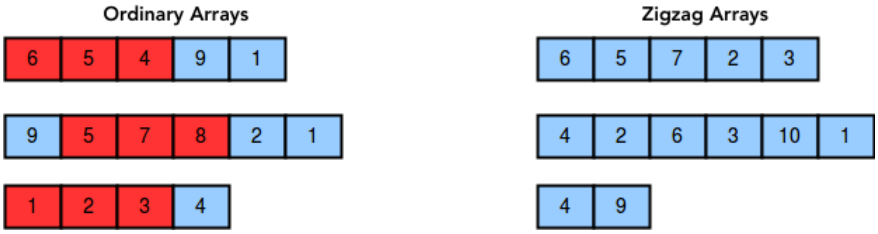
Zigzag Array

We say an array of n distinct integers, $A = [a_0, a_1, \ldots, a_{n-1}]$, is *zigzag* if no three consecutive elements in the array are either increasing or decreasing.

In other words, if there are three elements a_i, a_{i+1}, a_{i+2} in the array such that $a_i < a_{i+1} < a_{i+2}$ or $a_i > a_{i+1} > a_{i+2}$, the array is not *zigzag*.

For example:



Given A, find and print the minimum number of elements you must remove to make the given array zigzag.

Input Format

The first line contains n, denoting the number of elements.
The second line contains n space-separated integers describing the respective values of $a_0, a_1, \ldots, a_{n-1}$.

Constraints

- $1 \leq n \leq 100$
- $1 \leq a_i \leq 100$
- The elements of A are distinct.

Output Format

Print the minimum number of elements you must remove to make the given array zigzag.

Sample Input 0

```
6
4 2 6 3 10 1
```

Sample Output 0

```
0
```

Explanation 0

The array $[4, 2, 6, 3, 10, 1]$ is already zigzag, so we return 0.

Sample Input 1

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

Sample Output 1

```
1
```

Explanation 1

The array $[5, 2, 3, 6, 1]$ is not zigzag because here $a_1 < a_2 < a_3$ $(2 < 3 < 6)$.

If we remove 6, the array becomes $[5, 2, 3, 1]$ which is zigzag. Because we only needed to remove one element, we return 1 as our answer.