Maximum Running Time of N Computers

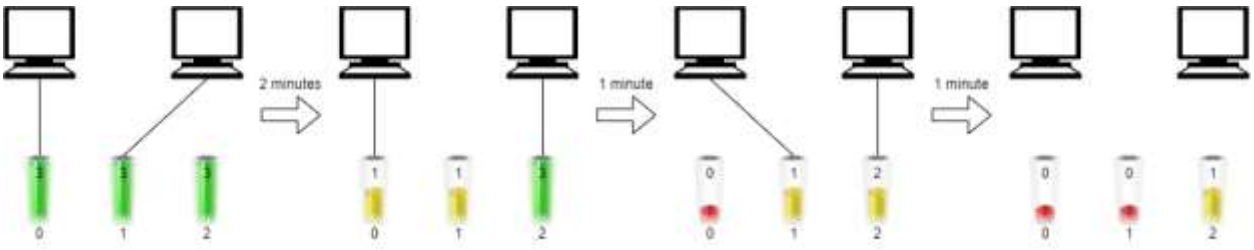
You have n computers. You are given the integer n and a **0-indexed** integer array batteries where the i^{th} battery can **run** a computer for batteries[i] minutes. You are interested in running **all** n computers **simultaneously** using the given batteries.

Initially, you can insert **at most one battery** into each computer. After that and at any integer time moment, you can remove a battery from a computer and insert another battery **any number of times**. The inserted battery can be a totally new battery or a battery from another computer. You may assume that the removing and inserting processes take no time.

Note that the batteries cannot be recharged.

Return *the **maximum** number of minutes you can run all the* n *computers simultaneously.*

Example 1:



Input: n = 2, batteries = [3,3,3]

Output: 4

Explanation:

Initially, insert battery 0 into the first computer and battery 1 into the second computer.

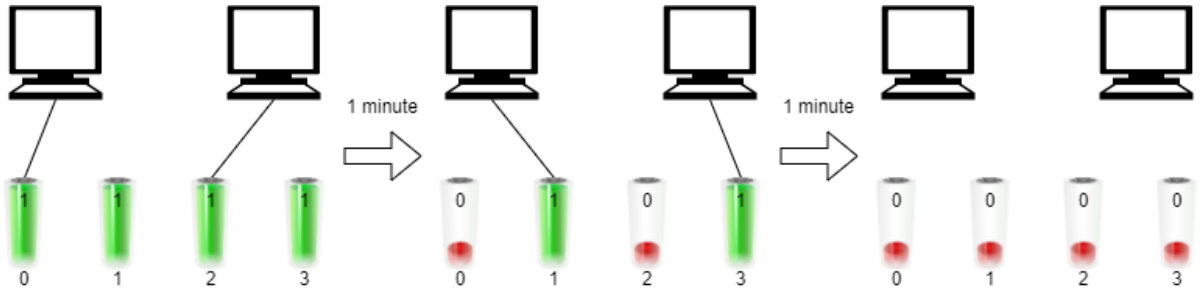
After two minutes, remove battery 1 from the second computer and insert battery 2 instead. Note that battery 1 can still run for one minute.

At the end of the third minute, battery 0 is drained, and you need to remove it from the first computer and insert battery 1 instead.

By the end of the fourth minute, battery 1 is also drained, and the first computer is no longer running.

We can run the two computers simultaneously for at most 4 minutes, so we return 4.

Example 2:



Input: n = 2, batteries = [1,1,1,1]

Output: 2

Explanation:

Initially, insert battery 0 into the first computer and battery 2 into the second computer.

After one minute, battery 0 and battery 2 are drained so you need to remove them and insert battery 1 into the first computer and battery 3 into the second computer.

After another minute, battery 1 and battery 3 are also drained so the first and second computers are no longer running.

We can run the two computers simultaneously for at most 2 minutes, so we return 2.

Constraints:

- $1 <= n <= batteries.length <= 10^5$
- $1 <= batteries[i] <= 10^9$