

String Theory

Nested quotations are great not only for writing literature with a complex narrative structure, but also in programming languages. While it may seem necessary to use different quotation marks at different nesting levels for clarity, there is an alternative. We can display various nesting levels using k -quotations, which are defined as follows.

A 1-quotiation is a string that begins with a quote character, ends with another quote character and contains no quote characters in-between. These are just the usual (unnested) quotations. For example, 'this is a string' is a 1-quotiation.

For $k > 1$, a k -quotiation is a string that begins with k quote characters, ends with another k quote characters and contains a nested string in-between. The nested string is a non-empty sequence of $(k-1)$ -quotiations, which may be preceded, separated, and/or succeeded by any number of non-quote characters. For example, "All 'work' and no 'play'" is a 2-quotiation.

Given a description of a string, you must determine its maximum possible nesting level.

Input

Multiple test cases. Please process until EOF is reached. For each test case:

The input consists of two lines. The first line contains an integer n ($1 \leq n \leq 100$). The second line contains n integers a_1, a_2, \dots, a_n ($1 \leq a_i \leq 100$), which describe a string as follows. The string starts with a_1 quote characters, which are followed by a positive number of non-quote characters, which are followed by a_2 quote characters, which are followed by a positive number of non-quote characters, and so on, until the string ends with a_n quote characters.

Output

For each test case, display the largest number k such that a string described by the input is a k -quotiation. If there is no such k , display no quotation instead.

Example

Input:

```
5
2 1 1 1 3
1
22
1
1
```

Output:

```
2
4
no quotation
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