Problem # 1539: Kth Missing Positive Number

<https://leetcode.com/problems/kth-missing-positive-number>

My Solution:

<https://leetcode.com/problems/kth-missing-positive-number/discuss/1005885/Simple-Python-3-Solution-Beats-99.77>

Runtime beats 99.77%

1. Create range\_set with numbers from 1 through last number in arr included.

2. Create the array set called arr\_set

3. The number of missing positive integers called missing\_count is the difference between the length of the range\_set and length of arr\_set.

4. If k is less than or equal to missing\_count, then get the set difference of range\_set and arr\_set. Make it into a sorted list called remaing. Return the (k – 1)th index element in remaining.

5. Otherwise, k is greater than missing\_count and it is after the last element in arr.

In this case, return the sum of last element in arr and the difference between k and missing\_count.

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class Solution:

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

range\_set = set(list(range(1, arr[-1] + 1)))

arr\_set = set(arr)

missing\_count = len(range\_set) - len(arr\_set)

if k <= missing\_count:

remaining = sorted(list(range\_set - arr\_set))

return remaining[k - 1]

return arr[-1] + k - missing\_count