TLE '16 Contest 4 P1 - Stack of Presents

Time limit: 2.0s   **Memory limit:** 256M

The CS Nerd is dreaming about giving Christmas presents to the girl. Unfortunately, he does not have enough courage to do this in real life.

In the dream, there are N presents that he could possibly give to the girl. The ith present has a weight of w_i. The CS Nerd wants to impress the girl by building a large stack of presents – that is, presents stacked one on top of each other – and giving it to her.

However, the CS Nerd needs to ensure that the sum of the weights of the presents above any present does not exceed that present's weight. What is the maximum number of presents that can be in the stack?

Push   Pop

A stack of presents.

Input Specification

The first line of input will contain a single integer N ($1 \leq N \leq 100\,000$).

N lines of input follow. The ith line will consist of a single integer, w_i ($1 \leq w_i \leq 10^9$).

For 20% of the points, $N \leq 10$.

For an additional 30% of the points, $N \leq 1\,000$.

Output Specification

Output a single integer, the maximum possible number of presents that can be in the stack.

Sample Input

```
5
7
8
2
5
10
```

Sample Output

```
3
```

Explanation for Sample Output

The CS Nerd can stack presents in the order 2, 4, and 3 from the bottom. The weights of these presents are 8, 5, and 2, respectively. Note that this is not the only possible solution.