

624. Maximum Distance in Arrays

Medium👍 521🗨 59👤 Add to List🔗 Share

You are given `m` arrays, where each array is sorted in **ascending order**.

You can pick up two integers from two different arrays (each array picks one) and calculate the distance. We define the distance between two integers `a` and `b` to be their absolute difference `|a - b|`.

Return the *maximum* distance.

Example 1:

Input: arrays = [[1,2,3],[4,5],[1,2,3]]

Output: 4

Explanation: One way to reach the maximum distance 4 is to pick 1 in the first or third array and pick 5 in the second array.

Example 2:

Input: arrays = [[1],[1]]

Output: 0

Example 3:

Input: arrays = [[1],[2]]

Output: 1

Example 4:

Input: arrays = [[1,4],[0,5]]

Output: 4

Constraints:

- `m == arrays.length`
- `2 <= m <= 105`
- `1 <= arrays[i].length <= 500`
- `-104 <= arrays[i][j] <= 104`
- `arrays[i]` is sorted in **ascending order**.
- There will be at most `105` integers in all the arrays.

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```
1 public class Solution {
2     public int maxDistance(int[][] list) {
3         int res = 0, min_val = list[0][0], max_val = list[0][list[0].length - 1];
4         for (int i = 1; i < list.length; i++) {
5             res = Math.max(res, Math.max(Math.abs(list[i][list[i].length - 1] - min_val), Math.abs(max_val - list[i][0])));
6             min_val = Math.min(min_val, list[i][0]);
7             max_val = Math.max(max_val, list[i][list[i].length - 1]);
8         }
9         return res;
10     }
11 }
```

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