CCC '11 J3 - Sumac Sequences

Canadian Computing Competition: 2011 Stage 1, Junior #3

In a sumac sequence, $t_1, t_2, \ldots, t_m$, each term is an integer greater than or equal 0. Also, each term, starting with the third, is the difference of the preceding two terms (that is, $t_{n+2} = t_n - t_{n+1}$ for $n \geq 1$). The sequence terminates at t_m if $t_{m-1} < t_m$.

For example, if we have 120 and 71, then the sumac sequence generated is as follows:

$$120, 71, 49, 22, 27.$$

This is a sumac sequence of length 5.

Input Specification

The input will be two positive numbers t_1 and t_2, with $0 < t_2 < t_1 < 10\,000$.

Output Specification

The output will be the length of the sumac sequence given by the starting numbers t_1 and t_2.

Sample Input

```
120
71
```

Output for Sample Input

```
5
```