


Metaprogramming

Problem ID: metaprogramm**CPU Time limit:** 1 second**Memory limit:** 1024 MB**Difficulty:** 2.4**Author:** Greg Hamerly**Source:** Baylor Competitive Learning course**License:** 

EIGER is a brand-new, made-up computer language. It's very exciting, and very simple! EIGER only allows the programmer to do two things: define a name for an integer, and compare two names. Write a metaprogram – a program which can simulate the EIGER language.

Input

Input consists of one command per line, up to 10 000 commands, ending at end of file. A definition command has the form `define i x`, where `i` is an integer in the range `[-10 000, 10 000]` and `x` is a string of up to 20 lowercase alphabet characters (`a-z`). A comparison command has the form `eval x y z`, where `x` and `z` are strings of the same format as in definitions, and `y` is one of `<`, `>`, or `=`.

Output

For each definition, use the string as a label for the given integer, but don't output anything. Redefinitions are allowed. For each comparison, state whether it is true or false, depending on the current definitions. If the result is not known, output 'undefined'.

Sample Input 1

```
define 5 hellothere
define 6 goodbye
eval hellothere < goodbye
eval hellothere > goodbye
eval hellothere = goodbye
eval hellothere = hi
define 5 hi
eval hellothere = hi
define 6 hi
eval hellothere = hi
```

Sample Output 1

```
true
false
false
undefined
true
false
```