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

/\*

brute force approach- we will simply traverse through the matrix and we find 0 then will make that particular row and column 0

time complexity = (n\*m ) \* (n+m) space complexity = O(1)

/\*

better approach= we can create two dummy array outside matrix

time complexity = (n\*m) +(n\*m)

space complexity =o(n)+ o(m)

\*/

/\* optimal Approach = will use dummy array inside matrix first col =true

time complexity 2(n\*m) space complexity=O(1) \*/

int col0=1;

for(int i=0; i<matrix.size(); i++)

{

if(matrix[i][0] ==0) col0=0;

for(int j=1; j<matrix[0].size(); j++)

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

matrix[i][0] = matrix[0][j]=0;

}

//traverse from back

for(int i= matrix.size()-1; i>=0; i--)

{

for(int j=matrix[0].size()-1; j>=1; j--)

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

matrix[i][j]=0;

if(col0==0 ) matrix[i][0]=0;

}

}

