**[Count number of free cell](https://practice.geeksforgeeks.org/problems/90a81c305b1fe939b9230a67824749ceaa493eab/1)**

Suppose you have a Matrix size **n\*n**, and given an integer **k** and a set of coordinates **arr** of size **k\*2**. Initially, the matrix contains only 0. You are given k tasks and for each task, you are given two coordinates (r = arr[i][0],c = arr[i][1]) [1 based index r and c]. Where coordinates (r,c) denotes rthrow and cthcolumn of the given matrix.

You have to perform each task sequentially in the given order. For each task, You have to put 1 in all rth row cells and all cth columns cells.

After each task, You have to calculate the number of 0 present in the matrix and return it.

**Example 1:**

**Input:**

n = 3, k= 3

arr =

{{2, 2},

{2, 3},

{3, 2}}

**Output:** 4 2 1

**Explanation:**

After 1st Operation, all the 2nd row

and all the 2nd column will be filled by

1. So remaning cell with value 0 will be 4

After 2nd Operation, all the 2nd row and all

the 3rd column will be filled by 1. So

remaning cell with value 0 will be 2**.**

After 3rd Operation cells having value 0 will

be 1.

**Example 2:**

**Input:**

n = 2, k = 2

arr =

{{1, 2},

{1, 1}}

**Output:** 1 0

**Explanation:**

After 1st Operation, all the 1st row and

all the 2nd column will be filled by 1.

So remaning cell with value 0 will be 1.

After 2nd Operation, all the 1st row and

all the 1st column will be filled by 1.

So remaning cell with value 0 will be 0**.**

**Your Task:**  
The task is to complete the function **countZero**(), which takes parameter **n,**size of  
the matrix, k no of operation and array **arr[][],**which denotes the position of the cells.  
You have to return an array that contains all the results.

**Expected Time Complexity:**O( k ).  
**Expected Auxiliary Space:** O( n+n+k ).

**Constraints:**  
1 <= n, k <= 105  
1 <= r, c <= n