String Compression

Joseph and Jane are making a contest for apes. During the process, they have to communicate frequently with each other. Since they are not completely human, they cannot speak properly. They have to transfer messages using postcards of small sizes.
To save space on the small postcards, they devise a string compression algorithm:

- If a character, ch, occurs $n(>1)$ times in a row, then it will be represented by $\{ch\}\{n\}$, where $\{x\}$ is the value of x. For example, if the substring is a sequence of 4 '*a*' ("*aaaa*"), it will be represented as "*a4*".
- If a character, ch, occurs exactly one time in a row, then it will be simply represented as $\{ch\}$. For example, if the substring is *"a"*, then it will be represented as *"a"*.

Help Joseph to compress a message, *msg*.

Input

The only line of input contains a string, *msg*.

Output

Print the string *msg* as a compressed message.

Constraints

- $1 \leq length(msg) \leq 10^5$
- *msg* consists of lowercase English characters ($a - z$) only.

Sample Input #00

```
abcaaabbb
```

Sample Output #00

```
abca3b3
```

Sample Input #01

```
abcd
```

Sample Output #01

```
abcd
```

Sample Input #02

```
aaabaaaaccaaaaba
```

Sample Output #02

```
a3ba4c2a4ba
```

Explanation

Sample Case #00: msg = "$abcaaabbb$*"*. Here, the first 3 characters occur exactly once, and the rest of them occur 3 times in a sequence.

Sample Case #01: msg = "$abcd$*"*. As there is no multiple consecutive occurrence of any character, the compressed message will be same as original one.

Sample Case #02: msg = "$aaabaaaaccaaaaba$*"*. In the first 3 occurrences, '*a*' is repeated 4 times, while in the last occurrence, there is only one '*a*'. Also,'*c*' occurs two times, and '*b*' occurs one time in both occurrences.

Tested by Wanbo