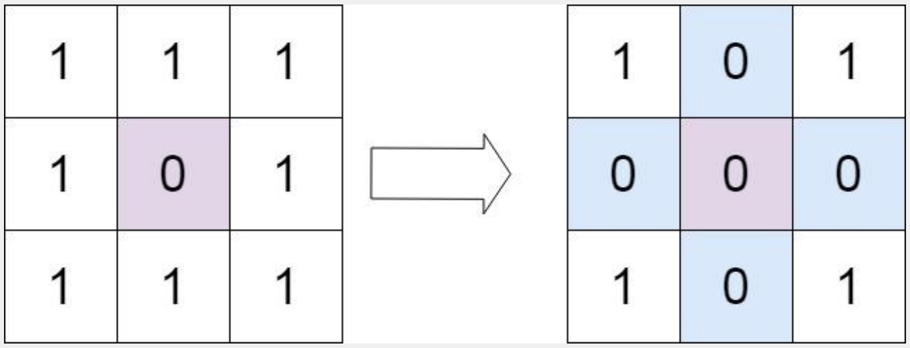
Given an m x n integer matrix matrix, if an element is 0, set its entire row and column to 0's.

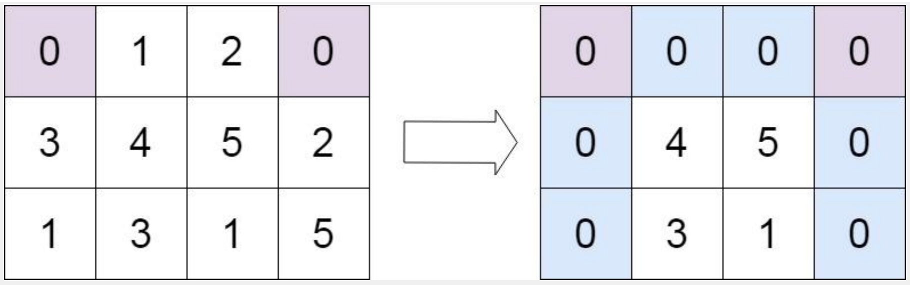
You must do it in place.

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

- -2^{31} <= matrix[i][j] <= 2^{31} - 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?

Approach:

The above code first identifies the rows and columns that contain zeros and then sets all elements in those identified rows and columns to zero.

Code:

```
class Solution {
   public void setZeroes(int[][] matrix) {
      int []row=new int[matrix.length];
      int []col=new int[matrix[0].length];
      for (int i = 0; i < matrix.length; i++) {
         for (int j = 0; j < matrix[i].length; j++) {
            if(matrix[i][j]==0){
               row[i]=1;
               col[j]=1;
            }
         }
      }
      for (int i = 0; i < matrix.length; i++) {
         for (int j = 0; j < matrix[i].length; j++) {
            if(row[i]==1||col[j]==1){
                matrix[i][j]=0;
                System.out.println(matrix[i][j]);
            }else{
               System.out.println(matrix[i][j]);
            }
         }
      }
   }
}
```