Problem 1539: Kth Missing Positive Number

Problem Information

Difficulty: Easy
Acceptance Rate: 62.95%
Paid Only: No
Tags: Array, Binary Search

Problem Description

Given an array `arr` of positive integers sorted in a **strictly increasing order** , and an integer `k`.

Return _the_ `kth` _**positive** integer that is **missing** from this array._

Example 1:

Input: arr = [2,3,4,7,11], k = 5 **Output:** 9 **Explanation:** The missing positive integers are [1,5,6,8,9,10,12,13,...]. The 5th missing positive integer is 9.

Example 2:

Input: arr = [1,2,3,4], k = 2 **Output:** 6 **Explanation:** The missing positive integers are [5,6,7,...]. The 2nd missing positive integer is 6.

Constraints:

* `1 <= arr.length <= 1000` * `1 <= arr[i] <= 1000` * `1 <= k <= 1000` * `arr[i] < arr[j]` for `1 <= i < j <= arr.length`

Follow up:

Could you solve this problem in less than O(n) complexity?

Code Snippets

C++:

```
class Solution {
public:
int findKthPositive(vector<int>& arr, int k) {

}
};
```

Java:

```
class Solution {
public int findKthPositive(int[] arr, int k) {

}
}
```

Python3:

```
class Solution:
def findKthPositive(self, arr: List[int], k: int) -> int:
```