L • B-Casting

Casting around for problems leads us to combine modular arithmetic with different integer bases, particularly the problem of computing values modulo b-1, where b is the base in which the value is represented. For example,

$7829_{10} \bmod 9 = 8,$
$37777777777777773_{8} \bmod 7 = 6$
$123456_{7} \bmod 6 = 3$

(Note that $37777777777777773_{8} = 1125899906842619_{10}$ and $123456_{7} = 22875_{10}$.)

Your job is to write a program that reads integer values in various bases and computes the remainder after dividing these values by one less than the input base.

Input

The first line of input contains a single integer *P*, ($1 \le P \le 1000$), 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 containing three space-separated values. The first is an integer which is the data set number. The second is an integer which is the number, **B** (2 <= **B** <= 10), denoting a numeric base. The third is an unsigned number, **D**, in base **B** representation. For this problem, the number of numeric characters in **D** will be limited to 10,000,000.

Output

For each data set there is a single line of output. It contains the data set number followed by a single space which is then followed by the remainder resulting from dividing **D** by **(B-1)**.

Sample Input	Sample Output
6 1 10 7829 2 7 123456 3 6 432504023545112 4 8 37777777777777773 5 2 10110100010. . .101010111 6 10 5646046913. . .444716966	1 8 2 3 3 1 4 6 5 0 6 5

(digits that are omitted here can be seen in the sample data files online)

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