



Contest Duration: 2019-07-21(Sun) 20:00 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20190721T2100&p1=248>) ~ 2019-07-21(Sun) 22:40 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20190721T2340&p1=248>) (local time) (160 minutes)

[Back to Home \(/home\)](#)

 [Top \(/contests/agc036\)](/contests/agc036)

 [Tasks \(/contests/agc036/tasks\)](/contests/agc036/tasks)

 [Clarifications \(/contests/agc036/clarifications\)](/contests/agc036/clarifications)  [Results](#) ▼

 [Standings \(/contests/agc036/standings\)](/contests/agc036/standings)

 [Virtual Standings \(/contests/agc036/standings/virtual\)](/contests/agc036/standings/virtual)

 [Editorial \(/contests/agc036/editorial\)](/contests/agc036/editorial)  [Discuss \(https://codeforces.com/blog/entry/68523\)](https://codeforces.com/blog/entry/68523)



E - ABC String

[Editorial \(/contests/agc036/tasks/agc036_e/editorial\)](/contests/agc036/tasks/agc036_e/editorial)

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Time Limit: 2 sec / Memory Limit: 1024 MB

Score : 1500 points

Problem Statement

Given is a string S consisting of 'A', 'B', and 'C'.

Consider the (not necessarily contiguous) subsequences x of S that satisfy all of the following conditions:

- 'A', 'B', and 'C' all occur the same number of times in x .
- No two adjacent characters in x are the same.

Among these subsequences, find one of the longest. Here a subsequence of S is a string obtained by deleting zero or more characters from S .

Constraints

- $1 \leq |S| \leq 10^6$
- S consists of 'A', 'B', and 'C'.

Input

Input is given from Standard Input in the following format:

2020-09-11 (Fri)
08:45:24 +08:00

S

Output

Print one longest subsequence that satisfies the conditions. If multiple solutions exist, any of them will be accepted.

Sample Input 1

[Copy](#)

ABBCBCAB

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Sample Output 1

[Copy](#)

ACBCAB

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Consider the subsequence 'ACBCAB' of S . It satisfies the conditions and is one of the longest with these properties, along with 'ABCBCA'. On the other hand, the subsequences 'ABCBCAB' and 'ABBCCA' do not satisfy the conditions.

Sample Input 2

[Copy](#)

ABABABABACACACAC

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Sample Output 2

[Copy](#)

BABCAC

[Copy](#)

Sample Input 3

[Copy](#)

ABCABACBCBABABACBCBCBCBCAB

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Sample Output 3

[Copy](#)

ACABACABABACBCBCBCBA

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08:45:24 +08:00

Sample Input 4

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AAA

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Sample Output 4

[Copy](#)[Copy](#)

It is possible that only the empty string satisfies the condition.

#telegram)

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[Rule \(/contests/agc036/rules\)](/contests/agc036/rules) [Glossary \(/contests/agc036/glossary\)](/contests/agc036/glossary)

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