

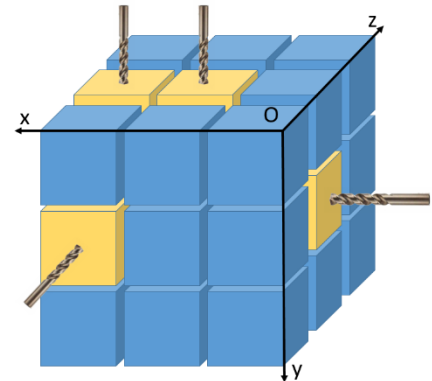
Problem C

Cube

Time Limit: 1 second
Memory Limit: 512 megabytes

Prof. Thanh designs a very special rectangular cube with dimensions of $n \times n \times n$ units. He builds a coordinate system O_{xyz} at a particular corner of the cube, with the three faces of the cube being the three planes O_{xy} , O_{yz} , and O_{zx} .

Each **unit block** of the cube is defined by a set of three numbers (x, y, z) as a point in 3-dimensional space ($0 \leq x, y, z \leq n - 1$). Prof. Thanh says that **potential unit blocks** are located at (x, y, z) , where **exactly one** of the coordinates is 0, which means that they are located on one of the three faces O_{xy} , O_{yz} , O_{zx} , but not on the axes.



Prof. Thanh chooses k **potential unit blocks** and for each of the blocks, he drills from the center of the square located on the cube's face and from the direction perpendicular to the face containing that cell. Suppose that he drills through the cube.

Your task is to help Prof. Thanh determine how many unit blocks are passed by at least one drill.

Input

The first line contains two integers, n and k ($1 \leq n \leq 10^9$; $1 \leq k \leq 10^3$).

In the following k lines, each line contains three integers x, y, z ($0 \leq x, y, z \leq n - 1$) indicating the location of a potential unit block. For each line, exactly one of the three integers is 0.

Output

A single integer indicates the number of unit blocks passed by at least one drill.

Sample Input	Sample Output	Explanation
<pre>3 4 2 1 0 0 1 1 1 0 1 2 0 1</pre>	9	As illustrated in the figure above