

## 13279 Divisors

The **number of divisor** function or  $d(n)$  is a very interesting function in number theory. It denotes the number of positive divisors of a particular number. For example  $d(24) = 8$  as 24 has eight divisors 1, 2, 3, 4, 6, 8, 12 and 24. In mathematics factorial of a positive integer number  $n$  is written as  $n!$  and is defined as below:

$$n! = 1 \times 2 \times 3 \times \dots \times n = \prod_{i=1}^n i$$

Another interesting function  $AF(n)$  (Again factorial in short) is defined as:

$$AF(n) = 1! \times 2! \times 3! \times \dots \times n! = \prod_{i=1}^n i!$$

Given  $n$ , your job is to find the value of  $d(AF(n))$ .

### Input

The input file contains at most 101 lines of inputs. Each line contains an integer  $n$  ( $0 < n < 5000001$ ). Input is terminated by a line containing a single zero. This value should not be processed.

### Output

For each line of input produce one line of output.

This line contains the *modulo*  $100000007$  ( $10^8 + 7$ ) of  $d(AF(n))$ .

### Sample Input

```
1
2
3
4
100
0
```

### Sample Output

```
1
2
6
18
59417661
```