

Sad Mario



We need you!

Super Mario has become very sad that he did not find his princess in the castle. He decided to go back to his hometown which is very far away. However Mario forgot how to find his way back...

To help him find his way back, his brother Luigi gave him a huge map of the world. Unfortunately Mario does not understand this map which shows how the different islands of the world are connected to each other.

Since we all love Mario, we decided to help him. Given his current position, his hometown and the map as input, we need to find the path that leads to Mario's hometown.

Let's do this!

N.B: There is only one path leading to the final destination.

Input Format

- The first line contains the count of connections
- The second line, contains two islands name separated by a space. The first is where Mario is right now and the second one is where Mario wants to go.
- lines follow, each containing two islands name(A and B) separated by a space . Each line indicate a connection between the island A and the island B

Output Format

Print, in order, the islands name that Mario needs to goes through so that he reaches his final destination.

Constraints

$1 < N < 10000$

Sample Input

```
5
yoshi donut
donut vanilla
donut twin
```

```
twin forest
chocolate donut
forest yoshi
```

Sample Output

```
forest twin donut
```

Explanation

There are 5 connections, and Mario is currently at yoshi island, his hometown is donut island. So the path is forest -> twin -> donut

Notice how the start island is not printed but the final island is.

Example:

Input

```
6
twin koopa
sky valley
mushroom toad
toad koopa twin valley
forest twin
valley koopa
```

Output

```
Valley Koopa
```