13 Upside Down
6 points

Introduction

The Upside Down, in Stranger Things TV series, is a parallel dimension to real world. Much of it remains as a mistery, but a recent scientic investigation discovered that obscure messages coming from that dimension can be translated following the upside down rule.

Each message received is a singular word separated by a line break, or a line with the keyword UPSIDE_DOWN. To be able to read a message scientists discovered that words must be stored in the order them are received, that is, new words should be added to the end of the message. However, when the keyword UPSIDE_DOWN appears, then the order of all the words must be reversed. They also noticed that all messages end with the symbol #. By processing the message this way, you end up a clear message.

Can you write a program to help the people of Hawkins understand messages from the Upside Down?

Input

The input is a series of lines containing a single word that is part of the message alternatively will appear the word UPSIDE_DOWN.

Output

The output is a single line with the translated message.

Example 1

Input

```
of
Hawkins
UPSIDE_DOWN
town
small
UPSIDE_DOWN
in
UPSIDE_DOWN
the
to
Welcome
UPSIDE_DOWN
Indiana
#
```

Output

```
Welcome to the small town of Hawkins in Indiana
```