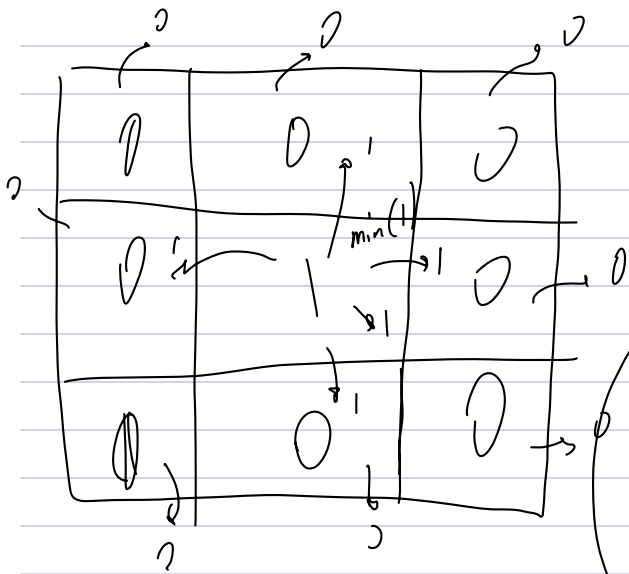


Given  $m \times n$  matrix, return distance of nearest 0 to each cell



base case: if 0 → 0

else:

check up, down, right, left

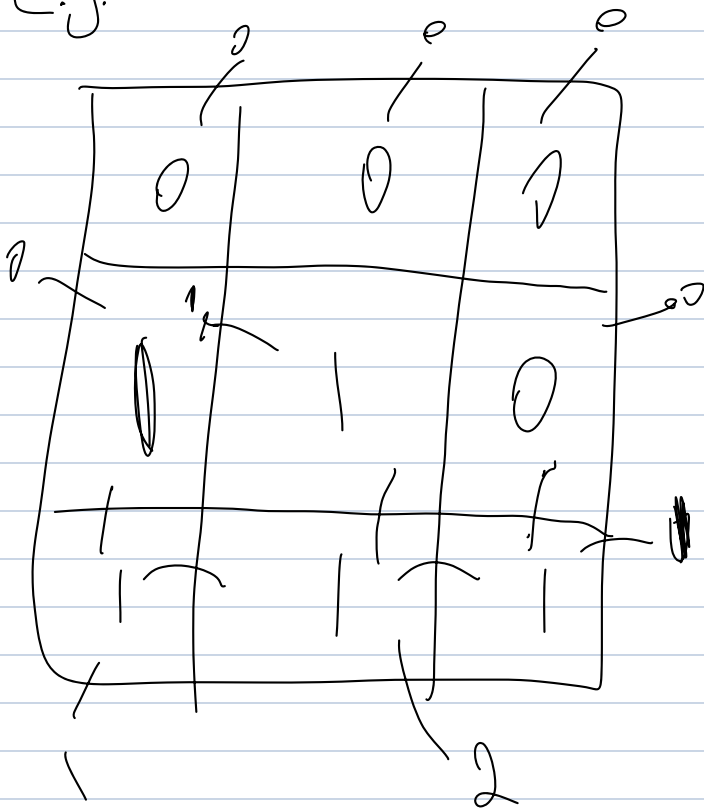
- if either 0, return 1

else go to min

then check up, down, right, left again

recursive

e.g.



BFS → shortest distance to the nearest one

First added all zeroes to queue Queue  
 then check for each neighbour  
 if  $curVal > val + 1$

then update value

0	0	0
<del>0</del>	$\infty - 1$	0
	↓	
$\infty - 1$	$\infty - 2$	$\infty - 1$

Queue	distance from nearest zero
<del>[0, 0, 0]</del>	
<del>[0, 1, 0]</del>	
<del>[0, 2, 0]</del>	
<del>[1, 0, 0]</del>	
<del>[1, 2, 0]</del>	
<del>[1, 1, 1]</del>	
<del>[2, 0, 1]</del>	
<del>[2, 2, 1]</del>	
[2, 1, 2]	1 + 1

then loop the queue

check neighbours

if any neighbour is int

add to queue

check if  $value > curVal + 1$

then update

return mat

