

## 11466 Largest Prime Divisor

All integer numbers are divisible by primes. If a number is divisible by more than one prime number, then it obviously has a largest prime divisor. The numbers which do not fall in this category do not have a largest prime divisor. Given a number  $N$  your job is to write a program that finds its largest prime divisor. An integer number  $n$  is divisible by another integer number  $m$  if there is an integer  $t$  such that  $mt = n$ .

### Input

The input file contains at most 450 sets of inputs. Each line contains a decimal integer  $N$ .  $N$  does not have more than 14 digits. Input is terminated by a line containing a single zero. So no other line except the last line contains a zero in the input. This line need not be processed.

### Output

For each line of the input produce one line of output. This line contains an integer LPD, which is the largest prime divisor of the input number  $N$ . If the input number is not divisible by more than one prime number output a '-1'.

### Sample Input

```
2
6
100
0
```

### Sample Output

```
-1
3
5
```