S - Add Odd or Subtract Even

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*a* with a+x;
* choose any positive **even** integer y (y > 0) and replace a*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≤*t*≤104) — the number of test cases.

Then t test cases follow. Each test case is given as two space-separated integers a and b (1≤*a*,*b*≤109).

**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**

5

2 3

10 10

2 4

7 4

9 3

**Output**

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.