

## **Shocking Primes**

### **SPRIMES**

**150 Points**

In walks the professor "KIND OF A THING". With a book as thick as himself in his hands trying to drive students mad with his interesting teaching skills. In this effort, he gives a student a 100 digit number and asks him to give the list of all the prime factors in a sorted way. He also threatens the students to bring this assignment completed the very next class, failing to do so, the student would be awarded an F grade. Now, it is your moral duty to help your fellow mate with this tough problem and save his report card.

After a long protest and a rasta-roko aandolan, the professor has agreed to bring down the maximum limit of number to 12745267386521053.

#### **Input**

The input will be a sequence of integer numbers ,one per line, terminated by a negative number.

#### **Output**

Each positive number from the input must be factored and all factors must be printed out in ascending order. For each case, print all the factors one per line. Each case to be separated with an extra new line. If a factor occurs multiple times, print it that many times.

#### **EXAMPLE:**

##### **Input :**

```
90
1234567891
15
-1
```

##### **Output :**

```
2
3
3
5

1234567891

3
5
```