# 073. Set Matrix Zeroes

## 073 Set Matrix Zeroes

- array

### Description

Given a *m* x *n* matrix, if an element is 0, set its entire row and column to 0. Do it in place.

click to show follow up.

**Follow up:**

Did you use extra space?

A straight forward solution using O($mn$) space is probably a bad idea.

A simple improvement uses O($m + n$) space, but still not the best solution.

Could you devise a constant space solution?

### 1. Thought line

### 2. Hash Table+array

```cpp
class Solution {
public:
    void setZeroes(vector<vector<int>>& matrix) {
        set<int> zeroRow, zeroCol;
        if (matrix.empty()) return;
        for (int i = 0; i<=matrix.size()-1; ++i)
            for (int j = 0; j<=matrix[i].size()-1; ++j)
                if (matrix[i][j]==0){
                    zeroRow.insert(i), zeroCol.insert(j);
                }
        for (int i=0; i<=matrix.size()-1; ++i)
            for (int j = 0; j<=matrix[i].size()-1; ++j)
                if (zeroRow.find(i)!=zeroRow.end() || zeroCol.find(j)!=zeroCol.end())
                    matrix[i][j]=0;
    }
};
```