

# 2141. Maximum Running Time of N Computers

## Description

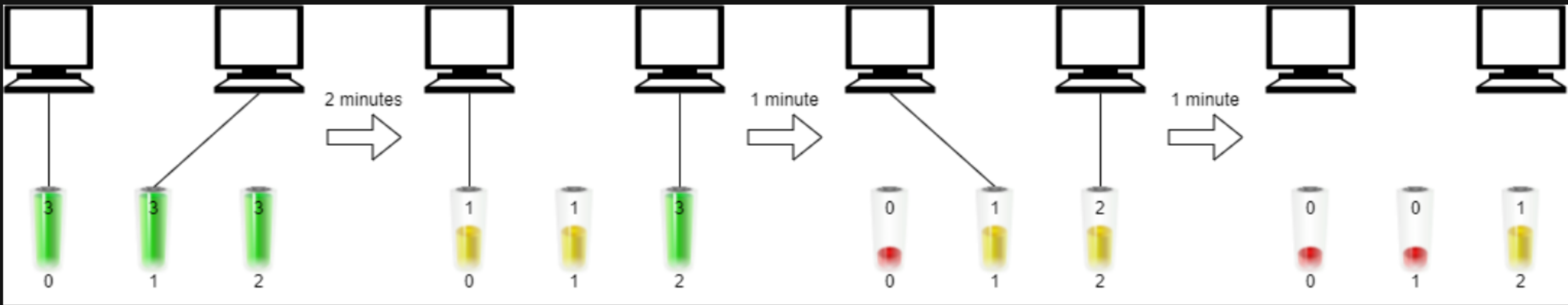
You have `n` computers. You are given the integer `n` and a **0-indexed** integer array `batteries` where the `ith` battery can **run** a computer for `batteries[i]` minutes. You are interested in running **all** `n` computers **simultaneously** using the given batteries.

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:



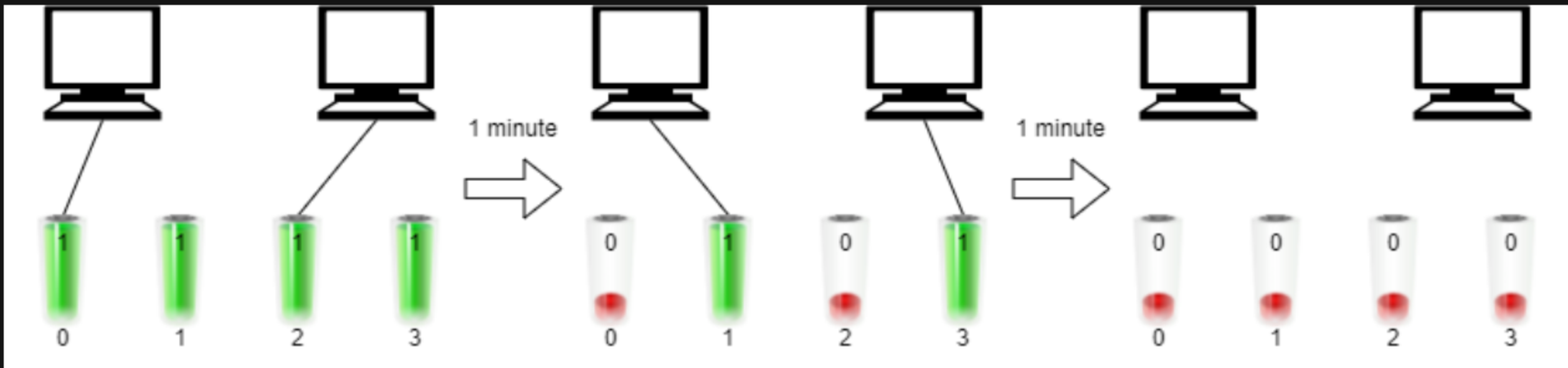
**Input:** `n = 2, batteries = [3,3,3]`

**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 <= 105`
- `1 <= batteries[i] <= 109`

