

Search a 2D Matrix

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Question

Solution

Total Accepted: **56930** Total Submissions: **177670** Difficulty: **Medium**

Write an efficient algorithm that searches for a value in an $m \times n$ matrix. This matrix has the following properties:

- Integers in each row are sorted from left to right.
- The first integer of each row is greater than the last integer of the previous row.

For example,

Consider the following matrix:

```
[
  [1,   3,  5,  7],
  [10, 11, 16, 20],
  [23, 30, 34, 50]
]
```

Given **target** = 3 , return true .

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Python ▼



```
1 class Solution(object):
2     def searchMatrix(self, matrix, target):
3         """
4         :type matrix: List[List[int]]
5         :type target: int
6         :rtype: bool
7         """
8         row=len(matrix)
9         col=0 if row==0 else len(matrix[0])
10        start=0;end=row*col-1
11        while start<=end:
12            mid=start+(end-start)/2
```

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```
13         i=mid/col;j=mid%col
14         if target==matrix[i][j]:return True
15         elif target>matrix[i][j]:start=mid+1;
16         else:end=mid-1
17     return False
```

Custom Testcase ☐

Run Code

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