Factovisors (UVA 10139)

PC/Uva IDs: 110704/10139, Popularity: A, Sucess rate: ave, Level: 2

The factorial function, *n*! is defined as follows for all non-negative integers *n*:

0! = 1
n! = n * (n-1)! *(n > 0)*

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

k*a = b

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

Output for Sample Input

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