

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

10 13

Sample Output 1

10

Sample Input 2

11 15

Sample Output 2

12

Sample Input 3

11 20

Sample Output 3

16

Sample Input 4

1 1000000000000000000

Sample Output 4

1

Sample Input 5

9876543210 9876543210

Sample Output 5

9876543210