

# 1015. Smallest Integer Divisible by K

## Description

Given a positive integer  $k$ , you need to find the **length** of the **smallest** positive integer  $n$  such that  $n$  is divisible by  $k$ , and  $n$  only contains the digit  $1$ .

Return *the length of*  $n$ . If there is no such  $n$ , return -1.

**Note:**  $n$  may not fit in a 64-bit signed integer.

### Example 1:

**Input:**  $k = 1$   
**Output:** 1  
**Explanation:** The smallest answer is  $n = 1$ , which has length 1.

### Example 2:

**Input:**  $k = 2$   
**Output:** -1  
**Explanation:** There is no such positive integer  $n$  divisible by 2.

### Example 3:

**Input:**  $k = 3$   
**Output:** 3  
**Explanation:** The smallest answer is  $n = 111$ , which has length 3.

### Constraints:

- $1 \leq k \leq 10^5$

