# A. Mafia

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

One day $n$ friends gathered together to play "Mafia". During each round of the game some player must be the supervisor and other $n - 1$ people take part in the game. For each person we know in how many rounds he wants to be a player, not the supervisor: the $i$-th person wants to play $a_i$ rounds. What is the minimum number of rounds of the "Mafia" game they need to play to let each person play at least as many rounds as they want?

## Input

The first line contains integer $n$ $(3 \le n \le 10^5)$. The second line contains $n$ space-separated integers $a_1, a_2, ..., a_n$ $(1 \le a_i \le 10^9)$ — the $i$-th number in the list is the number of rounds the $i$-th person wants to play.

## Output

In a single line print a single integer — the minimum number of game rounds the friends need to let the $i$-th person play at least $a_i$ rounds.

Please, do not use the `%lld` specifier to read or write 64-bit integers in C++. It is preferred to use the `cin`, `cout` streams or the `%I64d` specifier.

### Examples

| input |
| --- |
| 3<br>3 2 2 |

| output |
| --- |
| 4 |

| input |
| --- |
| 4<br>2 2 2 2 |

| output |
| --- |
| 3 |

## Note

You don't need to know the rules of "Mafia" to solve this problem. If you're curious, it's a game Russia got from the Soviet times: `http://en.wikipedia.org/wiki/Mafia_(party_game)`.