54. Spiral Matrix

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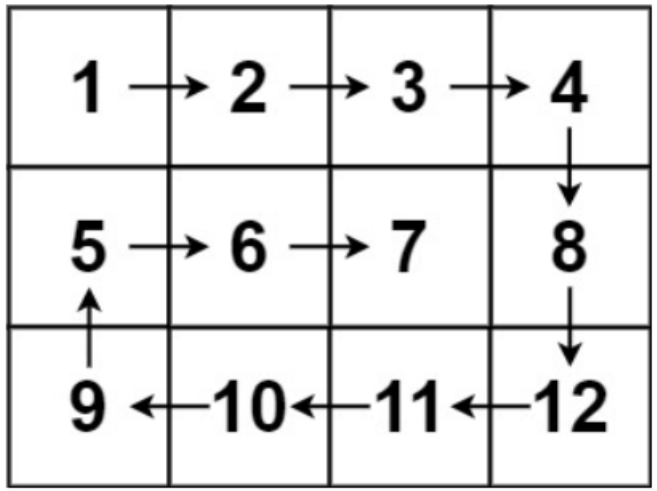
Given an `m x n` `matrix`, return *all elements of the* `matrix` *in spiral order.*

Example




```
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`

```cpp
vector<int> spiralOrder(vector<vector<int>>& A) {
    int m = A.size(), n = A[0].size();
    vector<int> result;
    int i = 0, j = 0;

    while(m>1 && n>1) {
        for(int z=1; z<n; z++) {
            result.push_back(A[i][j]);
            j++;
        }

        for(int z=1; z<m; z++) {
            result.push_back(A[i][j]);
            i++;
        }

        for(int z=1; z<n; z++) {
            result.push_back(A[i][j]);
            j--;
        }

        for(int z=1; z<m; z++) {
            result.push_back(A[i][j]);
            i--;
        }

        i++; j++;
        m = m-2; n = n-2;
    }

    if(m == 0 || n == 0) return result;

    if(m>n) {
        while(m>0) {
            result.push_back(A[i][j]);
            i++; m--;
        }
    } else {
        while(n>0) {
            result.push_back(A[i][j]);
            j++; n--;
        }
    }

    return result;
}
```

#100daysofDSA





/rvislive

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