

### **THE ACM-ICPC 2017**

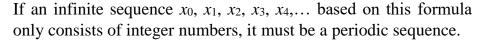
University of Science, VNU-HCM October 14, 2017



# Problem H Periodic Sequence Time Limit: 1 second

Given three integer numbers a, b, and  $x_0$ , we can define a sequence of numbers using the following recurrence equation:

$$x_{i+1} = a/x_i + b$$





**Example**: For a = -10800, b = 180,  $x_0 = 30$ , we have a periodic sequence: 30, -180, 240, 135, 100, 72, 30, ... with the periodic length of 6.

Your task is to determine the maximum possible periodic length of an integer-number sequence based on the recurrence  $x_{i+1} = a/x_i + b$ , given only two integer numbers a and b.

### Input

The input contains two integer numbers a and b, separated by a space  $(-2^{30} \le a, b \le 2^{30})$ .

### **Output**

The output contains only one integer number K, the maximum periodic length, or 0 if there no integer-number sequence can be generated by the given recurrence equation.

# Sample Input

# **Sample Output**

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