

LEETCODE (73)

Set Matrix Zero.

code: C++

#include <vector>

using namespace std;

class Solution {

public:

void setZeros(vector<vector<int>> &matrix) {

vector<pair<int, int>> ans;

int m = matrix.size();

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

for(int i=0; i<m; i++) {

for(int j=0; j<n; j++) {

if(matrix[i][j]==0) {

ans.push_back({i, j});

}

}

}

for(auto it : ans) {

int row = it.first;

int col = it.second;

for(int j=0; j<n; j++) {

matrix[row][j] = 0;

}

for(int i=0; i<m; i++) {

matrix[i][col] = 0;

}

}

};

Description → Given an $n \times n$ integer matrix, if an element is 0, set its entire row & column to 0.

① eg:-

$$\begin{array}{ccc} 1 & 1 & 1 \\ 1 & 0 & 1 \\ 1 & 1 & 1 \end{array} \Rightarrow \begin{array}{ccc} 1 & 0 & 1 \\ 0 & 0 & 0 \\ 1 & 0 & 1 \end{array}$$

② eg:-

$$\begin{array}{cccc} 0 & 1 & 2 & 0 \\ 3 & 4 & 5 & 2 \\ 1 & 3 & 1 & 5 \end{array} \Rightarrow \begin{array}{cccc} 0 & 0 & 0 & 0 \\ 0 & 4 & 5 & 0 \\ 0 & 3 & 1 & 0 \end{array}$$

→ Make list, which store zero (0) coordinates (row, column).
 $m \rightarrow$ no. of rows, $n \rightarrow$ no. of columns.

→ Traverse through the whole matrix.
 Jaha bhi 0 milta hai, uska position (i, j)
ans vector me store kr lete hai.

→ Now, jitne bhi zero positions stored hai,
 unki pure row aur column 0 set kardo.
 Like,

In example ①, $(1, 1)$ tha, to pure row-1
 and col-1 zero ho jaegi.