Problem H. Training Session

3 training contests has just ended and all results have been released. It is the time to define who performed successfully. However, this training session has a special rule of assessment: contestant A is assessed to be better than contestant B if A performed better than B in at least one contest. This rule is used to give opportunities to contestants who didn't do well in the previous contests. Never give up!

You need to calculate the number of different pairs of contestants in which each of the two contestants are assessed to be better than the other. Two pairs are different if there is a contestant in a pair who isn't contained in the other.

Input

The first line contains the integer n ($1 \leq n \leq 400000$) – the number of participants in the session.

Each of the next n lines consists of 3 integers a_i b_i c_i ($1 \leq a_i, b_i, c_i \leq n$) – the ranks achieved by contestant i-th at the first, the second and the third contests respectively.

It is guaranteed that there is no contest where contestants share the same place.

Output

Output the number of pairs of contestants in which each of the contestants are assessed to be better than the other.

Examples

Standard Input	Standard Output
3 1 2 3 3 1 1 2 3 2	3