

Art Exhibition 2

The EIU Algorithm and Design Analysis student group received an invitation to an art exhibition, of course, everyone was delighted to receive this invitation. People are even happier if they see a good picture and then a better one. For each pair of such pictures, everyone's happiness increases by 1.

The owner of the exhibition really wanted to make the group of students happy. Help the exhibitor arrange the paintings so that everyone's happiness is maximized.

Input

- The first line is an integer n ($1 \leq n \leq 1000000$) which is the number of paintings in the exhibit.
- The next line contains n integers a_1, a_2, \dots, a_n ($1 \leq a_i \leq 1000000$), with a_i being the beauty of the i th picture.

Output

Prints out a single integer - the maximum achievable happiness.

Example

Input:

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

Output:

```
4
```

Input:

```
4
200 100 100 200
```

Output:

```
2
```