



## E • Non-Decreasing Digits

A number is said to be made up of *non-decreasing digits* if all the digits to the *left* of any digit is less than or equal to that digit. For example, the four-digit number **1234** is composed of digits that are *non-decreasing*. Some other four-digit numbers that are composed of *non-decreasing* digits are **0011**, **1111**, **1112**, **1122**, **2223**. As it turns out, there are exactly 715 four-digit numbers composed of non-decreasing digits.

Notice that leading zeroes are required: 0000, 0001, 0002 are all valid four-digit numbers with *non-decreasing* digits.

For this problem, you will write a program that determines how many such numbers there are with a specified number of digits.

### 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 is a single line that contains the data set number, followed by a space, followed by a decimal integer giving the number of digits  $N$ , ( $1 \leq N \leq 64$ ).

### Output

For each data set there is one line of output. It contains the data set number followed by a single space, followed by the number of  $N$  digit values that are composed entirely of *non-decreasing* digits.

Sample Input	Sample Output
3	1 55
1 2	2 220
2 3	3 715
3 4	