## 48. Rotate Image

# **Difficulty: Medium**

https://leetcode.com/problems/rotate-image

You are given an n x n 2D matrix representing an image, rotate the image by 90 degrees (clockwise).

You have to rotate the image <u>in-place</u>, which means you have to modify the input 2D matrix directly. **DO NOT** allocate another 2D matrix and do the rotation.

### Example 1:

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

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

### Example 2:

5	1	9	11		15	13	2	5
2	4	8	10		14	3	4	1
13	3	6	7		12	6	8	9
15	14	12	16		16	7	10	11

Input: matrix = [[5,1,9,11],[2,4,8,10],[13,3,6,7],[15,14,12,16]]Output: [[15,13,2,5],[14,3,4,1],[12,6,8,9],[16,7,10,11]]

### **Constraints:**

- n == matrix.length == matrix[i].length
- 1 <= n <= 20
- $\bullet$  -1000 <= matrix[i][j] <= 1000