A. Local Extrema

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

You are given an array a. Some element of this array a_i is a *local minimum* iff it is strictly less than both of its neighbours (that is, $a_i < a_{i-1}$ and $a_i < a_{i+1}$). Also the element can be called *local maximum* iff it is strictly greater than its neighbours (that is, $a_i > a_{i-1}$ and $a_i > a_{i+1}$). Since a_1 and a_n have only one neighbour each, they are neither local minima nor local maxima.

An element is called a *local extremum* iff it is either local maximum or local minimum. Your task is to calculate the number of local extrema in the given array.

Input

The first line contains one integer n ($1 \le n \le 1000$) — the number of elements in array a.

The second line contains n integers a_1, a_2, ..., a_n ($1 \le a_i \le 1000$) — the elements of array a.

Output

Print the number of local extrema in the given array.

Examples

input
3 1 2 3
output
0

input
4 1 5 2 5
output
2