

# Spelling Lists

J, of the Men In Black, has been learning an alien language and has a spelling test tomorrow. J, however, is bored of studying the nonsensical (and often unpronounceable) words.

Instead, he is seeing how many ways he can reorder his spelling list. After making all possible permutations of word on his list, he sorts the rearranged lists lexicographically (by the first word, then the second...). After the sort, in what position, with the lexicographically first list being in position 1, is his original spelling list?

## Input

The first line is the number of spelling lists (no more than 10).

For each spelling list, a line with the number of words (no more than 1000) is given, followed by the original list on the next line.

All words within a spelling list are unique. Each word is composed of the letters a-z, is fewer than 100 characters, and is followed by a single space.

## Output

On separate lines, give the positions of the original lists.

## Example

### Input:

```
4
4
a b c d
4
d c b a
1
mrsmith
6
a aaaaaa aaaaa aaaa b bb
```

### Output:

```
1
24
1
55
```