

Problem I. Inv

Input file: *standard input*
Output file: *standard output*
Time limit: 2 seconds
Memory limit: 512 mebibytes

A permutation p on n elements is an *involution* if $p(p(i)) = i$ for each i from 1 to n inclusive. Your task is to compute the number of involutions on n elements with k inversions. To make your life easier, we ask you to print only the parity of this number.

Input

In the only line of the input, two space-separated integers are given: n ($1 \leq n \leq 500$), the length of the involution, and k ($0 \leq k \leq \frac{n(n-1)}{2}$), the number of inversions.

Output

Print a single number (0 or 1): the number of involutions on n elements with exactly k inversions, when taken modulo 2.

Examples

standard input	standard output
4 1	1
10 21	0

Note

In the first sample, there are 3 such involutions.