182   Bonus Bonds

The government of Impecunia does not levy any taxes, instead it raises money by the (sometimes forced) sale of Bonus Bonds. Originally the Bonds were numbered using a 7 digit number prefixed by a one digit code in the range 1 to 9 representing the region of Impecunia in which the bond was sold. However the scheme has proved so popular that the numbering scheme has been extended by a further two digits. To retain compatibility with the previous scheme, the 8th digit from the right (the third from the left) still designates the region of sale. At the same time, a 'central' region was created and has been given the designation 0. For security reasons no bond may be numbered with a number consisting entirely of zeroes, thus, although the original bonds all started from zero (since the region code was non-zero), the bonds from the central region start from 0000000001.

Each month, the winning numbers are drawn for each region independently. The equipment generates a stream of single digits and it would appear to be simple enough to collect these together in groups of ten and compare the results with the list of Bond-holders. However, the equipment is a little antiquated and is liable to various breakdowns, thus it is desirable to only generate numbers that lie within the allocated range and with the same distributions of digits at each position as would be found by examining all the bonds sold for that region. Thus if we wish to draw N numbers for a given region, the equipment is set to generate 10 streams of N digits, one for each position. The first winning number is then made up by taking the first digit from each stream, the second winning number is composed of the second digit in each stream, and so on. For each stream, the equipment is adjusted so that the distribution of digits it generates closely matches the actual distributions of digits in that position on the allocated Bonds. The state auditors generate a table of these distributions so that the two may be compared.

Write a program that will generate the table for the state auditors for any given draw. For each region, the program will read the serial number of the **next bond to be sold in that region** so that it can calculate the distributions. Since the output is voluminous, your program will only need to print the digit distribution for a particular digit position.

Input

Input will consist of a series of lines, each line consisting of a ten digit number representing the **next** bond number to be sold in a particular region and an integer in the range 1 to 10 representing the desired character position. It is possible that some regions will appear more than once in the input stream, and that others will not appear at all. The file will be terminated by a line consisting of 0000000000 0.

Output

Output will consist of a series of tables, one for each line of the input. Each table will consist of ten rows, one for each digit in the range 0 to 9. Each row will consist of a single number giving the numbers of times that digit appears in the sequence numbers at the desired position. Each number will be right justified in a field of width 11. Separate tables by one blank line.

Sample input

```
4810000000 1
0000000000 0
```

Sample output

```
100000000
100000000
100000000
100000000
 80000000
        0
        0
        0
        0
        0
```