C • *m*-ary Partitions

A *partition* of an integer *n* is a set of positive integers which sum to *n*, typically written in descending order. For example:

```
10 = 4+3+2+1
```

A partition is *m*-ary if each term in the partition is a power of *m*. For example, the 3-ary partitions of 9 are:

```
9
3+3+3
3+3+1+1+1
3+1+1+1+1+1+1
1+1+1+1+1+1+1+1+1
```

Write a program to find the number of *m*-ary partitions of an integer *n*.

Input

The first line of input contains a single decimal integer ***P*, (1 ≤ *P* ≤ 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. The line contains the data set number, ***K*,** followed by the base of powers, ***m*, (3 <= m <= 100)**, followed by a space, followed by the integer, *n*, **(3 <= n <= 10000)**, for which the number of *m*-ary partitions is to be found.

Output

For each data set there is one line of output. The output line contains the data set number, ***K***, a space, and the number of *m*-ary partitions of *n*. The result should fit in a 32-bit ***unsigned*** integer.

Sample Input	Sample Output
5 1 3 9 2 3 47 3 5 123 4 7 4321 5 97 9999	1 5 2 63 3 75 4 144236 5 111