

Problem D

Number of Divisor

Submit File : number.exe | number.class
 Input File : number.in
 Output File : number.out
 Time Limit : 1 second

Problem Description

Given two integers X and Y , calculate how many numbers are there that divides X^Y . The term *divide* means that you can divide two integers without leaving any remainder.

For Example,

Let $X = 6$ and $Y = 2$.

X^Y is equal to 6^2 , which is 36.

There are 9 numbers which divide 36, which are: {1, 2, 3, 4, 6, 9, 12, 18, and 36}

Input Specification

The first line of input contains an integer T , the number of test cases follow.

Each test case consists of two integers X ($1 \leq X \leq 1000$) and Y ($0 \leq Y \leq 6$).

Output Specification

For each case, print in a single line the number of divisor of X^Y in the format: "Number of divisor of $\langle X^Y \rangle$ is $\langle P \rangle$." (without quotes). See sample output for clarity.

Sample Input	Output for Sample Input
2 6 2 10 1	Number of divisor of 36 is 9. Number of divisor of 10 is 4.