Problem C
Run-length Encoding

Time Limit: 3 seconds
Memory Limit: 512 Megabytes

Problem description

Run-length encoding (RLE) is a form of lossless data compression in which runs of data (sequences in which the same data value occurs in many consecutive data elements) are stored as a single data value and count, rather than as the original run.

Given an input string, write a function that returns the Run Length Encoded string for the input string. For example, if the input string is "xxxxaaafdyyyyyy", then the function should return "x4a3f1d1y6"

The algorithm of REL is described in 4 steps below:

1. Pick the first character from the source string.
2. Append the picked character to the destination string.
3. Count the number of subsequent occurrences of the picked character and append the count to the destination string.
4. Pick the next character and repeat steps 2) 3) and 4) if the end of the string is NOT reached.

Input

A line contains source string with less than 1024 characters.

Output

A line contains the Run Length Encoded result string.

Example:

Input	Output
xxxxaaafdyyyyyy	x4a3f1d1y6

Input	Output
adddfaabaaca	a1d3f1a2b1a2c1a1

A relax page, open to next page for the next challenge in your journey to the TOP.