



Zigzag Array

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Problem

Submissions

Leaderboard

Discussions

We say an array of n distinct integers, $A = [a_0, a_1, \dots, a_{n-1}]$, 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:

Ordinary Arrays	Zigzag Arrays
<div><div>6</div><div>5</div><div>4</div><div>9</div><div>1</div></div>	<div><div>6</div><div>5</div><div>7</div><div>2</div><div>3</div></div>
<div><div>9</div><div>5</div><div>7</div><div>8</div><div>2</div><div>1</div></div>	<div><div>4</div><div>2</div><div>6</div><div>3</div><div>10</div><div>1</div></div>
<div><div>1</div><div>2</div><div>3</div><div>4</div></div>	<div><div>4</div><div>9</div></div>

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, \dots, 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.

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Contest ends in 2 days

Submissions: 2348



Max Score: 20

Difficulty: Easy

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Current Buffer (saved locally, editable)  

C#

```
1 using System;
2 using System.Collections.Generic;
3 using System.IO;
4 using System.Linq;
5 class Solution {
6
7     static int minimumDeletions(int[] a){
8         // Complete this function
9         if (a.Length < 3) return 0;
10
11         int i = 0;
12
13         int borrar = 0;
14
15         while (i < a.Length)
16         {
17             if (i + 1 < a.Length && a[i] < a[i+1])
18             {
19                 int cont = 1;
20                 while (i + 1 < a.Length && a[i] < a[i + 1])
21                 {
22                     i++;
23                     cont++;
24                 }
25                 if (cont >= 3)
26                 {
27                     //borrar += (cont - 3);
28                     borrar += (cont - 2);
29                 }
30                 i--;
31             }
32             if (i + 1 < a.Length && a[i] > a[i+1])
33             {
34                 int cont = 1;
35                 while (i + 1 < a.Length && a[i] > a[i + 1])
36                 {
37                     i++;
38                     cont++;
39                 }
40                 if (cont >= 3)
41                 {
```

```
42         borrar += (cont - 2);
43     }
44     i--;
45 }
46
47     i++;
48
49 }
50     return borrar;
51 }
52
53 static void Main(String[] args) {
54     int n = Convert.ToInt32(Console.ReadLine());
55     string[] a_temp = Console.ReadLine().Split(' ');
56     int[] a = Array.ConvertAll(a_temp, Int32.Parse);
57     // Return the minimum number of elements to delete to make the array zigzag
58     int result = minimumDeletions(a);
59     Console.WriteLine(result);
60 }
61 }
62 }
```

Line: 50 Col: 27

 Upload Code as File☐ Test against custom input

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