

923. Super Egg Drop

Difficulty : Hard

<https://leetcode.com/problems/super-egg-drop>

You are given k identical eggs and you have access to a building with n floors labeled from 1 to n .

You know that there exists a floor f where $0 \leq f \leq n$ such that any egg dropped at a floor **higher** than f will **break**, and any egg dropped **at or below** floor f will **not break**.

Each move, you may take an unbroken egg and drop it from any floor x (where $1 \leq x \leq n$). If the egg breaks, you can no longer use it. However, if the egg does not break, you may **reuse** it in future moves.

Return the **minimum number of moves** that you need to determine **with certainty** what the value of f is.

Example 1:

Input: $k = 1, n = 2$

Output: 2

Explanation:

Drop the egg from floor 1. If it breaks, we know that $f = 0$.

Otherwise, drop the egg from floor 2. If it breaks, we know that $f = 1$.

If it does not break, then we know $f = 2$.

Hence, we need at minimum 2 moves to determine with certainty what the value of f is.

Example 2:

Input: $k = 2, n = 6$

Output: 3

Example 3:

Input: $k = 3, n = 14$

Output: 4

Constraints:

- $1 \leq k \leq 100$
- $1 \leq n \leq 10^4$