

Candies

CE3OH 7 – SECOND ROUND



Lora recently received a pleasant gift – a big box containing **N** candies. The candies are ordered in the box and are numbered from 1 to N, in the order in which they have to be eaten. Since different candies may have a different taste, we define the sweetness of the i-th candy to be A_i .

In the course of a few days, Lora wants to eat all candies. She knows that she is greedy, so if in one day she eats candies with total sweetness of S, then on the following day she will certainly eat candies with total sweetness of **at least** S. Now she is wondering in how many different ways she can eat all the candies. Help Lora by writing a program, that calculates this. Since the answer may be very large, print it modulo 1 000 000 007 (10^9+7).

Note: Lora cannot change the order in which she eats the candies. Two ways to eat all candies are different, if there is at least one day on which there is a difference in the candies eaten.

Input

The first line of the file `candies.in` contains a single integer N – the amount of candies in Lora's box. The following line contains N space-separated integers – the sweetness of the candies in order.

Output

In the output file `candies.out` print a single integer – the number of ways Lora can eat all candies, modulo 10^9+7 .

Constraints

$$1 \leq N \leq 5000$$

$$1 \leq A_i \leq 100\,000$$

Time limit: 2.0 sec

Memory limit: 256 MB

Example test

Input (<code>candies.in</code>)	Output (<code>candies.out</code>)
4 1 4 2 3	4
5 1 1 1 1 1	7

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Clarifications

The 4 ways in the first simple test are:

In 3 days – $\{1\} \{4\} \{2+3\}$

In 2 days – $\{1\} \{4+2+3\}$

In 2 days – $\{1+4\} \{2+3\}$

In 1 day – $\{1+4+2+3\}$