Problem 9

Suffix Sorting

60 Points

Program Name: sort.java Input File: sort.in

At times it can be useful to sort lists of words in non-traditional ways. For instance, when looking for words that share a common suffix, it is useful to perform a sort by comparing the last letters first, then the next-to-last letters, and so forth. That is what your program will do.

Input

The first line of input will contain a single integer, *n*, indicating the number of data sets to process. The remainder of the input consists of those *n* data sets.

Each data set begins with a line containing a single integer, *m*, indicating the number of words in the data set. The following *m* lines each contain a single word of at most 20 alphabetic characters.

Output

For each data set in the input display the following:

1. A single line, "Data Set #X" where X is 1 for the first data set, 2 for the second, etc.
2. The sorted list of words from the data set. Words are sorted by comparing the last characters, then the next-to-last characters, etc. Characters should be sorted in ascending order (a, b, c, etc.) without regard for case.

Example Input File

```
2
3
bus
calculus
abacus
5
move
five
JIVE
hives
love
```

Example Output To Screen

```
Data Set #1
bus
abacus
calculus
Data Set #2
five
JIVE
love
move
hives
```