CODEFORCES
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D1. Hyperspace Jump (easy)

time limit per test: 5 seconds

memory limit per test: 256 megabytes

The Rebel fleet is on the run. It consists of m ships currently gathered around a single planet. Just a few seconds ago, the vastly more powerful Empire fleet has appeared in the same solar system, and the Rebels will need to escape into hyperspace. In order to spread the fleet, the captain of each ship has independently come up with the coordinate to which that ship will jump. In the obsolete navigation system used by the Rebels, this coordinate is given as the value of an arithmetic expression of the form $\frac{a+b}{c}$.

To plan the future of the resistance movement, Princess Heidi needs to know, for each ship, how many ships are going to end up at the same coordinate after the jump. You are her only hope!

Input

The first line of the input contains a single integer m ($1 \leq m \leq 200\,000$) – the number of ships. The next m lines describe one jump coordinate each, given as an arithmetic expression. An expression has the form `(a+b)/c`. Namely, it consists of: an opening parenthesis `(`, a positive integer a of up to two decimal digits, a plus sign `+`, a positive integer b of up to two decimal digits, a closing parenthesis `)`, a slash `/`, and a positive integer c of up to two decimal digits.

Output

Print a single line consisting of m space-separated integers. The i-th integer should be equal to the number of ships whose coordinate is equal to that of the i-th ship (including the i-th ship itself).

Example

input	Copy
4 (99+98)/97 (26+4)/10 (12+33)/15 (5+1)/7	

output	Copy
1 2 2 1	

Note

In the sample testcase, the second and the third ship will both end up at the coordinate 3.

Note that this problem has only two versions – easy and hard.

Helvetic Coding Contest 2018 online mirror (teams allowed, unrated)

Finished

Practice

⭐

→ Virtual participation ⌄

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

[Start virtual contest]

→ Clone Contest to Mashup ⌄

You can clone this contest to a mashup.

[Clone Contest]

→ Submit?

Language: [GNU G++20 13.2 (64 bit, win ▾]

Choose file: [Choose File] No file chosen

[Submit]

→ Last submissions

Submission	Time	Verdict
248305596	Feb/26/2024 08:45	Accepted

→ Problem tags

[expression parsing] [math] [*1400]

No tag edit access

→ Contest materials

- a (en) ✕
- Tutorial (en) ✕

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