

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 – $\{1+4+2+3\}$