Problem 3744: Find Kth Character in Expanded String

Problem Information

Difficulty: Medium
Acceptance Rate: 60.36%
Paid Only: Yes
Tags: String

Problem Description

You are given a string `s` consisting of one or more words separated by single spaces. Each word in `s` consists of lowercase English letters.

We obtain the **expanded** string `t` from `s` as follows:

* For each **word** in `s`, repeat its first character once, then its second character twice, and so on.

For example, if `s = "hello world"`, then `t = "heellllllooooo woorrrllllddddd"`.

You are also given an integer `k`, representing a **valid** index of the string `t`.

Return the `kth` character of the string `t`.

Example 1:

Input: s = "hello world", k = 0

Output: "h"

Explanation:

`t = "heellllllooooo woorrrllllddddd"`. Therefore, the answer is `t[0] = "h"`.

Example 2:

Input: s = "hello world", k = 15

Output: " "

Explanation:

`t = "heellllllllooooo woorrrllllddddd"`. Therefore, the answer is `t[15] = " "`.

Constraints:

* `1 <= s.length <= 105` * `s` contains only lowercase English letters and spaces `' '`. * `s` **does not contain** any leading or trailing spaces. * All the words in `s` are separated by a **single space**. * `0 <= k < t.length`. That is, `k` is a **valid** index of `t`.

Code Snippets

C++:

```
class Solution {
public:
char kthCharacter(string s, long long k) {

}
};
```

Java:

```
class Solution {
public char kthCharacter(String s, long k) {

}
}
```

Python3:

```
class Solution:
def kthCharacter(self, s: str, k: int) -> str:
```