The TCS Global Coding Contest

Coding Area

05 Hr **05** Min **07** Sec

A	B	C	D	E	F

ONLINE EDITOR (A)

Elections

＋ Problem Description

Elections are going on, and there are two candidates A and B, contesting with each other. There is a queue of voters and in this queue some of them are supporters of A and some of them are supporters of B. Many of them are neutral. The fate of the election will be decided on which side the neutral voters vote. Supporters of A and supporters of B make attempt to win the votes of neutral voters.

The way this can be done is explained below:

1. The voter queue is denoted by three characters, viz {-, A, B}. The - denotes neutral candidate, A denotes supporter of candidate A and B denotes supporter of candidate B.

2. Supporters of A can only move towards the left side of the queue.

3. Supporters of B can only move towards the right side of the queue.

4. Since time is critical, supporters of both A and B will move simultaneously.

5. They both will try and influence the neutral voters by moving in their direction in the queue. If supporter of A reaches the neutral voter before supporter of B reaches him, then that neutral voter will become a supporter of candidate A.

6. Similarly, if supporter of B reaches the neutral voter before supporter of A reaches him, then that neutral voter will become a supporter of candidate B.

7. Finally, if both reach at the same time, the voter will remain neutral. A neutral vote cannot decide the outcome of the election.

8. If finally, the queue has more votes for candidate A, then A wins the election. If B has more votes, then B wins that election. If both have equal votes, then it will be a coalition government.

Refer Examples section for understanding the dynamics of how the supporters influence the neutral voters.

Your task is to find the outcome of the election.

Note: There are no test cases where all votes are neutral.

＋ Constraints

1 <= length of queue <= 10 ^ 5

＋ Input

First line contains an integer which is length of queue of voters.

Second line contains characters {-, A, B}, in which denotes

· A = voter who is supporter of candidate A

· B = voter who is supporter of candidate B

· - = neutral voter

＋ Output

Print candidate with maximum number of votes. If they have equal number of votes, print "Coalition government".

＋ Time Limit

1

＋ Examples

Example 1

Input

14

--AB--AB---A--

Output

A

Explanation:

For starting positions where there is no opposition from supporter of B, supporter of A can promote in left side of the queue. The voting queue will then look like below:

A A A B - - A B - - - A - -

From 4th place (in voting queue) B supporter is moving towards the right side, simultaneously 7th placed A supporter is also moving towards the left side. Then the voting queue will look like below:

A A A B B A A B - - - A - -

From 8th place B supporter is moving towards the right side, simultaneously 12th placed A supporter is also moving towards the left side. Then the voting queue will look like below:

A A A B B A A B B - A A - -

Since supporters of both A and B will reach the 10th voter at the same time, 10th voter will remain neutral.

Since supporter of A at 12th place cannot move towards right, last 2 voters will not be influenced and remain neutral. Then the voting queue will look like below:

A A A B B A A B B - A A - -

Since all voter have now cast their votes, election results can now be declared.

So final result is: A A A B B A A B B - A A - -

A has 7 votes, B has 4 votes hence, A wins the election.

Example 2

Input

4

A---

Output

A

Explanation:

Since supporter of A at 1st place cannot move towards right, last 3 voters will not be influenced and will remain neutral. Then the voting queue will look like below:

A - - -

Since all voter have now cast their votes, election results can now be declared.

So final result is: A - - -

A has 1 vote, B has 0 votes hence, A wins the election.

Example 3

Input

5

A---B

Output

Coalition government

Explanation:

Since supporter of A at 1st place cannot move towards right, supporter of B at 5th cannot move towards left, middle 3 voters will not be influenced and will remain neutral. Then the voting queue will look like below:

A - - - B

So final result is: A - - - B

A has 1 vote, B has 1 vote hence, output will be "Coalition government".

Upload Solution [Question : A]

☐ I, **rishav kumar** confirm that the answer submitted is my own.　　　　　☐ Took help from online sources (attributions)

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