2744 - Carl Planting Trees

Description

Farmer Carl has recently bought n tree seedlings that he wants to plant in his yard. It takes 1 day for Jon to plant a seedling, and for each tree Carl knows exactly in how many days after planting it grows to full maturity. Carl would also like to throw a party for his farmer friends, but in order to impress them he would like to organize the party only after all the trees have grown. More precisely, the party can be organized at earliest on the next day after the last tree has grown up.

Help Carl to find out when is the earliest day when the party can take place. Carl can choose the order of planting the trees as he likes, so he wants to plant the trees in such a way that the party will be as soon as possible.

Input specification

The input consists of two lines. The first line contains a single integer N (1 <= N <= 100000) denoting the number of seedlings. Then a line with N integers ti follows (1 <= ti <= 1000000), where ti denotes the number of days it takes for the i-th tree to grow.

Output specification

You program should output exactly one line containing one integer, denoting the earliest day when the party can be organized. The days are numbered 1; 2; 3; ... beginning from the current moment.

Sample input

```
4
2  3  4  3
```

Sample output

```
7
```

Hint(s)

Sample Input 2

```
6
39 38 9 35 39 20
```

Sample Output 2

42

Source	NCPC 2013
Added by	**ymondelo20**
Addition date	2014-03-08
Time limit (ms)	45000
Test limit (ms)	2500
Memory limit (kb)	256000
Output limit (mb)	64
Size limit (bytes)	15000
Enabled languages	Bash C C# C++ Java Pascal Perl PHP Python Ruby Text