E • Best Rational Approximation

Many microcontrollers have no floating point unit but do have a (reasonably) fast integer divide unit. In these cases it may pay to use rational values to approximate floating point constants. For instance,

$$355/113 = 3.1415929203539823008849557522124$$

is a quite good approximation to

$$\pi = 3.14159265358979323846$$

A best rational approximation, ***p/q***, to a real number, ***x***, with denominator at most ***M*** is a rational number, ***p/q*** (in lowest terms), with ***q <= M*** such that, for any integers, ***a*** and ***b*** with ***b <= M***, and ***a*** and ***b*** relatively prime, ***p/q*** is at least as close to ***x*** as ***a/b***:

$$|x - p/q| \leq |x - a/b|$$

Write a program to compute the best rational approximation to a real number, ***x***, with denominator at most ***M***.

Input

The first line of input contains a single integer P, $(1 \leq P \leq 1000)$, which is the number of data sets that follow. Each data set should be processed identically and independently.

Each data set consists of a single line of input. It contains the data set number, ***K,*** followed by the maximum denominator value, M $(15 \leq M \leq 100000)$, followed by a floating-point value, ***x***, $(0 \leq x < 1)$.

Output

For each data set there is a single line of output. The single output line consists of the data set number, ***K***, followed by a single space followed by the numerator, ***p***, of the best rational approximation to ***x***, followed by a forward slash (/) followed by the denominator, ***q***, of the best rational approximation to ***x***.

Sample Input	Sample Output
3 1 100000 .141592653589793238 2 255 .141592653589793238 3 15 .141592653589793238	1 14093/99532 2 16/113 3 1/7