

Problem M. XOR World

Time limit 2000 ms

Mem limit 1048576 kB

Problem Statement

Let $f(A, B)$ be the exclusive OR of $A, A + 1, \dots, B$. Find $f(A, B)$.

► What is exclusive OR?

Constraints

- All values in input are integers.
- $0 \leq A \leq B \leq 10^{12}$

Input

Input is given from Standard Input in the following format:

$A \ B$

Output

Compute $f(A, B)$ and print it.

Sample 1

Input	Output
2 4	5

2, 3, 4 are **010** , **011** , **100** in base two, respectively. The exclusive OR of these is **101** , which is 5 in base ten.

Sample 2

Input	Output
123 456	435

Sample 3

Input	Output
123456789012 123456789012	123456789012