

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.

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.