Problem - G - Codeforces 08/02/24, 2:09 PM





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# G. Paint Charges

time limit per test: 4 seconds memory limit per test: 256 megabytes input: standard input output: standard output

A horizontal grid strip of n cells is given. In the i-th cell, there is a paint charge of size  $a_i$ . This charge can be:

- either used to the left then all cells to the left at a distance less than  $a_i$  (from  $\max(i - a_i + 1, 1)$  to *i* inclusive) will be painted,
- or used to the right then all cells to the right at a distance less than  $a_i$  (from i to  $\min(i + a_i - 1, n)$  inclusive) will be painted,
- · or not used at all.

Note that a charge can be used no more than once (that is, it cannot be used simultaneously to the left and to the right). It is allowed for a cell to be painted more than once.

What is the minimum number of times a charge needs to be used to paint all the cells of the strip?

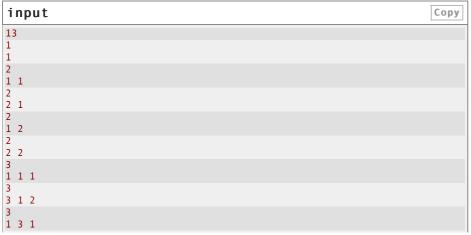
The first line of the input contains an integer t ( $1 \le t \le 100$ ) — the number of test cases in the test. This is followed by descriptions of *t* test cases.

Each test case is specified by two lines. The first one contains an integer n ( $1 \le n \le 100$ ) the number of cells in the strip. The second line contains n positive integers  $a_1, a_2, \ldots, a_n$  $(1 \le a_i \le n)$ , where  $a_i$  is the size of the paint charge in the *i*-th cell from the left of the strip.

It is guaranteed that the sum of the values of n in the test does not exceed 1000.

For each test case, output the minimum number of times the charges need to be used to paint all the cells of the strip.

# **Example**



## Codeforces Round 923 (Div. 3)

### **Finished**

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Start virtual contest

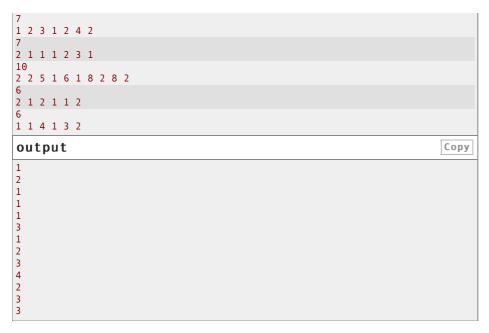
# → Problem tags data structures dp greedy math

No tag edit access

# → Contest materials

- Announcement (en)
- Tutorial

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# Note

In the third test case of the example, it is sufficient to use the charge from the 1-st cell to the right, then it will cover both cells 1 and 2.

In the ninth test case of the example, you need to:

- use the charge from the 3-rd cell to the left, covering cells from the 1-st to the 3-rd;
- $\bullet$  use the charge from the 5-th cell to the left, covering cells from the 4-th to the 5-th;
- use the charge from the 7-th cell to the left, covering cells from the 6-th to the 7-th.

In the eleventh test case of the example, you need to:

- use the charge from the 5-th cell to the right, covering cells from the 5-th to the 10-th;
- use the charge from the 7-th cell to the left, covering cells from the 1-st to the 7-th.

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