链滴

[每日 LeetCode] 766. Toeplitz Matrix

Description:

A matrix is Toeplitz if every diagonal from top-left to bottom-right has the same element.

Now given an M x N matrix, return True if and only if the matrix is Toeplitz .

Example 1:

Input: matrix = [
  [1,2,3,4],
  [5,1,2,3],
  [9,5,1,2]
]
Output: True
Explanation:
In the above grid, the diagonals are:
"[9]", "[5, 5]", "[1, 1, 1]", "[2, 2, 2]", "[3, 3]", "[4]".
In each diagonal all elements are the same, so the answer is True.

Example 2:

Input: matrix = [
  [1,2],
  [2,2]
]
Output: False
Explanation:
The diagonal "[1, 2]" has different elements.

Note:

1. matrix will be a 2D array of integers.

2. matrix will have a number of rows and columns in range[1, 20].

3. matrix[i][j] will be integers in range [0, 99] .

Follow up:

1. What if the matrix is stored on disk, and the memory is limited such that you can only load t most one row of the matrix into the memory at once?

2. What if the matrix is so large that you can only load up a partial row into the memory at on e?

思路：本题要求判断二维矩阵是否为Toeplitz矩阵，该矩阵的特点为斜右方的数字相等，且该矩阵有
能不是方阵。依次遍历数组，判断每个元素的值是否等于右下方的值，若不等则立即返回false，否则
回true。

C++代码

```cpp
class Solution {
public:
    bool isToeplitzMatrix(vector<vector<int>>& matrix) {
        for (int i = 0; i < matrix.size() - 1; ++i) {
            for (int j = 0; j < matrix[i].size() - 1; ++j) {
                if (matrix[i][j] != matrix[i + 1][j + 1])
                    return false;
            }
        }
        return true;
    }
};
```

运行时间：24ms

运行内存：9.6M