Resources

✔ **Points:** 100 (partial)
🕐 **Time limit:** 0.2s
🖳 **Memory limit:** 32M
✎ **Author:**
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🏷 **Tags**
Graphs
⬆ **Difficulty**
Easy

King Giro invented a new type of Coke, which he called Gola. It had an intoxicating effect.

Goshho tried the Gola and became drunk. Worse, he started thinking he was a browser (you know, Google Chrome, Firefox, etc.) and decided he had to load resources.

Based on dependencies, find out how the Gosho browser will load the resources.

The loaded resources must be printed following the rules:

- If resource Y depends on resource X, **Y must be printed after X**.
- If resources X and Y are equally important from the above rule, print the one smaller lexicographically
  - i.e. if X < Y print X then Y, else Y then X

Input

- Read from the standard input

- On the first line you will find the number **N**

  - The number of all commands

- The following **N** lines will have commands

  - Each command will be in the format **F needs S**
    - Resource S must be loaded first in order to load resource F

Ouput

- Print on the standard output
- Print the resources, based on the rules
  - All on the same line, separated by a single whitespace

Constraints

- N <= 2000

Sample tests

Input

```
8
index.html needs main.css
main.css needs sub1.css
index.html needs main.js
main.css needs sub2.css
index.html needs logo.png
main.js needs player.png
main.js needs partial.html
partial.html needs partial.js
```

Output

```
index.html logo.png main.css main.js partial.html partial.js player.png sub1.css sub2.css
```

Input

```
11
main.css needs sub1.css
index.html needs main.js
main.css needs sub2.css
main.js needs partial.html
index.html needs logo.png
index.html needs sub2.css
partial.html needs partial.js
main.js needs player.png
index.html needs main.css
sub2.css needs partial.js
index.html needs partial.html
```

Output

```
index.html logo.png main.css main.js partial.html player.png sub1.css sub2.css partial.js
```