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## Spider tree

P98714\_en

Catorzè Concurs de Programació de la UPC - Final (2016-09-21)

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A spider mom plans to buy a tree (an undirected and connected graph with no cycles) for its progeny. The spider mom has  $n$  kids, and wants a tree with  $8n$  vertices that can be divided into  $n$  subtrees with exactly eight vertices each (one subtree for each kid, with one vertex for each of its eight legs), only by removing  $n - 1$  edges. Let us call such a tree a spider tree.

Given a tree with  $8n$  vertices, is it a spider tree?

### Input

Input consists of several cases, each with  $n$  followed by  $8n - 1$  pairs  $x y$  indicating an edge between  $x$  and  $y$ . Assume  $1 \leq n \leq 10^4$ , that the given graph is indeed a tree, and that vertices are numbered starting from zero.

### Output

For every tree, tell if it is a spider tree or not.

### Sample input

```
1
6 1 4 0 1 5 7 1 0 6 3 0 6 2

2
3 8 11 1 3 15 14 11 11 13 0 4 9 0 6 11 0 3 7 11 2 14 0 14 10 4 14 12 14 5
```

### Sample output

```
yes
no
```

### Problem information

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