Problem BIPRIMES: BiPrimes

Every positive integer which is only divisible by 1 and itself is called a prime. Accordingly, a bi-prime is a number k that is prime and whose inverse is also prime. By inverse we mean the integer number that results when the order of k;s digits is reversed.

$$isBiPrime(n) <=> isPrime(n) \& isPrime(inv(n))$$

For example, $inv(107) = 701$. Since both 107 and 701 are primes, 107 is a bi-prime. For integers $k < 10$, we obviously have $k = inv(k)$, so all primes smaller than 10 are automatically bi-primes. When inverting a number, leading zeros must be ignored: $inv(10200) = 201$, but $inv(201) = 102$. Hence, we cannot be sure that $inv(inv(k)) = k$.

Input

Input consists of a number of lines, each of which contains a positive integer $n < 10^9$. Input is terminated by an empty line or EOF.

Output

For each input line, print one output line which contains n if n is a bi-prime or the next bigger bi-prime number if n is no bi-prime.

Sample Input 1

```
1
2
15
48
130
7312876
20802187
```

Sample Output 1

```
2
2
17
71
131
7312909
30000037
```