169 Xenosemantics

Contact with extra-terrestrial intelligence has been made at last!! A stream of messages has been discovered, apparently emanating from Procyon IV. After intensive study by the world's best xenosemanticists, the following definite conclusions on the format of the messages have been reached. The messages are streams of bits divided into groups of 8. Somewhat coincidentally the meaningful parts of the message map onto the lower case alphabet, although other characters sometimes intervene. Letters are organised into words separated by spacer letters. The spacer letter varies within a message, but a word which is delimited by a particular spacer pair does not contain that spacer letter within it. In addition the message is conceptually bounded by a pair of 'joker' letters or 'wild spacers' that can match any letter.

For example, a message segment `xwrxwtx` contains 3 words — `wr`, `wt`, and `rx`; `wrxwt` is not a word in this segment of the message. If this segment appeared at the start of a message then `xw` and `xwrxw` could also be words. The words `wr` and `rx` overlap, while `wt` does not overlap any words in this message segment. While a word contains the same letters each time it appears in one message, the order of the letters may vary in different occurrences of the same word. Each message contains many words which are not "true" words in that they carry no meaning (like err.., umm.., etc in English). Every true word in the message contains at least two and no more than 250 letters, overlaps with another true word, and is repeated somewhere in the message (possibly with the letters in a different order). In the example above, `wr` and `rx` would both be true words if `wr` or `rw`, and `rx` or `xr`, occurred as words elsewhere in the message. The word `wt` would be a true word if `wt` or `tw` occurred elsewhere in the message, overlapping another true word.

Write a program that will read in messages and print out a list of the different true words contained in each message (using the spelling which occurs first), in the order the words first appear in the message. If the first appearances of two words overlap, then the word that finishes first precedes the other. Remember that both the start and the end of the message count as spacer letters. Your program must be able to process messages of up to 1000 letters.

Input

Input will consist of one or more messages. Each message will consist of one or more lines. Each line will be no more than 60 characters long and will contain a mixture of lower case letters and other characters. If the last character of a line is a dash (`-`) then the message continues on the next line. All characters other than lower case 'a' to 'z' form no part of the message. The file will be terminated by a line consisting of a single '`#`'.

Output

Output will consist of the true words for each message, in the correct order as specified above, one word per line. Terminate the list for each message by a line consisting of a single '`*`'.

Sample Input

```
dyj@ttdi%sdort^jdyt*rFnn  trlnsvkGHoalexotrjxzasvs-
ozgpsi<>:pkelaovo,.;'slnxt'][-prsjlntrjo
aaaaaaa
#
```

Sample Output

```
dyj
ortj
lnsvkoalexot
*
*
```