B. Lowest Common Ancestor

time limit per test: 1 second

memory limit per test: 256 megabytes

Scientists have been studying a variety of species, and they want to understand the evolutionary relationships between the different animals. They notice a very peculiar property: if species A is an ancestor of species B, then the species name for A is a suffix for a species name for B! Given a set of species names, can you determine which species in the list is an ancestor of all the other species? If no such species exists, print "Not found" (without quotes).

Input

The first line contains a single integer n ($1 \leq n \leq 1000$) — the number of known species.

The following n lines contain a single string s_i ($1 \leq |s_i| \leq 1000$) — the name of the ith species. s_i consists of the lowercase letters ('a'–'z') and hyphens ('-'). It is also guaranteed that all species names are distinct.

Output

If one of these species is an ancestor of all the others, output the name of the species. Otherwise, output "Not found" without quotes.

Examples

input	Copy
4 jay blue-jay red-jay purplejay	

output	Copy
jay	

input	Copy
4 cow sheep goat fish	

output	Copy
Not found	

UTPC Contest 2-12-25 Div. 2 (Beginner)

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
306001739	Feb/13/2025 22:35	Accepted

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