

Problem 1329: Sort the Matrix Diagonally

Problem Information

Difficulty: Medium

Acceptance Rate: 83.12%

Paid Only: No

Tags: Array, Sorting, Matrix

Problem Description

A **matrix diagonal** is a diagonal line of cells starting from some cell in either the topmost row or leftmost column and going in the bottom-right direction until reaching the matrix's end. For example, the **matrix diagonal** starting from `mat[2][0]`, where `mat` is a `6 x 3` matrix, includes cells `mat[2][0]`, `mat[3][1]`, and `mat[4][2]`.

Given an `m x n` matrix `mat` of integers, sort each **matrix diagonal** in ascending order and return the resulting matrix.

Example 1:



Input: `mat = [[3,3,1,1],[2,2,1,2],[1,1,1,2]]` **Output:** `[[1,1,1,1],[1,2,2,2],[1,2,3,3]]`

Example 2:

Input: `mat = [[11,25,66,1,69,7],[23,55,17,45,15,52],[75,31,36,44,58,8],[22,27,33,25,68,4],[84,28,14,11,5,50]]` **Output:** `[[5,17,4,1,52,7],[11,11,25,45,8,69],[14,23,25,44,58,15],[22,27,31,36,50,66],[84,28,75,33,55,68]]`

Constraints:

`m == mat.length` `n == mat[i].length` `1 <= m, n <= 100` `1 <= mat[i][j] <= 100`

Code Snippets

C++:

```
class Solution {  
public:  
    vector<vector<int>> diagonalSort(vector<vector<int>>& mat) {  
  
    }  
};
```

Java:

```
class Solution {  
    public int[][] diagonalSort(int[][] mat) {  
  
    }  
}
```

Python3:

```
class Solution:  
    def diagonalSort(self, mat: List[List[int]]) -> List[List[int]]:
```