The FME graph (2)   P25513_en
Vuitè Concurs de Programació de la FME (2011-12-21)

Lisbeth Salander (one of the main characters of the famous trilogy Millennium) is a crack mathematician, and therefore she is considering enrolling in the FME. As she likes both men and women, and she knows the FME graph, she is curious to know if it is possible that all the affairs have been between people of opposite sex. Help her!

Input

Input consists of several cases. Every case begins with the number of people n, followed by the information of each one: the name, the number m_i of his or her affairs, and the m_i names of the corresponding people. Assume that all the names are different, that for every pair of names x and y, if x is in the list of y then x exists and y is in the list of x, and that x is never in the list of x. Suppose $2 \leq n \leq 10^4$, and that the total number of affairs is at most $2n$.

Output

For every case, tell if it is possible that all the affairs have been between people of opposite sex.

Sample input

```
6
Alex 2 Felix Ivan
Enric 2 Ivan Felix
Ferran 1 Lander
Lander 1 Ferran
Ivan 2 Alex Enric
Felix 2 Enric Alex
4
a 0
d 2 b c
b 2 d c
c 2 d b
```

Sample output

```
yes
no
```

Problem information

Author : Ferran Alet i Ivan Geffner
Generation : 2024-04-30 17:51:08