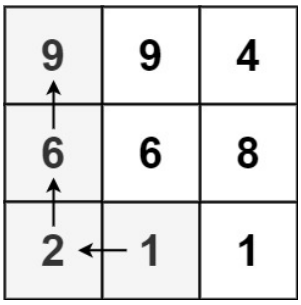
329. Longest Increasing Path in a Matrix

Given an m x n integers matrix, return the length of the longest increasing path in matrix.

From each cell, you can either move in four directions: left, right, up, or down. You may not move diagonally or move outside the boundary (i.e., wrap-around is not allowed).

Example 1:

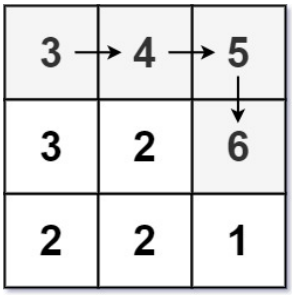


Input: matrix = [[9,9,4],[6,6,8],[2,1,1]]

Output: 4

Explanation: The longest increasing path is [1, 2, 6, 9].

Example 2:



Input: matrix = [[3,4,5],[3,2,6],[2,2,1]]

Output: 4

Explanation: The longest increasing path is [3, 4, 5, 6]. Moving diagonally is not allowed.

Example 3:

Input: matrix = [[1]]

Output: 1

Constraints:

- m == matrix.length
- n == matrix[i].length
- 1 <= m, n <= 200
- 0 <= matrix[i][j] <= 2^{31} - 1