880. Decoded String at Index

Description

You are given an encoded string `s`. To decode the string to a tape, the encoded string is read one character at a time and the following steps are taken:

- If the character read is a letter, that letter is written onto the tape.
- If the character read is a digit `d`, the entire current tape is repeatedly written `d - 1` more times in total.

Given an integer `k`, return *the* `k th` *letter (* **1-indexed)** *in the decoded string*.

Example 1:

```
Input: s = "leet2code3", k = 10
Output: "o"
Explanation: The decoded string is "leetleetcodeleetleetcodeleetleetcode".
The 10 th letter in the string is "o".
```

Example 2:

```
Input: s = "ha22", k = 5
Output: "h"
Explanation: The decoded string is "hahahaha".
The 5 th letter is "h".
```

Example 3:

```
Input: s = "a2345678999999999999999", k = 1
Output: "a"
Explanation: The decoded string is "a" repeated 8301530446056247680 times.
The 1 st letter is "a".
```

Constraints:

- `2 <= s.length <= 100`
- `s` consists of lowercase English letters and digits `2` through `9`.
- `s` starts with a letter.
- $1 <= k <= 10^9$
- It is guaranteed that `k` is less than or equal to the length of the decoded string.
- The decoded string is guaranteed to have less than 2^{63} letters.