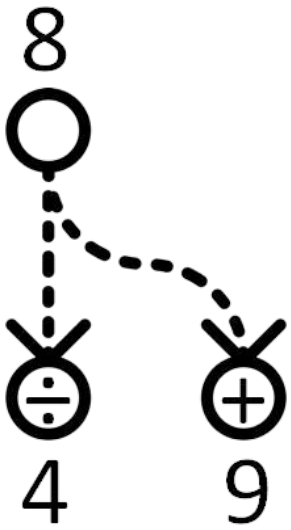
Problem Q
Dividing by Two
Time limit: 1 second



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 $1 \leq A, B \leq 10^9$.

Output

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

Examples

Sample Input 1	Sample Output 1
103 27	4

Sample Input 2	Sample Output 2
3 8	5