# 54. Spiral Matrix

## SOLUTION IN C++

class Solution {

public:

vector<int> spiralOrder(vector<vector<int>>& matrix) {

if (matrix.empty())

return {};

const int m = matrix.size();

const int n = matrix[0].size();

vector<int> ans;

int r1 = 0;

int c1 = 0;

int r2 = m - 1;

int c2 = n - 1;

while (ans.size() < m \* n) {

for (int j = c1; j <= c2 && ans.size() < m \* n; ++j)

ans.push\_back(matrix[r1][j]);

for (int i = r1 + 1; i <= r2 - 1 && ans.size() < m \* n; ++i)

ans.push\_back(matrix[i][c2]);

for (int j = c2; j >= c1 && ans.size() < m \* n; --j)

ans.push\_back(matrix[r2][j]);

for (int i = r2 - 1; i >= r1 + 1 && ans.size() < m \* n; --i)

ans.push\_back(matrix[i][c1]);

++r1, ++c1, --r2, --c2;

}

return ans;

}};