Problem B

The Sparsest Number in Between

Time Limit: 2 seconds

You are given a pair of positive integers a and b ($a \leq b$). Among those integers between a and b, inclusive, your task is to find the *sparsest* one, that is, the one with the least number of `1`'s in its binary representation. If there are two or more such integers, you should find the smallest among them.

Suppose, for instance, that $a = 10$ and $b = 13$. The integers between a and b, inclusive, are 10, 11, 12, and 13, and their binary representations are `1010`, `1011`, `1100`, and `1101`, respectively. Thus, in this case, the answer is 10, since 10 and 12 have the least number of `1`'s in their binary representations and 10 is smaller than 12.

Input

The input consists of a single test case of the following format.

a b

Here, a and b ($a \leq b$) are integers between 1 and 10^{18}, inclusive.

Output

Output a line containing the smallest among the sparsest integers between a and b, inclusive.

Sample Input 1	Sample Output 1
10 13	10

Sample Input 2	Sample Output 2
11 15	12

Sample Input 3	Sample Output 3
11 20	16

Sample Input 4	Sample Output 4
1 1000000000000000000	1

Sample Input 5	Sample Output 5
9876543210 9876543210	9876543210