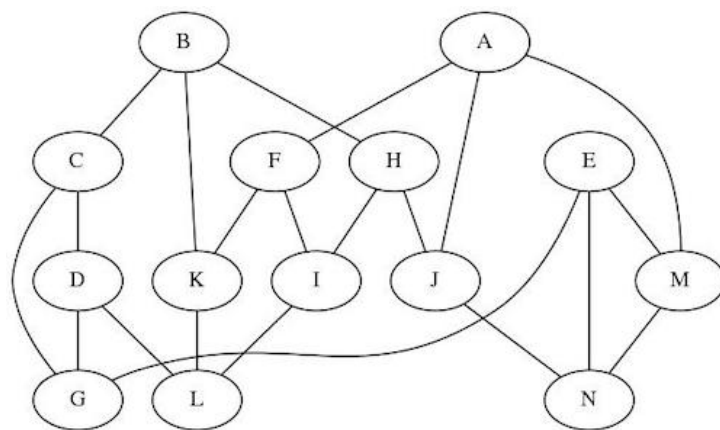


Objective

You have managed to get the map below showing different temples connected by ancient telluric lines. Names (shown here by letters from A to N) are given in a forgotten language.



The map also gives the name of the Lost Temple. As it is provided in forgotten language, you cannot know where it is in today's world. But fortunately, you have a map of the same network, written in a more recent language. Just identify the temples on the recent map with the temples of the ancient map to find the Lost Temple!

Your job is to write a program taking the modern map and calculating for each temple shown on the map which temple it corresponds to on the ancient map and deduce the current name of the Lost Temple from its ancient name.

Data format

Entry

Row 1: a letter between A and N indicating the location of the lost temple on the old map.

Rows 2 to 22: two strings containing between 5 and 30 alphabetical characters separated by a space representing the names of two temples connected on the new map.

Output

The name, on the new map, of the temple corresponding to the lost temple!

Example

Input:

```
A
Earaindir Rithralas
Hilad Fioldor
Delanduil Rithralas
Urarion Elrebrimir
Elrebrimir Fioldor
Eowul Fioldor
Beladrieng Anaramir
Urarion Eowul
Earaindir Sanakil
Delanduil Isilmalad
Earylas Isilmalad
Rithralas Sanakil
Unithral Elrebrimir
Earylas Eowul
Beladrieng Hilad
Isilmalad Sanakil
Unithral Earylas
Earaindir Anaramir
Unithral Beladrieng
Hilad Anaramir
Delanduil Urarion
```

The output is:

```
Delanduil
```

In this example, you identify that the letters correspond to the following temples:

A -> Delanduil

B -> Unithral
C -> Beladrieng
D -> Hilad
E -> Earaindir
F -> Urarion
G -> Anaramir
H -> Earylas
I -> Eowul
J -> Isilmalad
K -> Elrebrimir
L -> Fioldor
M -> Rithralas
N -> Sanakil

The lost temple, identified here by the letter A therefore corresponds to Delanduthere