Problem 275: H-Index II

Problem Information

Difficulty: Medium
Acceptance Rate: 39.17%
Paid Only: No
Tags: Array, Binary Search

Problem Description

Given an array of integers `citations` where `citations[i]` is the number of citations a researcher received for their `ith` paper and `citations` is sorted in **non-descending order** , return _the researcher 's h-index_.

According to the [definition of h-index on Wikipedia](https://en.wikipedia.org/wiki/H-index): 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 == citations.length` * `1 <= n <= 105` * `0 <= citations[i] <= 1000` * `citations` is sorted in **ascending order**.

Code Snippets

C++:

```cpp
class Solution {
public:
int hIndex(vector<int>& citations) {


}
};
```

Java:

```java
class Solution {
public int hIndex(int[] citations) {


}
}
```

Python3:

```python
class Solution:
def hIndex(self, citations: List[int]) -> int:
```