Problem M. XORwice

Time limit 1000 ms
Mem limit 262144 kB

In order to celebrate Twice's 5th anniversary, Tzuyu and Sana decided to play a game.

Tzuyu gave Sana two integers a and b and a really important quest.

In order to complete the quest, Sana has to output the smallest possible value of $(a \oplus x) + (b \oplus x)$ for any given x, where $\oplus$ denotes the bitwise XOR operation.

Input

Each test contains multiple test cases. The first line contains the number of test cases t ($1 \le t \le 10^4$). Description of the test cases follows.

The only line of each test case contains two integers a and b ($1 \le a, b \le 10^9$).

Output

For each testcase, output the smallest possible value of the given expression.

Sample 1

Input	Output
6 6 12 4 9 59 832 28 14 4925 2912 1 1	10 13 891 18 6237 0

Note

For the first test case Sana can choose $x = 4$ and the value will be $(6 \oplus 4) + (12 \oplus 4) = 2 + 8 = 10$. It can be shown that this is the smallest possible value.