

leetcode.com/problems/count-and-say/?envType=problem-list-v2&envId=string

String < > < >

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### 38. Count and Say

Medium Topics Companies Hint

The **count-and-say** sequence is a sequence of digit strings defined by the recursive formula:

- `countAndSay(1) = "1"`
- `countAndSay(n)` is the run-length encoding of `countAndSay(n - 1)`.

**Run-length encoding** (RLE) is a string compression method that works by replacing consecutive identical characters (repeated 2 or more times) with the concatenation of the character and the number marking the count of the characters (length of the run). For example, to compress the string "3322251" we replace "33" with "23", replace "222" with "32", replace "5" with "15", and replace "1" with "11". Thus the compressed string becomes "23321511".

Given a positive integer  $n$ , return the  $n^{\text{th}}$  element of the **count-and-say** sequence.

**Example 1:**

Input:  $n = 4$

Output: "1211"

Explanation:

`countAndSay(1) = "1"`  
`countAndSay(2) = RLE of "1" = "11"`

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Code

Java Auto

```
1 class Solution {
2     public String countAndSay(int n) {
3         String result = "1";
4         for (int i = 1; i < n; i++) {
5             result = describe(result);
6         }
7         return result;
8     }
9
10    private String describe(String s) {
11        StringBuilder sb = new StringBuilder();
12        int count = 1;
13
14        for (int i = 1; i < s.length(); i++) {
15            if (s.charAt(i) == s.charAt(i - 1)) {
16                count++;
17            } else {

```

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Accepted Runtime: 0 ms

Case 1 Case 2

Input

n = 1