2030. Smallest K-Length Subsequence With Occurrences of a Letter

Description

You are given a string `s`, an integer `k`, a letter `letter`, and an integer `repetition`.

Return *the* ***lexicographically smallest*** *subsequence of* `s` *of length* `k` *that has the letter* `letter` *appear* ***at least*** `repetition` *times*. The test cases are generated so that the `letter` appears in `s` **at least** `repetition` times.

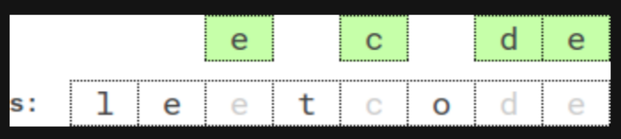
A **subsequence** is a string that can be derived from another string by deleting some or no characters without changing the order of the remaining characters.

A string `a` is **lexicographically smaller** than a string `b` if in the first position where `a` and `b` differ, string `a` has a letter that appears earlier in the alphabet than the corresponding letter in `b`.

Example 1:

```
Input: s = "leet", k = 3, letter = "e", repetition = 1
Output: "eet"
Explanation: There are four subsequences of length 3 that have the letter 'e' appear at least 1 time:
- "lee" (from " lee t")
- "let" (from " le e t ")
- "let" (from " l e et ")
- "eet" (from "l eet ")
The lexicographically smallest subsequence among them is "eet".
```

Example 2:




```
Input: s = "leetcode", k = 4, letter = "e", repetition = 2
Output: "ecde"
Explanation: "ecde" is the lexicographically smallest subsequence of length 4 that has the letter "e" appear at least 2 times.
```

Example 3:

```
Input: s = "bb", k = 2, letter = "b", repetition = 2
Output: "bb"
Explanation: "bb" is the only subsequence of length 2 that has the letter "b" appear at least 2 times.
```

Constraints:

- `1 <= repetition <= k <= s.length <= 5 * 10^4`
- `s` consists of lowercase English letters.
- `letter` is a lowercase English letter, and appears in `s` at least `repetition` times.