

146. Given an array `arr` of positive integers sorted in a strictly increasing order, and an integer `k`. return the `k`th 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.

AIM: To sort in a strictly increasing order

PROGRAM:

```
def findKthPositive(arr, k):
```

```
    n = len(arr)
```

```
    i = 0
```

```
    count = 0
```

```
    while i < n:
```

```
        num = arr[i]
```

```
        if count + (num - (i + 1)) >= k:
```

```
            return count + k
```

```
        count += num - (i + 1)
```

```
        i += 1
```

```
    return arr[-1] + (k - count)
```

```
if __name__ == "__main__":
```

```
    arr1 = [2, 3, 4, 7, 11]
```

```
    k1 = 5
```

```
    print("Output for Example 1:", findKthPositive(arr1, k1))
```

```
Output for Example 1: 9
```

OUTPUT:

TIME COMPLEXITY:  $O(n)$