

# CCC '11 J3 - Sumac Sequences

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**Time limit:** 2.0s    **Memory limit:** 256M

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## Canadian Computing Competition: 2011 Stage 1, Junior #3

In a sumac sequence,  $t_1, t_2, \dots, t_m$ , 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

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

## Output Specification

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

## Sample Input

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120
71
```

## Output for Sample Input

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```
5
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