Consider the following game: Given an initially empty set and a sequence of words, insert each word $w$ in the set if $w$ was not yet in it, and delete $w$ from the set if $w$ was already in it. At the end, print the words that are in the set, and also the words that have been in the set but finally are not in it.

**Input**

Input is a sequence of words.

**Output**

Print the words that finally are in the set, one per line and in increasing order. Afterwards, print twenty hyphens in a line, followed by the words that have been in the set but finally are not in it, one per line and in decreasing order.

**Sample input**

```
que
qui
com
on
on
why
quan
qui
que
qui
why
```

**Sample output**

```
com
quan
qui
--------------------
why
que
on
```