We know the normal alphabetical order of the English alphabet, and we can then sort words or other letter sequences. For instance these words are sorted:

```
ANTLER
ANY
COW
HILL
HOW
HOWEVER
WHATEVER
ZONE
```

The standard rules for sorting letter sequences are used:

1. The first letters are in alphabetical order.
2. Among strings with the same prefix, like the prefix `AN` in `ANTLER` and `ANY`, they are ordered by the first character that is different, `T` or `Y` here.
3. One whole string may be a prefix of another string, like `HOW` and `HOWEVER`. In this case the longer sequence comes after the shorter one.

The Gorellians, at the far end of our galaxy, have discovered various samples of English text from our electronic transmissions, but they did not find the order of our alphabet. Being a very organized and orderly species, they want to have a way of ordering words, even in the strange symbols of English. Hence they must determine their own order. Unfortunately they cannot agree, and every Gorellian year, they argue and settle on a new order.

For instance, if they agree on the alphabetical order

```
UVWXYZNOPQRSTHIJKLMABCDEFG
```

then the words above would be sorted as

```
WHATEVER
ZONE
HOW
HOWEVER
HILL
ANY
ANTLER
COW
```

The first letters of the words are in their alphabetical order. Where words have the same prefix, the first differing letter determines the order, so the order goes `ANY`, then `ANTLER`, since `Y` is before `T` in their choice of alphabet. Still `HOWEVER` comes after `HOW`, since `HOW` is a prefix of `HOWEVER`.

Dealing with the different alphabetical orders each year by hand (or tentacle) is tedious. Your job is to implement sorting with the English letters in a specified sequence.

Input

The input will contain one or more datasets. Each dataset will start with a line containing an integer n and a string s, where s is a permutation of the English uppercase alphabet, used as the Gorellians' alphabet in the coming year. The next n lines ($1 \leq n \leq 20$) will each contain one non-empty string of letters. The length of each string will be no more than 30. Following the last dataset is a line containing only '`0`'.

Output

The first line of output of each dataset will contain '`year `' followed by the number of the dataset, starting from 1. The remaining n lines are the n input strings sorted assuming the alphabet has the order in s.

Sample Input

```
8 UVWXYZNOPQRSTHIJKLMABCDEFG
ANTLER
ANY
COW
HILL
HOW
HOWEVER
WHATEVER
ZONE
5 ZYXWVUTSRQPONMLKJIHGFEDCBA
GO
ALL
ACM
TEAMS
GO
10 ZOTFISENWABCDGHJKLMPQRUVXY
THREE
ONE
NINE
FIVE
SEVEN
ZERO
TWO
FOUR
EIGHT
SIX
0
```

Sample Output

```
year 1
WHATEVER
ZONE
HOW
HOWEVER
HILL
ANY
ANTLER
COW
year 2
TEAMS
GO
GO
ALL
ACM
year 3
ZERO
ONE
TWO
THREE
FOUR
FIVE
SIX
SEVEN
EIGHT
NINE
```