

Compress the String!

In this task, we would like for you to appreciate the usefulness of the *groupby()* function of *itertools*. To read more about this function, [Check this out](#).

You are given a string *S*. Suppose a character 'c' occurs consecutively *X* times in the string. Replace these consecutive occurrences of the character 'c' with (*X*, *c*) in the string.

For a better understanding of the problem, check the explanation.

Input Format

A single line of input consisting of the string *S*.

Output Format

A single line of output consisting of the modified string.

Constraints

All the characters of *S* denote integers between 0 and 9.

$$1 \leq |S| \leq 10^4$$

Sample Input

1222311

Sample Output

(1, 1) (3, 2) (1, 3) (2, 1)

Explanation

First, the character 1 occurs only once. It is replaced by (1, 1). Then the character 2 occurs three times, and it is replaced by (3, 2) and so on.

Also, note the single space within each compression and between the compressions.