

54. Spiral Matrix

Medium

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Given an $m \times n$ matrix, return *all elements of the matrix in spiral order*.

Example

1 →	2 →	3 →	4 ↓
5 →	6 →	7	8 ↓
9 ↑	10 ←	11 ←	12 ←

Input: matrix = [[1,2,3,4],[5,6,7,8],[9,10,11,12]]

Output: [1,2,3,4,8,12,11,10,9,5,6,7]

Constraints:

- `m == matrix.length`
- `n == matrix[i].length`
- `1 <= m, n <= 10`
- `-100 <= matrix[i][j] <= 100`

```
1 vector<int> spiralOrder(vector<vector<int>>& A) {
2     int m = A.size(), n = A[0].size();
3     vector<int> result;
4     int i = 0, j = 0;
5
6     while(m>1 && n>1) {
7         for(int z=1; z<n; z++) {
8             result.push_back(A[i][j]);
9             j++;
10        }
11
12        for(int z=1; z<m; z++) {
13            result.push_back(A[i][j]);
14            i++;
15        }
16
17        for(int z=1; z<n; z++) {
18            result.push_back(A[i][j]);
19            j--;
20        }
21
22        for(int z=1; z<m; z++) {
23            result.push_back(A[i][j]);
24            i--;
25        }
26
27        i++; j++;
28        m = m-2; n = n-2;
29    }
30
31    if(m == 0 || n == 0) return result;
32
33    if(m>n) {
34        while(m>0) {
35            result.push_back(A[i][j]);
36            i++; m--;
37        }
38    } else {
39        while(n>0) {
40            result.push_back(A[i][j]);
41            j++; n--;
42        }
43    }
44
45    return result;
46 }
```

#100daysofDSA



/rvislive

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