

H-Index

For this problem we need to find the maximum h such that at least h papers have $\geq h$ citations.

Approach 1: Sorting ($O(n \log n)$):

- Steps:
1. Sort citations in descending order.
 2. Iterate and count how many papers have citations $[i] \geq i+1$.
 3. The highest $i+1$ that satisfies this is the h -index.

Approach 2: Counting Sort ($O(n)$):

- Since citations $[i] \leq 1000$ ($1 \leq n$ in many cases), we counting:
1. Count frequencies of citations.
 2. Accumulate from high to low until cumulative count \geq index.

Complexity:

- Sorting: $O(n \log n)$
- Counting: $O(n)$ (better for large inputs with bounded values).