Problem B. Banking

Source file name:	`B.c, B.cpp, B.java`
Input:	`Standard`
Output:	`Standard`
Author(s):	

You are excited to work on a new project related to banking and bank accounts. The ACM bank have created a new type of account, the save much and spend a lot account, the idea of such accounts is to help people to save money and after they have saved to only spend.

The save much and spend a lot accounts have the following two rules:

- If you have not spent any money, then you can add money or spend money.
- If you have spent money, you can only spend money

The project you are working on the bank is to determine and fix some errors that were found on the database. In some accounts you can see how money is spent and then added again which violates the rules for the save much and spend a lot accounts, it was found that some issues on the database were adding information to accounts that did not make some movements so your task is given the amount of money an account had over time determine what are the maximum number of movements that comply with the save much and spend a lot account rules in that specific account.

Input

The input consist of several test cases. Each test case begins with a line containing a single number N the number of movements stored in the database for an account. The next line contains N numbers separated by a space, the amount of money the account had after the registered movement i.

- $1 \leq N \leq 1000$
- The amount of money in the account for any movement A_i will always be in the range $0 \leq A_i \leq 10^6$

Output

For each test case print in one line the maximum number X of movements that comply with the save much and spend a lot account rules.

Example

Input	Output
2 5 4 2 3 5 1 8 1 9 11 2 3 1 5 10	4 6