Odd-even increasing sequences X55755_en

A sequence $x_1, x_2, \ldots, x_n$ of integers is *odd-even increasing* if the subsequence of elements in odd positions is increasing, and the subsequence of elements in even positions is also increasing, that is, the sequence is odd-even increasing if and only if $x_2 \leq x_4 \leq x_6 \leq \cdots$ and $x_1 \leq x_3 \leq x_5 \leq \cdots$. Notice that, by definition, any sequence of length ≤ 2 is odd-even increasing. Furthermore a sequence is odd-even increasing if and only if for all i in $\{1, \ldots, n-2\}$ we have $x_i \leq x_{i+2}$. For example 1 3 4 6 5 6 5 is odd-even increasing, but 2 3 4 1 6 7 is not.
Write a program that reads a sequence of integers from the standard input channel (`cin`) and tells whether the sequence is odd-even increasing or not. To this end, your program must define and use a Boolean function

```
bool is_odd_even_increasing();
```

which reads a sequence of $n \geq 0$ integers from the standard input channel (`cin`) and returns true if and only if the given sequence is odd-even increasing.
Note: A function reading as few elements from the input as possible will be scored better, as it has less execution time.
Note: Recall that at this point of the course using vectors or any other method to store massive data is not allowed.
Exam score: 2.5 **Automatic part:** 40%

Input

A sequence of $n \geq 0$ integers.

Output

The program outputs `"yes"` if the given sequence is odd-even increasing and `"no"` otherwise.

Sample input 1

```
3 1
```

Sample output 1

```
yes
```

Sample input 2

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

Sample output 2

```
yes
```

Sample input 3

```
2 4 6 7 9 8 9 9
```

Sample output 3

```
yes
```

Sample input 4

```
2 4 5 7 3
```

Sample output 4

```
no
```

Sample input 5

```
2 4 5 7 7 6
```

Sample output 5

```
no
```

Sample input 6

```
2 4 5 7 7 6 5 8 9
```

Sample output 6

```
no
```

Sample input 7

```
2 4 6 7 8 8 9 10 12 18
```

Sample output 7

```
yes
```

Sample input 8

```
1
```

Sample output 8

```
yes
```

Sample input 9

Sample output 9

```
yes
```

Sample input 10

```
1 2 0 4 5
```

Sample output 10

```
no
```

Sample input 11

```
1 2 3 1 5 8
```

Sample output 11

```
no
```

Sample input 12

```
1 2 3 4 2
```

Sample output 12

```
no
```

Sample input 13

```
1 2 3 4 5 3
```

Sample output 13

```
no
```

Problem information

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