Set Matrix Zero

- **Problem Statement:** Given a matrix if an element in the matrix is 0 then you will have to set its entire column and row to 0 and then return the matrix.

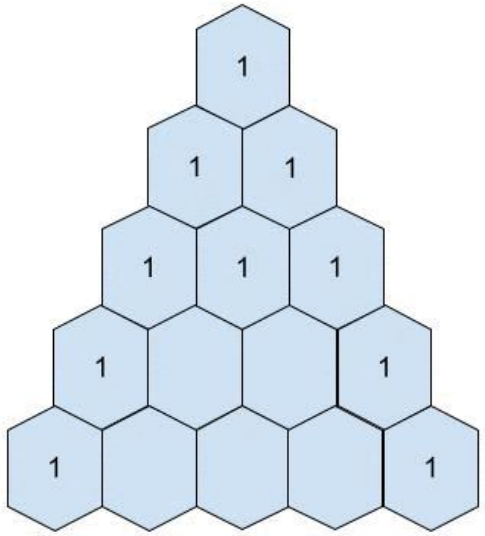
Examples 1:
Input: matrix=[[1,1,1],[1,0,1],[1,1,1]]
Output: [[1,0,1],[0,0,0],[1,0,1]]
Explanation: Since matrix[2][2]=0.Therfore the 2nd column and 2nd row wil be set to 0.

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]]

Pascal’s Triangle

- **Problem Statement:** Given an integer **N**, return the first **N** rows of Pascal’s triangle.
- In **Pascal’s triangle**, each number is the sum of the two numbers directly above it as shown in the figure below:

Program to generate Pascal's Triangle



Input Format: N = 5

Result:

```
     1
    1 1
   1 2 1
  1 3 3 1
 1 4 6 4 1
```

Explanation: There are 5 rows in the output matrix. Each row corresponds to each one of the rows in the image shown above.

Rotate Image by 90 degree

- **Problem Statement:** Given a matrix, your task is to rotate the matrix by 90 degrees.

Example 1:
Input: `[[1,2,3],[4,5,6],[7,8,9]]`
Output: `[[7,4,1],[8,5,2],[9,6,3]]`

Example 2:
Input: `[[5,1,9,11],[2,4,8,10],[13,3,6,7],[15,14,12,16]]`
Output: `[[15,13,2,5],[14,3,4,1],[12,6,8,9],[16,7,10,11]]`

next_permutation : find next lexicographically greater permutation

- **Problem Statement:** Given an array Arr[] of integers, rearrange the numbers of the given array into the lexicographically next greater permutation of numbers.
- If such an arrangement is not possible, it must rearrange it as the lowest possible order (i.e., sorted in ascending order).

```
Input format: Arr[] = {1,3,2}
Output: Arr[] = {2,1,3}
```