

The sum of  $p$  ( $p > 0$ ) consecutive integers can often be equal to the sum of next  $q$  consecutive positive integers. For example:

$9 + 10 + 11 + 12 = 13 + 14 + 15$ . Here  $p = 4$  and  $q = 3$

$4 + 5 + 6 + 7 + 8 = 9 + 10 + 11$ . Here  $p = 5$  and  $q = 3$ .

Given the value of  $q$ , how many possible values of  $p$  are there?

## Input

The input file contains at most 1500 lines of inputs. Each line contains a positive integer less than  $10^{14}$ , which denotes the value of  $q$ . Input is terminated by a line containing a single zero. This line should not be processed.

## Output

For each line of input produce one line of output. This line contains an integer, which denotes the total number of possible values of  $p$ .

## Sample Input

5  
1  
0

## Sample Output

6  
2