X-Ray

A fossil of the very rare species **Canis lupus albus**, considered to be the ancestor of the most common **Canis lupus familiaris**, has just been found.

To analyze it, scientists must treat it with radiation: every centimeter of the bone must receive a precise quantity.

The machine that does the treatment can apply radiation uniformly on any contiguous segment: calculate how many times the machine must be operated to obtain the right amount of radiation on each bone point.

Details

The bone to be treated is long **N** centimeters, numbered from **1** to **N**. The centimeter **i** must receive a quantity of radiation specified by a natural number **R[i]**. The number **N** and the numbers **R[1], ..., R[N]** are input data.

The machine is operated by specifying two positive integers **a** and **b**, which indicate the extremes of the bone segment on which the machine operates (**a <= b**). After this operation, all the centimeters from **a** to **b** of the bone accumulate **1** units of radiation.

After having driven the machine a certain number of times, the amount of radiation received on the centimeter **i** can be known by counting how many times a radiation has operated on that zone (that is, how many times the machine has been operated with values such whose **a <= i <= b**).

Calculates the minimum number of times the machine needs to be operated so that each zone **i** receives **exactly** the amount of radiation required **R[i]**.

Assumptions

- **T <= 1.000**, the number of test cases.
- **1 <= N <= 1.000**, the bone is at most **1.000** centimeters long.
- **0 <= R[i] <= 1.000**, every centimeter may have to receive an amount of radiation up to **1.000** .

Input data

The first line of the input file contains an integer **T**, the number of test cases. Followed by **T** test cases, numbered from **1** to **T**.

In each test case, the first line contains the only integer **N**. The second line contains the **N** integers separated by spaces, **R[1], ..., R[N]**.

Output data

The output file must contain the answer to the test cases you could solve. For each test case you've solved, the output file must contain a line with the words:

```
Case #t: k
```

where `t` is the test case number (starting from **1**) and `k` is the minimum number of times the machine must be operated.

Example of input/output

Input:

```
2

4
1 2 3 1

4
100 0 1 1
```

Output:

```
Case #1: 3
Case #2: 101
```

Explanation

In the **first example case** is it possibile to operate the machine in the following way:

1. Segment from **a=2** to **b=3**
2. Segment from **a=1** to **b=4**
3. Segment from **a=3** to **b=3**

Graphically:

```
. x x .  <-- 1st
x x x x  <-- 2nd
. . x .  <-- 3rd
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1 2 3 1  <-- Total accumulated radiation
```

There are no solutions with only **2** operations or less, so the correct answer is **3**.

In the **second example case** is it possibile to operate the machine in the following way:

1. Segment from **a=1** to **b=1** (repeated **100** times)
2. Segment from **a=3** to **b=4**

There are no solutions with only **100** operations or less, so the correct answer is **101**.