

JB Loves Math

Input file: `standard input`
Output file: `standard output`
Time limit: 1 second
Memory limit: 512 megabytes

JB is good at Math, so he thinks all the math problems in the world are easy.

But one day, he meets a math problem which he can't solve, so he asks you to help him.

JB will give you two numbers a and b , and you should then choose a positive odd number x and a positive even number y . You can let a add x or let a minus y in one operation. You should change a into b in the minimal number of operations. Note that you are not allowed to change the value of x and y .

Input

In the first line, there is one integer T ($1 \leq T \leq 10^5$), denoting the number of test cases.

For each test case, there is one line containing two numbers a and b ($1 \leq a, b \leq 10^6$), denotes the number given by JB.

Output

For each test case, print one number, denoting the minimal number of operations you need to change a into b .

Example

standard input	standard output
2	1
3 6	1
5 3	