H-Index

Some people are concerned about evaluating the "performance" of researchers. That is not an easy task. Research is a long-term pursuit and investment. Real successes are rare, and therefore very difficult to predict or even meaningfully correlate with simplistic measures. Still, some insist that such multi-dimensional evaluations can be boiled down to some simple indicator such as the H-index.

The H-index of a researcher is the maximal number x of papers authored by the researcher that have garnered at least x citations. Antonio is quite skeptical about the value of reducing persons to numbers of a handful of bits, but he likes the algorithmic calculation per-se.

Input

The first line of input contains the number n of papers authored by the researcher ($1 \le n \le 10^5$). Then n lines follow, each with a single number c representing the citations of a paper ($0 \le c \le 10^9$).

Output

Print the researcher's H-index.

Examples

Sample input 1

```
5
7
1
2
1
5
```

Sample output 1

```
2
```

Sample input 2

```
5
7
1
3
1
5
```

Sample output 2

```
3
```

Sample input 3

```
3
4
2
3
```

Sample output 2

```
2
```

Limits

Time limit is 1 seconds.
Memory limit is 256 megabytes.