2 Nicknames

You are the football coach at a local high school, and you are looking over the roster of players for the upcoming season. You decide to assign each player a short nickname so that you can bark orders at them as quickly as possible.

To keep things orderly, you decide to base their nicknames on their real names as much as possible. Being a coach, you decide to throw out their first names and just focus on last names.

You look down the roster, and decide that a player's nickname will be as many letters as necessary from his/her last name to make the nickname unique. For example, if you have these four last names:

- Davidson
- Davis
- Dixon
- Smith

Their nicknames would be:

- David
- Davis
- Di
- S

In each case, you took as many letters (in order, starting from the front) of each name to make the nickname unique. For "Smith", this could be a single letter because there were no other names starting with "S". "Dixon" just needed two letters to distinguish it from "Davidson" and "Davis", but those two needed five letters each to avoid ambiguity.

You are pretty proud of your system, until you notice that it fails in a few cases. For example, you may have two players with the same last name, or you may have a player whose last name is a prefix of another player's last name, e.g., "David" and "Davidson". To solve this problem, you decide to kick those people off the team. They sound like troublemakers. As a result, you may assume that each name has a longest unique prefix.

Your input will consist of a list of last names, one per line, given in sorted order. Your output should consist of one line per name, with the original name and the nickname separated by a space.

Note: The ¶ symbol in the examples below represents a newline character.

Sample Input

```
Adams¶
Andersen¶
Anderson¶
Carson¶
Carter¶
Carville¶
Cooper¶
Coply¶
Smith¶
Smythe¶
Sorensen¶
Sorenson¶
Wynn¶
```

Sample Output

```
Adams Ad¶
Andersen Anderse¶
Anderson Anderso¶
Carson Cars¶
Carter Cart¶
Carville Carv¶
Cooper Coo¶
Coply Cop¶
Smith Smi¶
Smythe Smy¶
Sorensen Sorense¶
Sorenson Sorenso¶
Wynn W¶
```