

Rotate Image

In this problem we must rotate the matrix in place by 90 degrees clockwise.

Key Insight:

A 90° clockwise rotation can be achieved by:

1. Transpose the matrix (swap rows and columns).
2. Reverse each row.

Example for $[[1, 2, 3], [4, 5, 6], [7, 8, 9]]$:

• Transpose $\rightarrow [[1, 4, 7], [2, 5, 8], [3, 6, 9]]$

• Reverse rows $\rightarrow [[7, 4, 1], [8, 5, 2], [9, 6, 3]]$

Complexity:

- Time: $O(n^2)$ (we touch each element once)
- Space: $O(1)$ (in-place)