1898. Maximum Number of Removable Characters

Description

You are given two strings `s` and `p` where `p` is a **subsequence** of `s`. You are also given a **distinct 0-indexed** integer array `removable` containing a subset of indices of `s` (`s` is also **0-indexed**).

You want to choose an integer `k` (`0 <= k <= removable.length`) such that, after removing `k` characters from `s` using the **first** `k` indices in `removable`, `p` is still a **subsequence** of `s`. More formally, you will mark the character at `s[removable[i]]` for each `0 <= i < k`, then remove all marked characters and check if `p` is still a subsequence.

Return *the* ***maximum*** `k` *you can choose such that* `p` *is still a* ***subsequence*** *of* `s` *after the removals*.

A **subsequence** of a string is a new string generated from the original string with some characters (can be none) deleted without changing the relative order of the remaining characters.

Example 1:

```
Input: s = "abcacb", p = "ab", removable = [3,1,0]
Output: 2
Explanation: After removing the characters at indices 3 and 1, "a b c a cb" becomes "accb".
"ab" is a subsequence of "a cc b".
If we remove the characters at indices 3, 1, and 0, "ab c a cb" becomes "ccb", and "ab" is no longer a subsequence.
Hence, the maximum k is 2.
```

Example 2:

```
Input: s = "abcbddddd", p = "abcd", removable = [3,2,1,4,5,6]
Output: 1
Explanation: After removing the character at index 3, "abc b ddddd" becomes "abcddddd".
"abcd" is a subsequence of "abcd dddd".
```

Example 3:

```
Input: s = "abcab", p = "abc", removable = [0,1,2,3,4]
Output: 0
Explanation: If you remove the first index in the array removable, "abc" is no longer a subsequence.
```

Constraints:

- `1 <= p.length <= s.length <= 10^5`
- `0 <= removable.length < s.length`
- `0 <= removable[i] < s.length`
- `p` is a **subsequence** of `s`.
- `s` and `p` both consist of lowercase English letters.
- The elements in `removable` are **distinct**.