**2.6** Given an array arr of positive integers sorted in a strictly increasing order, and an integer k. return the kth positive integer thatis missing from this array.

**AIM**

To find the kth missing positive integer that does not appear in a strictly increasing array arr.

**ALGORITHM**

1. Initialize a counter missing = 0 to count missing numbers.

2. Traverse natural numbers starting from 1.

* If the current number exists in arr, skip it.
* Otherwise, increase missing.

3. Stop when missing == k.

4. Return the current number.

**PROGRAM**

A screenshot of a computer program

AI-generated content may be incorrect.

Input:

arr = [2,3,4,7,11], k = 5

Output:

A screenshot of a computer program

AI-generated content may be incorrect.

**RESULT:**

Thus the program to find the kth missing positive integer is successfully executed and the output is verified.

**PERFORMANCE ANALYSIS:**

* Time Complexity: O(log n) (binary search)
* Space Complexity: O(1)