

6633 Poor Warehouse Keeper

Jenny is a warehouse keeper. He writes down the entry records everyday. The record is shown on a screen, as follow:

Number	2	+
Total prices	5	+

There are only two buttons on the screen. Pressing the button in the first line once increases the number on the first line by 1. The cost per unit remains untouched.

For the screen above, after the button in the first line is pressed, the screen will be:

Number	3	+
Total prices	7	+

The exact total price is 7.5, but on the screen, only the integral part 7 is shown.

Pressing the button in the second line once increases the number on the second line by 1. The number in the first line remains untouched.

For the screen above, after the button in the second line is pressed, the screen will be:

Number	3	+
Total prices	8	+

Remember the exact total price is 8.5, but on the screen, only the integral part 8 is shown.

A new record will be like the following:

Number	1	+
Total prices	1	+

At that moment, the total price is exact 1.0.

Jenny expects a final screen in form of:

Number	x	+
Total prices	y	+

Where x and y are previously given.

What's the minimal number of pressing of buttons Jenny needs to achieve his goal?

Input

There are several (about 50,000) test cases, please process till EOF.

Each test case contains one line with two integers x ($1 \leq x \leq 10$) and y ($1 \leq y \leq 10^9$) separated by a single space — the expected number shown on the screen in the end.

Output

For each test case, print the minimal number of pressing of the buttons, or '-1' (without quotes) if there's no way to achieve his goal.

Note: For the second test case, one way to achieve is:

$(1, 1) \rightarrow (1, 2) \rightarrow (2, 4) \rightarrow (2, 5) \rightarrow (3, 7.5) \rightarrow (3, 8.5)$

Sample Input

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1 1
3 8
9 31
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Sample Output

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0
5
11
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