Maximum distance between consecutive elements X17307_en

Given a list of integer numbers $a_1, \ldots, a_n$, we want to compute the maximum distance between consecutive pairs. For example, if the list is $1, -3, 0, 5, 7$, then the distance between 1 and -3 is 4, the distance between -3 and 0 is 3, the distance between 0 and 5 is 5 and the distance between 5 and 7 is 2. Thus, the maximum distance between consecutive elements is 5.

Note: It is not allowed to use functions, vectors and any other way to store massive data. The solution must deal with the input data sequentially without storing arbitrarily large intermediate memory.
Score: 2.5 points over 10 (50% automatic, 50% human)

Input

The input has several cases, each one described in one line. For each case, we have a natural number n ($n \geq 2$) followed by n integer numbers $a_1, \ldots, a_n$.

Output

The output has the answer to the problem in one line for each case.

Sample input	Sample output
`5 1 -3 0 5 7`	`5`
`5 1 2 3 4 5`	`1`
`5 -1 -2 -3 -4 -5`	`1`
`2 1 1`	`0`
`4 1 2 1 2`	`1`
`5 -1000000000 0 1000000000 0 -1000000000`	`1000000000`

Problem information

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