DAY 29

INTERVIEW BIT PROBLEMS :

1. Set Matrix Zeros

Given a matrix, A of size M x N of 0s and 1s. If an element is 0, set its entire row and column to 0.
Note: This will be evaluated on the extra memory used. Try to minimize the space and time complexity.

Input Format:
The first and the only argument of input contains a 2-d integer matrix, A, of size M x N.
Output Format:
Return a 2-d matrix that satisfies the given conditions.
Constraints:
1 <= N, M <= 1000
0 <= A[i][j] <= 1
Examples:
Input 1:
```
    [   [1, 0, 1],
        [1, 1, 1],
        [1, 1, 1]    ]
```

Output 1:
```
    [   [0, 0, 0],
        [1, 0, 1],
        [1, 0, 1]    ]
```

Input 2:
```
    [   [1, 0, 1],
        [1, 1, 1],
        [1, 0, 1]    ]
```

Output 2:
```
    [   [0, 0, 0],
        [1, 0, 1],
        [0, 0, 0]    ]
```

CODE :

C++

```cpp
void Solution::setZeroes(vector<vector<int> > &A) {
    // Do not write main() function.
    // Do not read input, instead use the arguments to the function.
    // Do not print the output, instead return values as specified
    int m=A.size(),n=A[0].size();
    int r=0,c=0;
```

```
for(int i=0;i<n;i++){
    if(A[0][i]==0){
        r=1;
        break;
    }
}
for(int i=0;i<m;i++){
    if(A[i][0]==0){
        c=1;
        break;
    }
}
for(int i=1;i<m;i++){
    for(int j=1;j<n;j++){
        if(A[i][j]==0){
            A[i][0]=0;
            A[0][j]=0;
        }
    }
}
for(int i=1;i<m;i++){
    for(int j=1;j<n;j++){
        if(A[i][0]==0||A[0][j]==0)
            A[i][j]=0;
    }
}
if(r==1){
    for(int i=0;i<n;i++)
        A[0][i]=0;
}
if(c==1){
    for(int i=0;i<m;i++)
        A[i][0]=0;
}
}
```