

Problem D. Dividing and the double data type is a bad idea

Source file name: Dividing.c, Dividing.cpp, Dividing.java, Dividing.py
Input: standard input
Output: standard output
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Carlos is a student who use several division and double data type in his computer programs. His professor has warned that division results in precision errors, for example when the division is not exact and a repeating decimal number is generated. But Carlos insists on using division and double data type. Then his professor created this simple problem and challenged Carlos to solve it.

Input

The input consists of multiple test cases. Each test case consists of two integers a and n ($1 \leq a \leq 100$, $0 \leq n \leq 10^4$).

Output

For each test case two integer m and x must be printed if the division $\frac{1}{a^n}$ is exact and m is the smallest integer that satisfies this equality (in the set of integers):

$$x = \frac{1}{a^n} \cdot 10^m$$

If the division $\frac{1}{a^n}$ is inexact then print: **Precision Error**

Input	Output
1 9999	0 1
2 6	6 15625
5 11	11 2048
10 15	15 1
80 15	60 28421709430404007434844970703125
7 19	Precision Error
99 23	Precision Error

A division is exact when the remainder is zero. The dividend equals the divisor multiplied by the quotient. The quotient is an integer number or a floating point number no periodic, for example: $(\frac{1}{16} = 0.0625)$, $(\frac{1}{125} = 0.008)$.

A division is inexact when there is a leftover remainder. The dividend equals the divisor multiplied by the quotient plus the remainder. The quotient is a floating point number periodic, for example: $(\frac{1}{7} = 0, \underbrace{142857142857142857}_{\text{repeating decimal}} \dots)$ with period (repeating decimal) 142857, $(\frac{1}{14} = 0, \underbrace{0714285714285714285}_{\text{repeating decimal}} \dots)$ with period (repeating decimal) 714285.