
Width of the trees

P52155_en

Write a program that reads the shape of various binary trees, and prints the width of each one. We define the width of a tree as the maximal number of nodes that has at any of its levels (or zero, if the tree is empty).

Input

Input consists of the description of various trees as it is explained at the exercise : "", with an exception: All the values are 0, because the content of the nodes here is not important.

Output

Your program must print the width of each given tree.

Sample input

```
10
0 0 0 -1 0 -1 -1 0 -1 -1 0
0 -1 -1 0 0 -1 0 -1 -1 -1
3
0 0 0 -1 -1 -1 -1
```

Sample output

```
4
1
```

Problem information

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