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Algorithms Lab

Exercise – *Dominoes*

Playing with dominoes is a lot of fun. You can, for example, place them in long lines so that when the first tile is toppled, it topples the second, which topples the third, etc., resulting in all of the tiles falling.

In this problem, you are dealing with a special kind of domino set, in which the tiles are of different heights. Your task is to determine, given an arrangement of these tiles in a line, how many of the domino tiles will fall after toppling the left-most domino.

More precisely, we have the following set-up: the dominoes are placed at successive points on the integer line, the first at position 1, the second at 2, and so on. If a tile of height h at position i is toppled, this causes the tiles at all positions j such that $j - i < h$ to fall as well.
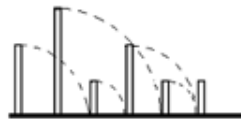
Input The first line of the input contains a positive integer $N \leq 10$ denoting the number of testcases.

Every testcase begins with a single line containing the number $n \leq 1\,000\,000$ of dominoes, followed by a line which contains n numbers, where the i-th number represents the height $h_i < 2^{31}$ of the domino tile placed at the i-th position.

Output The output should consist, for each testcase, of a single line containing the number of domino tiles that will fall after toppling the leftmost tile in this testcase.

Sample Input

```
2
6
2 3 1 2 1 1
5
3 1 1 1 1
```

Sample Output

```
5
3
```

Hint: Please add command `std::ios_base::sync_with_stdio(false)` as the first line of your main function. It will make reading the input and writing the output much faster.

(Points)*100