D - Self-Plagiarism

Context

Plagiarism is everywhere! The local authorities are very worried about the increasing cases of plagiarism, especially in doctoral theses. One usual case is self-plagiarism, where an author repeats a fragment that he/she has used before. For example, one doctoral thesis contains the text:

```
Spain is a very important country, and France is an important country, and also Great Britain is a very important nation...
```

There are a lot of repetitions in the same text. The longest one is the fragment: "ain is a very important ", that has a length of 24 characters (including the last blank space).

The Problem

The government has hired you to write a program to detect self-plagiarism in a text. We have a text in one line. You must find the longest sequence of characters that is repeated in the same text.

Observe that the repeated part may contain a part of itself. For example, if we have the sentence: "blah, blah, blah", the longest repetition is the fragment "blah, blah".

The Input

The first line of the input contains an integer number, *N*, indicating the number of test cases.

The following *N* lines contains the test cases, each case in a line. This line contains an arbitrary ASCII text, between 1 and 1000 characters long.

The Output

For each test case, you have to output the longest sequence that is repeated in the text. If there is more than one sequence with the maximum length, you have to output the first one to appear in the text.

Sample Input

```
4
Spain is a very important country, and France is an important country, and also Great Britain is a very important nation...
blah, blah, blah
Clean
More text
```

Sample Output

```
ain is a very important
blah, blah

e
```