Problem D
Wavio Sequence

Input: Standard Input
Output: Standard Output
Time Limit: 2 Seconds

Wavio is a sequence of integers. It has some interesting properties.

- Wavio is of odd length i.e. **L = 2*n + 1**.
- The first **(n+1)** integers of Wavio sequence makes a strictly increasing sequence.
- The last **(n+1)** integers of Wavio sequence makes a strictly decreasing sequence.
- No two adjacent integers are same in a Wavio sequence.

For example **1, 2, 3, 4, 5, 4, 3, 2, 0** is an Wavio sequence of length **9**. But **1, 2, 3, 4, 5, 4, 3, 2, 2** is not a valid wavio sequence. In this problem, you will be given a sequence of integers. You have to find out the length of the longest Wavio sequence which is a subsequence of the given sequence. Consider, the given sequence as :

1 2 3 2 1 2 3 4 3 2 1 5 4 1 2 3 2 2 1.

Here the longest Wavio sequence is : **1 2 3 4 5 4 3 2 1**. So, the output will be **9**.

Input

The input file contains less than **75** test cases. The description of each test case is given below: Input is terminated by end of file.

Each set starts with a postive integer, **N(1<=N<=10000)**. In next few lines there will be **N** integers.

Output

For each set of input print the length of longest wavio sequence in a line.

Sample Input	Output for Sample Input
10 1 2 3 4 5 4 3 2 1 10 19 1 2 3 2 1 2 3 4 3 2 1 5 4 1 2 3 2 2 1 5 1 2 3 4 5	9 9 1

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