

Adrian, Bruno and Goran wanted to join the bird lovers’ club. However, they did not know that all applicants must pass an entrance exam. The exam consists of N questions, each with three possible answers: A, B and C.

Unfortunately, they couldn’t tell a bird from a whale so they are trying to guess the correct answers. Each of the three boys has a theory of what set of answers will work best:

Adrian claims that the best sequence is: A, B, C, A, B, C, A, B, C, A, B, C ...

Bruno is convinced that this is better: B, A, B, C, B, A, B, C, B, A, B, C ...

Goran laughs at them and will use this sequence: C, C, A, A, B, B, C, C, A, A, B, B ...

Write a program that, given the correct answers to the exam, determines who of the three was right – **whose sequence contains the most correct answers**.

Input

The first line contains an integer N ($1 \leq N \leq 100$), the number of questions on the exam.

The second line contains a string of N letters ‘A’, ‘B’ and ‘C’. These are, in order, the correct answers to the questions in the exam.

Output

On the first line, output M , the largest number of correct answers one of the three boys gets.

After that, output the names of the boys (in alphabetical order) whose sequences result in M correct answers.

Sample Input 1

5
BAACC

Sample Output 1

3
Bruno

Sample Input 2

9
AAAABBBBB

Sample Output 2

4
Adrian
Bruno
Goran