730. Count Different Palindromic Subsequences

Difficulty : Hard

https://leetcode.com/problems/count-different-palindromic-subsequences

Given a string s, return *the number of different non-empty palindromic subsequences in* `s`. Since the answer may be very large, return it **modulo** $10^9 + 7$.

A subsequence of a string is obtained by deleting zero or more characters from the string.

A sequence is palindromic if it is equal to the sequence reversed.

Two sequences $a_1, a_2, \ldots$ and $b_1, b_2, \ldots$ are different if there is some i for which $a_i \neq b_i$.

Example 1:

```
Input: s = "bccb"
Output: 6
Explanation: The 6 different non-empty palindromic subsequences are 'b', 'c', 'bb', 'cc', 'bcb', 'bccb'.
Note that 'bcb' is counted only once, even though it occurs twice.
```

Example 2:

```
Input: s = "abcdabcdabcdabcdabcdabcdabcddcbadcbadcbadcbadcbadcbadcbadcba"
Output: 104860361
Explanation: There are 3104860382 different non-empty palindromic subsequences, which is 104860361 modulo 10^9 + 7.
```

Constraints:

- `1 <= s.length <= 1000`
- `s[i]` is either `'a'`, `'b'`, `'c'`, or `'d'`.