Editorial – The Pharaoh's Fortune

This problem requires the use of the Disjoint Set Union data structure, although there exist alternative methods to solve it. The objective is to determine the lexicographically smallest string that is equivalent to a given string, taking into account character equivalences specified by the problem.

We have two strings, ***str1*** and ***str2***, of identical length. We need to use equivalence information from these two strings to form the lexicographically smallest string of the given third string ***L***. The characters at respective indices in the two strings are equivalent. So, if at index i there is a character c in ***str1*** and a character f in ***str2***, then we can exchange f with c or vice versa in the string ***L***.

Algorithm

1. Iterate over all the characters from 0 until 26, and make each character represent itself in a vector.
2. Iterate over the characters in ***str1*** and ***str2*** and perform the union operation between the characters at their corresponding positions. In the union, we always make the smaller character the representative.
3. Iterate over the characters in the string ***L*** and map the characters to their representative and create the answer string ans.
4. Return ***ans***.

Find more about DSU here.