Problem PB
Recurring Decimal to Fractions

Time limit: 3 seconds
Memory limit: 1024 megabytes

Problem Description

Given two strings of numbers representing a fraction smaller than one in recurring decimal form. The first string s_1 indicates the non-repeating part after the decimal point of the recurring decimal and the second string s_2 indicates the repeating part of the recurring decimal such as

```
1
012
```

means $0.1\overline{012}$

Return two integers n, d represent the fraction in the form of numerator and denominator. The two integers should be relatively prime.

Input Format

The first line contains an integer $T(\leq 40)$, representing the number of test cases. Each test case below contains three lines. For each test case, the first line has two integers a and b separated by a space. The second line is a string s_1 with length a and the third line is a string s_2 with length b.

Output Format

Each test case outputs two integers n and d, separated by a space. The first integer n is the numerator and the second integer d is the denominator. It is necessary to simplify the fraction so that the numerator and denominator are relatively prime.

Technical Specification

- $1 \leq a$
- $1 \leq b$
- $1 \leq a + b \leq 10$

Sample Input 1

```
2
1 3
0
012
3 1
085
3
```

Sample Output 1

```
2 1665
32 375
```