

275. H-Index II

Description

Given an array of integers `citations` where `citations[i]` is the number of citations a researcher received for their i^{th} paper and `citations` is sorted in **ascending order**, return *the researcher's h-index*.

According to the [definition of h-index on Wikipedia](#): The h-index is defined as the maximum value of h such that the given researcher has published at least h papers that have each been cited at least h times.

You must write an algorithm that runs in logarithmic time.

Example 1:

Input: `citations = [0,1,3,5,6]`

Output: 3

Explanation: `[0,1,3,5,6]` means the researcher has 5 papers in total and each of them had received 0, 1, 3, 5, 6 citations respectively. Since the researcher has 3 papers with at least 3 citations each and the remaining two with no more than 3 citations each, their h-index is 3.

Example 2:

Input: `citations = [1,2,100]`

Output: 2

Constraints:

- $n == \text{citations.length}$
- $1 \leq n \leq 10^5$
- $0 \leq \text{citations}[i] \leq 1000$
- `citations` is sorted in **ascending order**.

