The one of the greatest common subword
P52289_en

Concurso On-line 7 (OIE08) (2008)

Some problems are so classic that barely need a statement. For this one, we ask you to compute the longest subword that two given words have in common. In case of a tie, print the smallest one in alphabetical order.

Input

Input consists of several cases, each with two non-empty words w_1 and w_2 made up of at most 500 lowercase letters.

Output

For every case, print the longest common subword. In case of a tie, print the smallest one in alphabetical order.

Observation

There are very fast algorithms to solve this problem. Here, we settle for one that takes time proportional to $n_1 \cdot n_2$, where n_1 and n_2 are the lengths of w_1 and w_2.

Sample input

```
pseudopseudohypoparathyroidism
floccinaucinihilipilification

supercalifragilisticexpialidocious
sipircilifrigilisticixpiilidiciiis

supercalifragilisticexpialidocious
zzz

abczzzcdazzzaba
abcxxxcdaxxxaba
```

Sample output

```
at
gilistic

aba
```

Problem information

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