3091. Apply Operations to Make Sum of Array Greater Than or Equal to k

Description

You are given a **positive** integer `k`. Initially, you have an array `nums = [1]`.

You can perform **any** of the following operations on the array **any** number of times (**possibly zero**):

- Choose any element in the array and **increase** its value by `1`.
- Duplicate any element in the array and add it to the end of the array.

Return *the* ***minimum*** *number of operations required to make the* ***sum*** *of elements of the final array greater than or equal to* `k`.

Example 1:

Input: k = 11

Output: 5

Explanation:

We can do the following operations on the array `nums = [1]`:

- Increase the element by `1` three times. The resulting array is `nums = [4]`.
- Duplicate the element two times. The resulting array is `nums = [4,4,4]`.

The sum of the final array is `4 + 4 + 4 = 12` which is greater than or equal to `k = 11`.
The total number of operations performed is `3 + 2 = 5`.

Example 2:

Input: k = 1

Output: 0

Explanation:

The sum of the original array is already greater than or equal to `1`, so no operations are needed.

Constraints:

- `1 <= k <= 10^5`