



Problem A. Triples

You are given a grid size $m \times n$, the horizontal lines of the grid are numbered from 1 to m , from top to bottom, the vertical lines of the grid are numbered from 1 to n , from left to right. The point is located on the intersection of line i and column j of grid called point (i, j) . Each point can be colored blue, red or not colored. We call triple sets (C_1, C_2, C_3) a nice set if three point C_1, C_2, C_3 satisfy the following conditions:

- 1) C_1, C_2 in the same row, and C_2, C_3 in the same column;
- 2) C_1, C_3 the same color and different color with C_2 .
- 3) C_1, C_2, C_3 should be colored.

Request: Your task is to count the number of triple sets.

Input

The first line contains the integer $T \leq 10$ that is the number of data sets. The following T lines, each of the following forms:

- The first line contains two integers $m, n \leq 1000$;
- Each of next m lines contains a string of length n . The character j on line i is 0, 1 or 2, respectively, is not colored, colored in blue or colored in red.

Output

There are T lines, each line is an integer which is the number of nice sets that correspond to the input set.

Examples

Standard Input	Standard Output
1	1
3 3	
000	
201	
002	