*Verifying an Alien Dictionary*

In an alien language, surprisingly they also use English lowercase letters, but possibly in a different order. The order of the alphabet is some permutation of lowercase letters.

Given a sequence of words written in the alien language, and the order of the alphabet, return true if and only if the given words are sorted lexicographically in this alien language.

***Example 1:***

Input: words = [“hello”, “leetcode”], order = “hlabcdefgijkmnopqrstuvwxyz”.

Output: true

Explanation:

In this example, there have only existed two words, one is “hello” while another is “leetcode”. According to the order string, we can get that the first letter of word “hello” is ‘h’ and the first letter of word “leetcode” equals to ‘l’. In the order alphabet, ‘h’ is bigger than ‘l’, therefore we can draw the conclusion that all words in the words array are sorted.

***Example 2:***

Input: words = [“word”, “world”, “row”], order = “worldabcefghijkmnpqstuvxyz”.

Output: false

Explanation:

In this example, there have three words. We can tell from the words array, the first three letters in “word” and “world” are the same, while the fourth letter ‘d’ and ‘l’ in both words “word” and “world” in the order string sequence, we can tell that the letter ‘l’ is before the letter ‘d’.

We can tell that the “word” is right after “world”. Therefore, all words in the word array has not been sorted according to the specific order.

***Example 3:***

Input: words = [“apple”, “app”], order = “abcdefghijklmnopqrstuvwxyz”.

Output: false

Explanation:

In this example, just as the same before, the word “apple” and “app” have the same first three letters, while the fourth letter ‘l’, ‘Empty’ in two words, because ‘l’ is bigger than ‘Empty’, therefore we can easily define that the word “apple” is larger than “app”, since ‘Empty‘ is defined as the blank character which is less than any other characters.

***Constraints:***

* 1 <= words.length <= 100
* 1 <= words[i].length <= 20
* order.length == 26
* All characters in words[i] and order are English lowercase letters.

***Code:***

class Solution {

public:

    bool isAlienSorted(vector<string>& words, string order) {

        int length1, length2;

        int length;

        int location1, location2;

        int temp = 0;

        string str1;

        string str2;

        for (int i = 0; i < words.size() - 1; i++) {

            str1 = words[i];

            str2 = words[i + 1];

            length1 = str1.length();

            length2 = str2.length();

            length = length1 > length2 ? length2 : length1;

            for (int j = 0; j < length; j++) {

                location1 = order.find(str1[j]);

                location2 = order.find(str2[j]);

                if (location1 > location2) {

                    return false;

                } else if (location1 < location2) {

                    break;

                }

            }

            if (location1 == location2 && length1 > length2) {

                return false;

            }

        }

        return true;

    }

};