

Count And Say

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

- $\text{countAndSay}(1) = "1"$
- $\text{countAndSay}(n)$ is the way you would "say" the digit string from $\text{countAndSay}(n-1)$, which is then converted into a different digit string.

To determine how you "say" a digit string, split it into the **minimal** number of substrings such that each substring contains exactly **one** unique digit. Then for each substring, say the number of digits, then say the digit. Finally, concatenate every said digit.

For example, the saying and conversion for digit string "3322251":

"3322251"
two 3's, three 2's, one 5, and one 1
2 3 + 3 2 + 1 5 + 1 1
"23321511"

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

Example 1:

Input: $n = 1$

Output: "1"

Explanation: This is the base case.

Example 2:

Input: $n = 4$

Output: "1211"

Explanation:

$\text{countAndSay}(1) = "1"$

$\text{countAndSay}(2) = \text{say } "1" = \text{one } 1 = "11"$

$\text{countAndSay}(3) = \text{say } "11" = \text{two } 1\text{'s} = "21"$

$\text{countAndSay}(4) = \text{say } "21" = \text{one } 2 + \text{one } 1 = "12" + "11" = "1211"$

Constraints:

- $1 \leq n \leq 30$