Collection of words   P77859_en
Examen extraordinari d'Algorísmia, FME (2012-06-29)

Write a program to keep a collection of words. There are two instructions:

- "AFEGEIX" w adds the word w to the collection, and prints nothing.

- "SEGUENT" deletes the longest word of the collection, and prints it. In the event of a tie, it deletes the word that was added first.

Input

Input consists of a sequence of instructions. The given words are made up of only lowercase letters, and can be repeated.

Output

For every "SEGUENT" instruction, print a line with the required word according to the rules given above. You can assume that there will always be at least one word.

Observation

"Afegeix" is Catalan for "add", and "següent" is Catalan for "next".

Sample input 1

```
AFEGEIX hola
AFEGEIX adeu
SEGUENT
AFEGEIX blabla
SEGUENT
SEGUENT
```

Sample output 1

```
hola
blabla
adeu
```

Sample input 2

```
AFEGEIX a
AFEGEIX bb
AFEGEIX ccc
AFEGEIX dddd
SEGUENT
AFEGEIX eee
SEGUENT
AFEGEIX bb
SEGUENT
AFEGEIX a
SEGUENT
SEGUENT
```

Sample output 2

```
dddd
ccc
eee
bb
bb
```

Problem information

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