

# I: Divination

Time limit: 1 second



In Yinxu, the archaeological site of the late capital of the Shang Dynasty, there are  $N$  divination papers written in oracle bone script, numbered  $1, 2, \dots, N$ . Some papers may cite other papers, but no paper can cite itself. Additionally, there are no circular citations, meaning it's not possible to see the following situation:  $A_1$  cites  $A_2$ ,  $A_2$  cites  $A_3$ , ...,  $A_{K-1}$  cites  $A_K$ ,  $A_K$  cites  $A_1$  (where  $2 \leq K \leq N$ ).

As per myth, a complete set of divination papers can predict the wars and peace of the next century, and it should have a complete citation chain, i.e.,  $A_1$  cites  $A_2$ ,  $A_2$  cites  $A_3$ , ...,  $A_{N-1}$  cites  $A_N$ , without any papers missing. Please determine whether these  $N$  divination papers constitute a complete set.

## Input

The first line contains an integer  $N$ , represents the number of papers. Then  $N$  lines follow, the  $i^{\text{th}}$  of them represents the citations of the  $i^{\text{th}}$  paper: the first integer  $c_i$  represents the number of its citations, followed by  $c_i$  integers  $p_{i,1}, p_{i,2}, \dots, p_{i,c_i}$  that represent the papers that it cites.

## Output

A single integer, 1 if they constitute a complete set of divination papers, or 0 otherwise.

## Limits

- $2 \leq N \leq 100\,000$ ;
- $0 \leq c_i \leq N - 1$  for all  $i \leq N$ ;
- $0 \leq c_1 + c_2 + \dots + c_N \leq 500\,000$ ;
- $1 \leq p_{i,j} \leq N$  for all  $i \leq N$  and  $j \leq c_i$ .
- $p_{i,j} \neq i$  for all  $i \leq N$  and  $j \leq c_i$ .

## Sample Input 1

```
4
0
2 1 4
2 2 4
1 1
```

### Sample Output 1

```
1
```

### Sample Explanation 1

In this sample, paper 3 cites paper 2, paper 2 cites paper 4, paper 4 cites paper 1. Thus, we find a complete citation chain, which makes them a complete set of divination papers.

### Sample Input 2

```
4
0
1 1
2 2 4
1 1
```

### Sample Output 2

```
0
```

Image credits: Oracle bone recording divinations by BabelStone, CC BY-SA 3.0, via Wikimedia Commons