Problem E. One Pass Cleaning

TimeLimit: 1 second
MemoryLimit: 256 megabytes

A corridor consists of n floor tiles arranged in a straight line. Each tile has a direction indicator, which is either '<' or '>'.

A cleaning robot will be placed on one tile as the starting position and will move according to the following rules:

- When the robot stands on a tile, it reads the direction indicator on that tile.
  - If the indicator is '<', the robot moves continuously to the left.
  - If the indicator is '>', the robot moves continuously to the right.
- The robot keeps moving in that direction until it reaches a tile that has not been visited before, or until it reaches the end of the corridor.
- Once the robot passes a tile, that tile is considered cleaned and will not be cleaned again.

All n tiles must be cleaned. However, the initial direction indicators may be set incorrectly, so the robot may not be able to clean all tiles.

You are allowed to change any tile's direction indicator from '<' to '>' or from '>' to '<'. Your task is to change as few tiles as possible and choose a starting tile so that the robot can clean every tile in the corridor by following the direction indicators.

Input

The first line contains a single integer n — the number of floor tiles.

The second line contains a single string s of length n — the initial direction of each floor tiles.

- $1 \leq n \leq 3 \times 10^5$
- s consist of character '<' or '>'

Output

The first line contains two integers k and p ($1 \leq p \leq n$) — the minimum number of tiles whose direction indicators must be changed and the starting position p after the changes.

The second line outputs k integers $c_1, c_2, ..., c_k$ ($1 \leq c_1, c_2, ..., c_k \leq n$), the positions of the tiles to be changed. If $k = 0$, don't need to output in the second line.

If there are multiple valid solutions, output any one of them.

Examples

standard input	standard output
7 >>>><<<	0 4
6 <<><>>	1 3 1