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Description

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1387. Sort Integers by The Power Value

Medium

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The power of an integer x is defined as the number of steps needed to transform x into 1 using the following steps:

- if x is even then $x = x / 2$
- if x is odd then $x = 3 * x + 1$

For example, the power of $x = 3$ is 7 because 3 needs 7 steps to become 1 ($3 \rightarrow 10 \rightarrow 5 \rightarrow 16 \rightarrow 8 \rightarrow 4 \rightarrow 2 \rightarrow 1$).

Given three integers lo , hi and k . The task is to sort all integers in the interval $[lo, hi]$ by the power value in **ascending order**, if two or more integers have **the same** power value sort them by **ascending order**.

Return the k -th integer in the range $[lo, hi]$ sorted by the power value.

Notice that for any integer x ($lo \leq x \leq hi$) it is **guaranteed** that x will transform into 1 using these steps and that the power of x is will **fit** in 32 bit signed integer.

Example 1:

Input: $lo = 12, hi = 15, k = 2$

Output: 13



Explanation: The power of 12 is 9 ($12 \rightarrow 6 \rightarrow 3 \rightarrow 10 \rightarrow 5 \rightarrow 16 \rightarrow 8 \rightarrow 4 \rightarrow 2 \rightarrow 1$)

The power of 13 is 9

The power of 14 is 17

The power of 15 is 17

```
1 # @param {Integer} lo
2 # @param {Integer} hi
3 # @param {Integer} k
4 # @return {Integer}
5 def get_kth(lo, hi, k)
6
7   end
```

 Problems Pick One

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