

A string `s` of lowercase English letters is given. We want to partition this string into as many parts as possible so that each letter appears in at most one part, and return a list of integers representing the size of these parts.

Example 1:

Input: `S = "ababcbacadefegdehijhklij"`

Output: `[9,7,8]`

Explanation:

The partition is "ababcbaca", "defegde", "hijhklij".

This is a partition so that each letter appears in at most one part.

A partition like "ababcbacadefegde", "hijhklij" is incorrect, because it splits `S` into less parts.

Note:

- `s` will have length in range `[1, 500]`.
- `s` will consist of lowercase English letters ('a' to 'z') only.