# 329. Longest Increasing Path in a Matrix

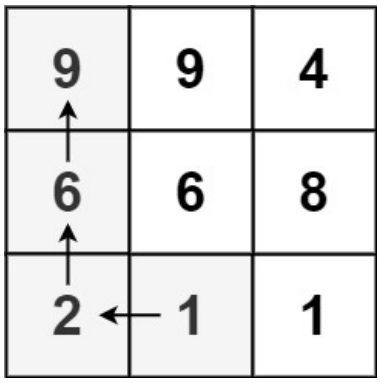
# Difficulty : Hard

https://leetcode.com/problems/longest-increasing-path-in-a-matrix

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

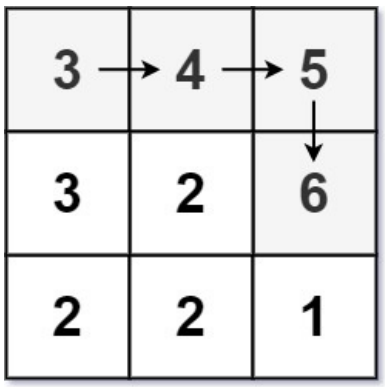
From each cell, you can either move in four directions: left, right, up, or down. You **may not** move **diagonally** or move **outside the boundary** (i.e., wrap-around is not allowed).

**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`