Problem 2661: First Completely Painted Row or Column

Problem Information

Difficulty: Medium
Acceptance Rate: 63.90%
Paid Only: No
Tags: Array, Hash Table, Matrix

Problem Description

You are given a **0-indexed** integer array `arr`, and an `m x n` integer **matrix** `mat`. `arr` and `mat` both contain **all** the integers in the range `[1, m * n]`.

Go through each index `i` in `arr` starting from index `0` and paint the cell in `mat` containing the integer `arr[i]`.

Return _the smallest index_ `i` _at which either a row or a column will be completely painted in_ `mat`.

Example 1:

![image explanation for example 1](https://assets.leetcode.com/uploads/2023/01/18/grid1.jpg)

Input: arr = [1,3,4,2], mat = [[1,4],[2,3]] **Output:** 2 **Explanation:** The moves are shown in order, and both the first row and second column of the matrix become fully painted at arr[2].

Example 2:

![image explanation for example 2](https://assets.leetcode.com/uploads/2023/01/18/grid2.jpg)

Input: arr = [2,8,7,4,1,3,5,6,9], mat = [[3,2,5],[1,4,6],[8,7,9]] **Output:** 3 **Explanation:** The second column becomes fully painted at arr[3].

Constraints:

* `m == mat.length` * `n = mat[i].length` * `arr.length == m * n` * `1 <= m, n <= 105` * `1 <= m * n <= 105` * `1 <= arr[i], mat[r][c] <= m * n` * All the integers of `arr` are **unique**. * All the integers of `mat` are **unique**.

Code Snippets

C++:

```
class Solution {
public:
int firstCompleteIndex(vector<int>& arr, vector<vector<int>>& mat) {

}
};
```

Java:

```
class Solution {
public int firstCompleteIndex(int[] arr, int[][] mat) {

}
}
```

Python3:

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