Bounded growth chains X80577_en

A bounded growth chain is a list of numbers $y_1, \ldots, y_m$ such that any list number y_j, but the first one, is at most $1 + \max(y_1, \ldots, y_{j-1})$. For instance, the list $3, 2, 0, 4, 1$ is a bounded growth chain. Write a program that given a sequence of non-negative integers computes the length of the longest bounded growth chain formed by consecutive numbers in the input sequence. For example, given the input sequence is $0, 1, 3, 2, 0, 4, 1, 7, 0$ the program must output 5 because $3, 2, 0, 4, 1$ is the longest bounded growth chain.
Exam score: 5 **Automatic part:** 40%

Input

The input is a list of cases. Each case is formed by a sequence of non-negative integers followed by the end marker -1.

Output

For each case, a line with the length of the longest bounded growth chain.

Sample input

```
0 1 3  2  0 4 1 7 0 -1
0 1 4 2 4 7 0 -1
0 1 3 0 2 5 0 0 3 7 9 13 -1
7 5 3 6 2 9 8 -1
-1
0 -1
0 0 -1
```

Sample output

```
5
3
4
5
0
1
2
```

Problem information

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