

## 5925 Prime factors

The Fundamental Theorem of Arithmetic roughly states that *every positive integer greater than one can be decomposed as a product of prime numbers; furthermore, this decomposition is unique apart from rearrangement of the factors*. Not one to believe mathematicians easily, you intend to check this out for yourself.

Your task is to write a program that will decompose an integer into its prime factors — you are of course hoping to find one that cannot be decomposed, but that, as they say, is your business.

### Input

Your input consists of an arbitrary number of integers (but no more than 5000 of them), each on its own line. These integers are in the range  $[2, 2^{21})$ .

The end of input is indicated by a line containing only the value ‘-1’.

### Output

For each input value  $x$ , print out the line

$$x=f_1*f_2*…*f_j$$

where  $x$  is the input value, and  $f_1, …, f_j$ , with  $f_i \geq f_{i+1} \forall i \in 1..j$ , denotes the prime factors of  $x$ .

### Sample Input

```
991
2097151
-1
```

### Sample Output

```
991=991
2097151=337*127*7*7
```