# Stubborn Mehak

Input file: standard input
Output file: standard output
Time limit: 1 second
Memory limit: 256 megabytes

Manvi loves candies. One day, she suddenly starts to crave for them and remembers that Mehak has a bag full of them. Mehak stays on the first floor while Manvi is on the ground level. After a lot of pestering, Mehak agrees to give her some but on certain condition that Manvi has to come to her (i.e., on the first floor) to take them as Mehak is too lazy to climb down the stairs.

Now, there are ***n*** stairs (from 1 to n), and every stair has a number assigned to it. At any stair s, Manvi can make two possible moves:

- she can either go to the next step (i.e., $s + 1$ ) or,
- she can jump directly as many stairs as the number on that stair (i.e., if the number on the stair is *p,* then she can jump directly to the stair $s + p$ )
  **Note**: p can be < 0 as well. If $p < 0$, then obviously she jumps down instead of up.

Assume that any jump takes a single unit of time. Mehak knows the minimum amount of time needed to climb the stairs to the first floor, and warns Manvi that if she doesn't reach her in minimum amount of time, she won't give candies to her. Stubborn as she is, she doesn't tell Manvi the minimum time required to climb the stairs.
Can you help manvi reach the first floor in minimum time to satisfy her cravings?

Note: Manvi always starts at the 1st step. If there are *n* stairs, then $n + 1^{th}$ stair counts as the first floor. If there is no way to reach the first floor, return -1.
Any jump that takes her to a step > $n + 1$ is not allowed.

## Input

The first line consists of ***t***, the number of test cases ( $1 \le t \le 500$ ). For every case, the first line takes ***n*** (the number of stairs, $1 \le n \le 1500$ ), followed by a line consisting of space separated integers denoting the numbers $p_i$ assigned to each of the *n* steps ( $-1000 \le p_i \le 1000,\ p_i \ne 0$ ).

## Output

Return a single number per test case, denoting the minimum time required to climb the stairs.

## Example

| standard input | standard output |
| --- | --- |
| 2<br>3<br>1 -1 3<br>10<br>2 4 3 -3 4 2 4 1 1 2 | 3<br>4 |

## Explanation

In Case 1, a solution can be Stair 1 –> Stair 2 –> Stair 3 –> Stair 4, i.e., 3 moves.
In Case 2, a solution can be Stair 1 –> Stair 2 –> Stair 6 –> Stair 7 –> Stair 11, i.e., 4 moves.