

74. Search a 2D Matrix

Medium Topics Companies

You are given an $m \times n$ integer matrix `matrix` with the following two properties:

- Each row is sorted in non-decreasing order.
- The first integer of each row is greater than the last integer of the previous row.

Given an integer `target`, return `true` if `target` is in `matrix` or `false` otherwise.

You must write a solution in $O(\log(m + n))$ time complexity.

Example 1:

| | | | |
|----|----|----|----|
| 1 | 3 | 5 | 7 |
| 10 | 11 | 16 | 20 |
| 23 | 30 | 34 | 60 |

Input: `matrix = [[1,3,5,7],[10,11,16,20],[23,30,34,60]]`, `target = 3`
Output: `true`

Example 2:

| | | | |
|----|----|----|----|
| 1 | 3 | 5 | 7 |
| 10 | 11 | 16 | 20 |
| 23 | 30 | 34 | 60 |

Input: `matrix = [[1,3,5,7],[10,11,16,20],[23,30,34,60]]`, `target = 13`
Output: `false`

Constraints:

- $m == \text{matrix.length}$
- $n == \text{matrix}[i].\text{length}$
- $1 \leq m, n \leq 100$
- $-10^4 \leq \text{matrix}[i][j], \text{target} \leq 10^4$