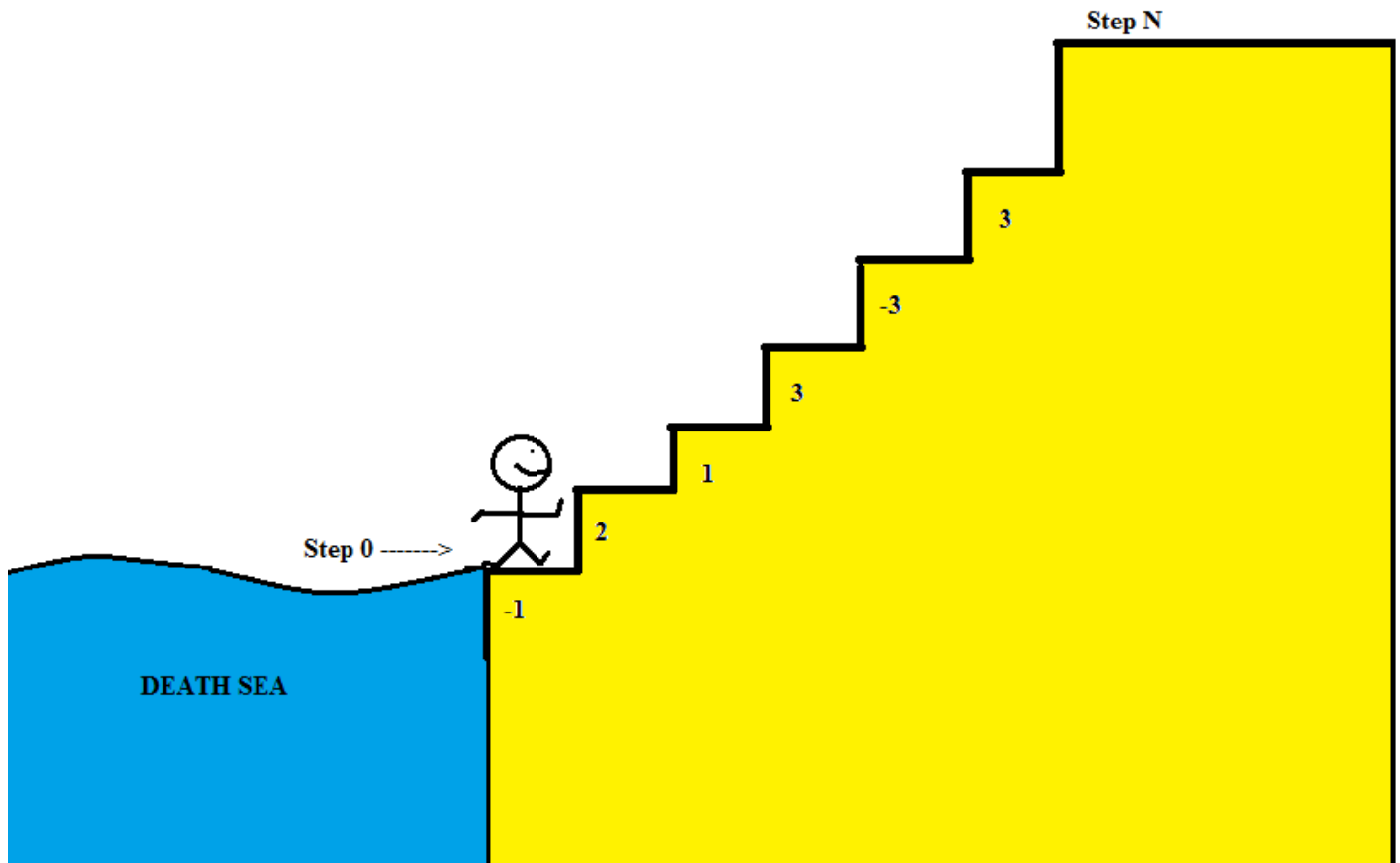


THE WEIRD STAIRCASE



You are given a representation of a stair case with 'N' steps (0 to n-1). In every step a number $x[i]$ (for i th step) is written on it. At each step you have two choices. Either you can proceed to next step ($i+1$) or you can jump $x[i]$ steps from that step (to $i+x[i]$ th step). If the number written on the step is less than 0, you can come down that many number of steps or climb one step up.

Initially you are standing at the 0th step.

Find the minimum number of jumps needed to reach the top of the stair case.

If there is no way to reach the top of the stair case, print -1, else print the minimum number of jumps needed to reach the top of the staircase (nth step).

If a jump results in a step, which is greater than n, it is an invalid move.

Input

First line consists of 'T', the number of test cases. In every test case, the first line consists of 'n', the number of steps. The next line consists of n integers, $x[0]$ to $x[n-1]$.

Output

Print the minimum number of jumps required to reach the nth step. "Nth Step" is described in the problem statement.

Input Constraints:

$1 \leq T \leq 1000$

$1 \leq n \leq 20$

$-17 \leq x[i] \leq 17$ and $x[i] \neq 0$

Sample Input:

2

6

-1 2 1 3 -3 3

10

5 1 1 1 6 -1 1 1 1 1

Sample Output:

3

3