

# Problem 73: Set Matrix Zeroes

## Problem Information

**Difficulty:** Medium

**Acceptance Rate:** 61.87%

**Paid Only:** No

**Tags:** Array, Hash Table, Matrix

## Problem Description

Given an  $m \times n$  integer matrix `matrix`, if an element is `0`, set its entire row and column to `0`'s.

You must do it [in place]([https://en.wikipedia.org/wiki/In-place\\_algorithm](https://en.wikipedia.org/wiki/In-place_algorithm)).

**Example 1:**



**Input:** `matrix = [[1,1,1],[1,0,1],[1,1,1]]` **Output:** `[[1,0,1],[0,0,0],[1,0,1]]`

**Example 2:**



**Input:** `matrix = [[0,1,2,0],[3,4,5,2],[1,3,1,5]]` **Output:** `[[0,0,0,0],[0,4,5,0],[0,3,1,0]]`

**Constraints:**

`m == matrix.length` `n == matrix[0].length` `1 <= m, n <= 200` `-231 <= matrix[i][j] <= 231 - 1`

**Follow up:**

\* A straightforward 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?

## Code Snippets

### C++:

```
class Solution {
public:
    void setZeroes(vector<vector<int>>& matrix) {

    }
};
```

### Java:

```
class Solution {
    public void setZeroes(int[][] matrix) {

    }
}
```

### Python3:

```
class Solution:
    def setZeroes(self, matrix: List[List[int]]) -> None:
        """
        Do not return anything, modify matrix in-place instead.
        """
```