
2. Baby Names

Program Name: Baby.java

Input File: baby.dat

George is planning on having a lot of children. He dreams of fielding his own basketball, baseball, and football teams with his offspring. The problem is George isn't the sharpest tool in the shed and doesn't have a lot of imagination when it comes to actually giving the kids names. Many times George wants to give a child a name that he has already given to another child. Write a program that assists George in what name to actually give his kids so he can help keep them straight.

George has a *proposed* name for a child when it is born. A proposed name will consist only of upper and lower case letters and internal spaces. If no child has been given the proposed name then that name becomes the child's *actual* name. So for example if George wants to name a child Lisa and he doesn't have any children named Lisa then that child's actual name is Lisa. Now George has another child and he wants to name her Lisa as well. The problem is there is already a child with the actual name Lisa. So the naming algorithm says to give the name Lisa2 to the second child whose proposed name was Lisa. There won't be any children with the proposed name Lisa2 because proposed names can only contain letters and spaces.

Now George has a third child and wants to name her Mary. No child has the name Mary so the child's actual name will be Mary. Then George has a fourth child (remember he is trying to field his own sports teams) and the proposed name is again Lisa. The child's actual name will be Lisa3 because she is the third child to have the proposed name of Lisa.

Names are not case sensitive so Lisa is considered to be the same name as LISA or lISa or other sequences of those letters regardless of case. The actual name will be printed in the same form as the proposed name.

Some names will have internal spaces such as Joe Bob.

Write a program to help George name his children given various scenarios for the number of children born and George's proposed names. Print the actual names George would give the children.

Input

- The first line of input will contain a single integer n that indicates the number of data sets to process.
- Each data set will consist of two parts.
 - The first line of a data set will contain a single integer m that indicates how many children are in this data set.
 - The next m lines will contain the proposed names for the children, one per line. The children are born in the order they appear in the data set. The first line of the data set indicates the proposed name for the first child born, the second line indicates the proposed name for the second child born and so forth.
- Each name will consist of upper and lower case letters (A-Z, a-z) and internal spaces.
- Names from one data set do not affect other data sets.

Output

For each data set print the number of the data set, starting at 1, followed by the actual names given to the children, one name per line. The names are to be printed in the same order as the input, actual name of the first child on the first line, actual name of the second child on the second line and so forth.

Example Input File

```
3
5
Lisa
Lisa
lisa
LISA
lIsA
4
Mike
Lisa
George
Mike
9
Dusty
Lefty
Joe Bob
Dusty
Lefty
Grace
Grace
Bob
Grace
```

Example Output to Screen

```
1
Lisa
Lisa2
lisa3
LISA4
lIsA5
2
Mike
Lisa
George
Mike2
3
Dusty
Lefty
Joe Bob
Dusty2
Lefty2
Grace
Grace2
Bob
Grace3
```