Reversing odd words

Write the program that reads the words from the input and rewrites first all words of even length preserving the order from the input, then writes all **reversed** words of odd length, also preserving the order from the input. Each word from the input is finished with a newline '\n' character.

Input

At most 1000 words composed from the small letters only written in separate lines. Each word is of length at most 100 characters.

Output

First, rewrite in separate lines all words of even length preserving the order from the input. Then, write in separate lines all **reversed** words of odd length, also preserving the order from the input.

Example 1

Input:

nuli
erti
ori
sami
ors

Output:

nuli
erti
sami
iro
sro

Example 1

Input:

nikoloz
albert
kakhi
aleko
sandro
giorgi
mariam
shalva
mate
guram

Output:

albert
sandro

giorgi
mariam
shalva
mate
zolokin
ihkak
okela
marug