Problem B
Bishops

Input: Standard Input
Output: Standard Output

Little Sultan has a new chess set. But he finds it more amusing to make some new variants of his own than the original game of chess. Here he challenges you with one of his new variants. On a **n×n** chessboard **m** bishops are placed. You have to calculate how many square cells of the chessboard are not attacked by any of those bishops.

Input

On the first line you will be given **L** which denotes the number of input sets you have to process. For each of the input sets, you will have the following:
n, m on a line.
Each of the following **m** lines will have two integers: **r_i** and **c_i** denoting the row and column position of the bishops (1-based).

Output

For each input set, output the set number as the sample output suggests and the number of cells which are not attacked by any of the bishops.

Constraints

1. 1 <= n <= 40000
2. 0 <= m <= 10000
3. The positions for the bishops will be distinct.
4. 1 <= r_i, c_i <= n

Sample Input	**Sample Output**
2 1 1 1 1 2 1 2 1	Case #1: 0 Case #2: 2

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