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.