

## C. Swap Letters

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Monocarp has got two strings  $s$  and  $t$  having equal length. Both strings consist of lowercase Latin letters "a" and "b".

Monocarp wants to make these two strings  $s$  and  $t$  equal to each other. He can do the following operation any number of times: choose an index  $pos_1$  in the string  $s$ , choose an index  $pos_2$  in the string  $t$ , and swap  $s_{pos_1}$  with  $t_{pos_2}$ .

You have to determine the minimum number of operations Monocarp has to perform to make  $s$  and  $t$  equal, and print any optimal sequence of operations — or say that it is impossible to make these strings equal.

### Input

The first line contains one integer  $n$  ( $1 \leq n \leq 2 \cdot 10^5$ ) — the length of  $s$  and  $t$ .

The second line contains one string  $s$  consisting of  $n$  characters "a" and "b".

The third line contains one string  $t$  consisting of  $n$  characters "a" and "b".

### Output

If it is impossible to make these strings equal, print  $-1$ .

Otherwise, in the first line print  $k$  — the minimum number of operations required to make the strings equal. In each of the next  $k$  lines print two integers — the index in the string  $s$  and the index in the string  $t$  that should be used in the corresponding swap operation.

### Examples

<b>input</b>	<a href="#">Copy</a>
4 abab aabb	
<b>output</b>	<a href="#">Copy</a>
2 3 3 3 2	
<b>input</b>	<a href="#">Copy</a>
1 a b	
<b>output</b>	<a href="#">Copy</a>
-1	
<b>input</b>	<a href="#">Copy</a>
8 babbaabb abababaa	
<b>output</b>	<a href="#">Copy</a>
3 2 6 1 3 7 8	

### Note

### Codeforces Round #585 (Div. 2)

**Finished**

Practice



### → Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

[Start virtual contest](#)

### → Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

### → Clone Contest to Mashup

You can clone this contest to a mashup.

[Clone Contest](#)

### → Submit?

Language: GNU G++11 5.1.0

Choose file: [选择文件](#) 未选择任何文件

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.



[Submit](#)

### → Problem tags

[constructive algorithms](#) [greedy](#)

No tag edit access

### → Contest materials

- [Announcement #1 \(en\)](#) 
- [Announcement #2 \(ru\)](#) 

In the first example two operations are enough. For example, you can swap the third letter in  $s$  with the third letter in  $t$ . Then  $s = "abbb"$ ,  $t = "aaab"$ . Then swap the third letter in  $s$  and the second letter in  $t$ . Then both  $s$  and  $t$  are equal to "abab".

In the second example it's impossible to make two strings equal.

[• Tutorial \(en\)](#)

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