

All LABS are to be submitted through a link to your github repository

Diagnostic Problem 1:

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

- $1 \leq \text{length}(\text{msg})$
- Msg consists of lowercase English letters (a-z) only

**Sample Input#1**

abcaaabbb

**Sample Output#1**

abca3b3

**Sample Input#2**

abcd

**Sample Output#2**

abcd

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## LAB#1

We will start by building a dataset consisting of the homepages of faculty members from different universities' Engineering and Computer Science departments. To achieve this, you need to identify the faculty directory listing page where all the faculty members of your chosen department are listed and get the urls for the homepages of all faculty members. You then need to scrape all the text information, such as the faculty bio and courses they teach, from the faculty homepage. To prevent overlapping of universities, register the chosen university on the sign up sheet:

[Sign Up](#)

Example:

<https://cs.illinois.edu/about/people/all-faculty>

## SUBMISSIONS:

Paste the github link in the corresponding canvas assignment's page

Your repo should have the following files:

- |— dia\_prob\_solution
- |— bio\_urls.txt
- |— courses\_taught.txt
- |— bios.txt
- |— scraper.ipynb OR scraper.py