

2195. Append K Integers With Minimal Sum

Description

You are given an integer array `nums` and an integer `k`. Append `k` **unique positive** integers that do **not** appear in `nums` to `nums` such that the resulting total sum is **minimum**.

Return *the sum of the* `k` *integers appended to* `nums`.

Example 1:

Input: `nums = [1,4,25,10,25]`, `k = 2`

Output: 5

Explanation: The two unique positive integers that do not appear in `nums` which we append are 2 and 3.

The resulting sum of `nums` is $1 + 4 + 25 + 10 + 25 + 2 + 3 = 70$, which is the minimum.

The sum of the two integers appended is $2 + 3 = 5$, so we return 5.

Example 2:

Input: `nums = [5,6]`, `k = 6`

Output: 25

Explanation: The six unique positive integers that do not appear in `nums` which we append are 1, 2, 3, 4, 7, and 8.

The resulting sum of `nums` is $5 + 6 + 1 + 2 + 3 + 4 + 7 + 8 = 36$, which is the minimum.

The sum of the six integers appended is $1 + 2 + 3 + 4 + 7 + 8 = 25$, so we return 25.

Constraints:

- $1 \leq \text{nums.length} \leq 10^5$
- $1 \leq \text{nums}[i] \leq 10^9$
- $1 \leq k \leq 10^8$

