
Spider tree

P98714_en

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

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

Author : Salvador Roura
Generation : 2024-05-03 10:06:52

© Jutge.org, 2006–2024.
<https://jutge.org>