

PROBLEMS SUBMIT STATUS STANDINGS CUSTOM TEST

A. Prefixes

time limit per test: 1 second  
memory limit per test: 256 megabytes  
input: standard input  
output: standard output

Nikolay got a string  $s$  of **even** length  $n$ , which consists only of lowercase Latin letters 'a' and 'b'. Its positions are numbered from 1 to  $n$ .

He wants to modify his string so that every its prefix of **even** length has an equal amount of letters 'a' and 'b'. To achieve that, Nikolay can perform the following operation arbitrary number of times (possibly, zero): choose some position in his string and replace the letter on this position with the other letter (i.e. replace 'a' with 'b' or replace 'b' with 'a'). Nikolay can use no letters except 'a' and 'b'.

The prefix of string  $s$  of length  $l$  ( $1 \leq l \leq n$ ) is a string  $s[1..l]$ .

For example, for the string  $s = \text{"abba"}$  there are two prefixes of the even length. The first is  $s[1..2] = \text{"ab"}$  and the second  $s[1..4] = \text{"abba"}$ . Both of them have the same number of 'a' and 'b'.

Your task is to calculate the minimum number of operations Nikolay has to perform with the string  $s$  to modify it so that every its prefix of **even** length has an equal amount of letters 'a' and 'b'.

Input

The first line of the input contains one **even** integer  $n$  ( $2 \leq n \leq 2 \cdot 10^5$ ) — the length of string  $s$ .

The second line of the input contains the string  $s$  of length  $n$ , which consists only of lowercase Latin letters 'a' and 'b'.

Output

In the first line print the minimum number of operations Nikolay has to perform with the string  $s$  to modify it so that every its prefix of **even** length has an equal amount of letters 'a' and 'b'.

In the second line print the string Nikolay obtains after applying all the operations. If there are multiple answers, you can print any of them.

Examples

input	Copy
4 bbbb	
output	Copy
2 abba	

input	Copy
6 ababab	
output	Copy
0	

Codeforces Round #587 (Div. 3)

Finished

→ 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

→ Problem tags

strings \*900

No tag edit access

→ Contest materials

- Announcement #1 (en) ✕
- Announcement #2 (ru) ✕
- Tutorial #1 (en) ✕
- Tutorial #2 (ru) ✕

ababab	
<b>input</b>	<b>Copy</b>
2 aa	
<b>output</b>	<b>Copy</b>
1 ba	

**Note**

In the first example Nikolay has to perform two operations. For example, he can replace the first 'b' with 'a' and the last 'b' with 'a'.

In the second example Nikolay doesn't need to do anything because each prefix of an even length of the initial string already contains an equal amount of letters 'a' and 'b'.

---

[Codeforces](#) (c) Copyright 2010-2019 Mike Mirzayanov  
The only programming contests Web 2.0 platform  
Server time: Nov/28/2019 12:22:28<sup>UTC-5</sup> (f3).  
Desktop version, switch to [mobile version](#).  
[Privacy Policy](#).

Supported by



ITMO UNIVERSITY