

Tweak the Peak

time limit per test: 1 second (1 second for Python)

memory limit per test: 976.6 megabytes

input: standard input

output: standard output

points: 100 · problem code: tweakthepeak · author: inj

Michael has a favourite kind of skyline: one clean peak, and absolutely no valleys.

You are given an array of n distinct integers. You may rearrange its elements in any order.

In a rearranged array, an index i is a **peak** if $2 \leq i \leq n - 1$ and both neighbours are strictly smaller: $a_{i-1} < a_i$ and $a_{i+1} < a_i$.

Similarly, an index i is a **valley** if $2 \leq i \leq n - 1$ and both neighbours are strictly larger: $a_{i-1} > a_i$ and $a_{i+1} > a_i$.

Count the number of distinct rearrangements of the array that have exactly one peak and zero valleys.

Since the answer can be large, output it modulo 998244353.

Input

The first line contains the integer n , the length of the array.

The second line contains n integers: $a_1, a_2, \dots, a_n$.

Output

Print the number of distinct rearrangements with exactly one peak and zero valleys, modulo 998244353.

Constraints

- $1 \leq n \leq 2 \cdot 10^5$
- $1 \leq a_i \leq 10^9$
- All a_i are distinct.

Example 1

Input

```
3
1 2 3
```

Output

```
2
```

Explanation

The valid rearrangements are $[1, 3, 2]$ and $[2, 3, 1]$.

Example 2

Input

```
4
1 2 3 4
```

Output

```
6
```

Example 3

Input

```
5
10 20 30 40 50
```

Output

```
14
```