Problem 2325: Decode the Message

Problem Information

Difficulty: Easy
Acceptance Rate: 85.67%
Paid Only: No
Tags: Hash Table, String

Problem Description

You are given the strings `key` and `message`, which represent a cipher key and a secret message, respectively. The steps to decode `message` are as follows:

1. Use the **first** appearance of all 26 lowercase English letters in `key` as the **order** of the substitution table. 2. Align the substitution table with the regular English alphabet. 3. Each letter in `message` is then **substituted** using the table. 4. Spaces `' '` are transformed to themselves.

* For example, given `key = "_**hap**_ p _**y**_ _**bo**_ y"` (actual key would have **at least one** instance of each letter in the alphabet), we have the partial substitution table of (`'h' -> 'a'`, `'a' -> 'b'`, `'p' -> 'c'`, `'y' -> 'd'`, `'b' -> 'e'`, `'o' -> 'f'`).

Return _the decoded message_.

Example 1:

![](https://assets.leetcode.com/uploads/2022/05/08/ex1new4.jpg)

Input: key = "the quick brown fox jumps over the lazy dog", message = "vkbs bs t suepuv" **Output:** "this is a secret" **Explanation:** The diagram above shows the substitution table. It is obtained by taking the first appearance of each letter in "_**the**_ _**quick**_ _**brown**_ _**f**_ o _**x**_ _**j**_ u _**mps**_ o _**v**_ er the _**lazy**_ _**d**_ o _**g**_ ".

Example 2:

![](https://assets.leetcode.com/uploads/2022/05/08/ex2new.jpg)

Input: key = "eljuxhpwnyrdgtqkviszcfmabo", message = "zwx hnfx lqantp mnoeius ycgk vcnjrdb" **Output:** "the five boxing wizards jump quickly" **Explanation:** The diagram above shows the substitution table. It is obtained by taking the first appearance of each letter in "_**eljuxhpwnyrdgtqkviszcfmabo**_ ".

Constraints:

* `26 <= key.length <= 2000` * `key` consists of lowercase English letters and `' '`. * `key` contains every letter in the English alphabet (`'a'` to `'z'`) **at least once**. * `1 <= message.length <= 2000` * `message` consists of lowercase English letters and `' '`.

Code Snippets

C++:

```
class Solution {
public:
string decodeMessage(string key, string message) {

}
};
```

Java:

```
class Solution {
public String decodeMessage(String key, String message) {

}
}
```

Python3:

```
class Solution:
def decodeMessage(self, key: str, message: str) -> str:
```