# 443. String Compression

223 624

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Given an array of characters, compress it **in-place** (https://en.wikipedia.org/wiki/In-place_algorithm).

The length after compression must always be smaller than or equal to the original array.

Every element of the array should be a **character** (not int) of length 1.

After you are done **modifying the input array in-place (https://en.wikipedia.org/wiki/In-place_algorithm)**, return the new length of the array.

**Follow up:**
Could you solve it using only O(1) extra space?

**Example 1:**

```
Input:
["a","a","b","b","c","c","c"]

Output:
Return 6, and the first 6 characters of the input array should be: ["a","2","b","2","c","3"]

Explanation:
"aa" is replaced by "a2". "bb" is replaced by "b2". "ccc" is replaced by "c3".
```

**Example 2:**

```
Input:
["a"]

Output:
Return 1, and the first 1 characters of the input array should be: ["a"]

Explanation:
Nothing is replaced.
```

**Example 3:**

```
Input:
["a","b","b","b","b","b","b","b","b","b","b","b","b"]

Output:
Return 4, and the first 4 characters of the input array should be: ["a","b","1","2"].

Explanation:
Since the character "a" does not repeat, it is not compressed. "bbbbbbbbbbbb" is replaced by "b12".
Notice each digit has it's own entry in the array.
```

**Note:**

1. All characters have an ASCII value in `[35, 126]`.
2. `1 <= len(chars) <= 1000`.

Seen this question in a real interview before? Yes No

**Difficulty:** Easy

**Total Accepted:** 28.9K

**Total Submissions:** 80.9K

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