A. Guess a number!

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

A TV show called "Guess a number!" is gathering popularity. The whole Berland, the old and the young, are watching the show.

The rules are simple. The host thinks of an integer y and the participants guess it by asking questions to the host. There are four types of acceptable questions:

- Is it true that y is strictly larger than number x?
- Is it true that y is strictly smaller than number x?
- Is it true that y is larger than or equal to number x?
- Is it true that y is smaller than or equal to number x?

On each question the host answers truthfully, "yes" or "no".

Given the sequence of questions and answers, find any integer value of y that meets the criteria of all answers. If there isn't such value, print "`Impossible`".

Input

The first line of the input contains a single integer n ($1 \le n \le 10000$) — the number of questions (and answers). Next n lines each contain one question and one answer to it. The format of each line is like that: "*sign x answer*", where the *sign* is:

- ">" (for the first type queries),
- "<" (for the second type queries),
- ">=" (for the third type queries),
- "<=" (for the fourth type queries).

All values of x are integer and meet the inequation $-10^9 \le x \le 10^9$. The *answer* is an English letter "`Y`" (for "yes") or "`N`" (for "no").

Consequtive elements in lines are separated by a single space.

Output

Print any of such integers y, that the answers to all the queries are correct. The printed number y must meet the inequation $-2 \cdot 10^9 \le y \le 2 \cdot 10^9$. If there are many answers, print any of them. If such value doesn't exist, print word "`Impossible`" (without the quotes).

Examples

input
4 >= 1 Y < 3 N <= -3 N > 55 N
output
17

input
2 > 100 Y < -100 Y
output
Impossible

Codeforces Round #241 (Div. 2)
Finished

→ **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 ACM-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

→ **Problem tags**

greedy implementation two pointers

No tag edit access

→ **Contest materials**

- Announcement
- Tutorial