

Problem F4001

Swap Sentence

Alice, Bob and Charlotte are playing a game. Initially each of them has a slip of paper with a sentence written on it.

At the first step, Alice and Bob will decide if they want to swap the slip of paper they have.

At the second step, Bob and Charlotte will decide if they want to swap the slip of paper they have.

At the last step, Charlotte and Alice will decide if they want to swap the slip of paper they have.

The game goes on step by step, which means they do the second step after completing first step and do the last step after completing the second step. Now you are provided with the record of whether they swap at each step, can you tell what sentence is written on the slip of paper for everyone?

Input

The first line of the input is the sentence written on Alice's paper initially. The second line of the input is the sentence written on Bob's paper initially. The third line of the input is the sentence written on Charlotte's paper initially.

Each sentence consist of at least 1, at most 50 many words. Each word consist of at least 1, at most 20 many lower and upper case English alphabet letter. Between each two word there is a space.

The last line consist of 3 space separated integers a_1, a_2, a_3 , respectively denoting if Alice and Bob, Bob and Charlotte and Charlotte and Alice swapped their paper. If they swapped, the recorded integer will be 1, otherwise 0.

Output

Print 3 lines of sentence, the first line is the sentence that Alice has now, the second line is the sentence that Bob has now and the last line is the sentence Charlotte has now.

Sample Input

```
I am Alice.  
I am Bob.  
I am Charlotte.  
1 1 1
```

Sample Output

```
I am Alice.  
I am Charlotte.  
I am Bob.
```

Explanation of Sample Data

They swapped at each step, so the game goes as the following.

At the beginning :

Alice : I am Alice.
Bob : I am Bob.
Charlotte : I am Charlotte.

After the first step :

Alice : I am Bob.
Bob : I am Alice.
Charlotte : I am Charlotte.

After the second step :

Alice : I am Bob.
Bob : I am Charlotte.
Charlotte : I am Alice.

After the last step :

Alice : I am Alice.
Bob : I am Charlotte.
Charlotte : I am Bob.