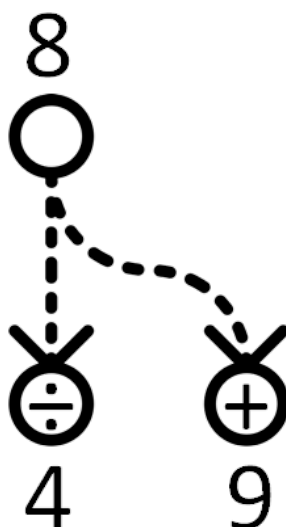


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Problem D

Dividing by Two

Time limit: 1 second



You are given two integers, A and B . You want to transform A to B by performing a sequence of operations. You can only perform the following operations:

- Divide A by two, but only if A is even.
- Add one to A .

What is the minimum number of operations you need to transform A into B ?

Input

The input will be a single line containing two integers A and B with $1 \leq A, B \leq 10^9$.



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Output

On a single line write the minimum number of operations required as an integer.

Examples

Sample Input 1

103 27

Sample Output 1

4

Sample Input 2

3 8

Sample Output 2

5
