarrow$

$z^0$			
1	$z^0$	$z^0$	1
$z^0$	0	0	0
$z^0$	0	0	0
0	0	0	0

from right  
to left

$\downarrow$

$z^0$	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0

Final

0	0	0	1
0	0	0	0
0	0	0	0
0	0	0	0