

Description

Solution

Submissions

Discuss (190)

308. Range Sum Query 2D - Mutable

Hard 384 53 Add to List Share

Given a 2D matrix *matrix*, find the sum of the elements inside the rectangle defined by its upper left corner (*row1*, *col1*) and lower right corner (*row2*, *col2*).

3	0	1	4	2
5	6	3	2	1
1	2	0	1	5
4	1	0	1	7
1	0	3	0	5

The above rectangle (with the red border) is defined by (*row1*, *col1*) = (2, 1) and (*row2*, *col2*) = (4, 3), which contains sum = 8.

Example:

```
Given matrix = [
  [3, 0, 1, 4, 2],
  [5, 6, 3, 2, 1],
  [1, 2, 0, 1, 5],
  [4, 1, 0, 1, 7],
  [1, 0, 3, 0, 5]
]
```

```
sumRegion(2, 1, 4, 3) -> 8
update(3, 2, 2)
sumRegion(2, 1, 4, 3) -> 10
```

Note:

1. The matrix is only modifiable by the *update* function.
2. You may assume the number of calls to *update* and *sumRegion* function is distributed evenly.
3. You may assume that $row1 \leq row2$ and $col1 \leq col2$.

Accepted 44,555 Submissions 128,125

Seen this question in a real interview before?

Yes

No

Python

Autocomplete

```
1 class NumMatrix(object):
2
3     def __init__(self, matrix):
4         """
5         :type matrix: List[List[int]]
6         """
7
8
9     def update(self, row, col, val):
10        """
11        :type row: int
12        :type col: int
13        :type val: int
14        :rtype: None
15        """
16
17
18    def sumRegion(self, row1, col1, row2, col2):
19        """
20        :type row1: int
21        :type col1: int
22        :type row2: int
23        :type col2: int
24        :rtype: int
25        """
26
27
28
29        # Your NumMatrix object will be instantiated and called as such:
30        # obj = NumMatrix(matrix)
31        # obj.update(row,col,val)
32        # param_2 = obj.sumRegion(row1,col1,row2,col2)
```