A. Add Odd or Subtract Even

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

You are given two positive integers a and b.

In one move, you can **change** a in the following way:

- Choose any positive **odd** integer x ($x > 0$) and replace a with $a + x$;
- choose any positive **even** integer y ($y > 0$) and replace a with $a - y$.

You can perform as many such operations as you want. You can choose the same numbers x and y in different moves.

Your task is to find the minimum number of moves required to obtain b from a. It is guaranteed that you can always obtain b from a.

You have to answer t independent test cases.

Input

The first line of the input contains one integer t ($1 \le t \le 10^4$) — the number of test cases.

Then t test cases follow. Each test case is given as two space-separated integers a and b ($1 \le a, b \le 10^9$).

Output

For each test case, print the answer — the minimum number of moves required to obtain b from a if you can perform any number of moves described in the problem statement. It is guaranteed that you can always obtain b from a.

Example

input Copy

```
5
2 3
10 10
2 4
7 4
9 3
```

output Copy

```
1
0
2
2
1
```

Note

In the first test case, you can just add 1.

In the second test case, you don't need to do anything.

In the third test case, you can add 1 two times.

In the fourth test case, you can subtract 4 and add 1.

In the fifth test case, you can just subtract 6.