# C. Primes on Interval

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

You've decided to carry out a survey in the theory of prime numbers. Let us remind you that a prime number is a positive integer that has exactly two distinct positive integer divisors.

Consider positive integers $a, a + 1, ..., b$ $(a \le b)$. You want to find the minimum integer $l$ $(1 \le l \le b - a + 1)$ such that for any integer $x$ $(a \le x \le b - l + 1)$ among $l$ integers $x, x + 1, ..., x + l - 1$ there are at least $k$ prime numbers.

Find and print the required minimum $l$. If no value $l$ meets the described limitations, print -1.

## Input

A single line contains three space-separated integers $a, b, k$ $(1 \le a, b, k \le 10^6; a \le b)$.

## Output

In a single line print a single integer — the required minimum $l$. If there's no solution, print -1.

### Examples

| input |
| --- |
| 2 4 2 |
| **output** |
| 3 |

| input |
| --- |
| 6 13 1 |
| **output** |
| 4 |

| input |
| --- |
| 1 4 3 |
| **output** |
| -1 |