

## 10139 Factovisors

The factorial function,  $n!$  is defined thus for  $n$  a non-negative integer:

$$\begin{aligned} 0! &= 1 \\ n! &= n \times (n - 1)! \quad (n > 0) \end{aligned}$$

We say that  $a$  divides  $b$  if there exists an integer  $k$  such that

$$k \times a = b$$

### Input

The input to your program consists of several lines, each containing two non-negative integers,  $n$  and  $m$ , both less than  $2^{31}$ .

### Output

For each input line, output a line stating whether or not  $m$  divides  $n!$ , in the format shown below.

### Sample Input

```
6 9
6 27
20 10000
20 100000
1000 1009
```

### Sample Output

```
9 divides 6!
27 does not divide 6!
10000 divides 20!
100000 does not divide 20!
1009 does not divide 1000!
```