

392. Is Subsequence

Medium,
Binary Search, Dynamic Programming, Greedy.

Given a string *s* and a string *t*, check if *s* is subsequence of *t*.

You may assume that there is only lower case English letters in both *s* and *t*. *t* is potentially a very long (length $\sim 500,000$) string, and *s* is a short string (≤ 100).

A subsequence of a string is a new string which is formed from the original string by deleting some (can be none) of the characters without disturbing the relative positions of the remaining characters. (ie, "ace" is a subsequence of "abcde" while "aec" is not).

Example 1:

```
s = "abc", t = "ahbgdc"
```

```
Return true.
```

Example 2:

```
s = "axc", t = "ahbgdc"
```

```
Return false.
```

Follow up:

If there are lots of incoming *S*, say *S*₁, *S*₂, ... , *S*_k where $k \geq 1B$, and you want to check one by one to see if *T* has its subsequence. In this scenario, how would you change your code?

Credits:

Special thanks to @pbrother for adding this problem and creating all test cases.

解法

以短的*s*字符串为基准，对*t*进行遍历。

如果*ss*和*tt*相同则共同进一格，如果不同则*tt*进一格。

如果s的最后一位能相同，则是true，
其他所有情况均为false。

Java

```
class Solution {
    public boolean isSubsequence(String s, String t) {
        if(s.length()==0) return true;
        else if(t.length()==0) return false;
        else if(s.length()==t.length()) return s==t;
        int ss = 0;
        int tt = 0;
        while(ss!=s.length() && tt!=t.length()){
            if(s.length()-1==ss && s.charAt(ss)==t.charAt(tt)) return true;
            if(s.charAt(ss)==t.charAt(tt)){
                ss++;
                tt++;
            }else tt++;
        }
        return false;
    }
}
```

Scala

```
object Solution {
    def isSubsequence(s: String, t: String): Boolean = {
        if(s==t) return true
        else if(s.length==0) return true
        else if(t.length==0) return false
        else if(t.length<s.length) return false
        var ss = 0
        var tt = 0
        while(ss!=s.length && tt!=t.length){
            if(ss==s.length-1 && s.charAt(ss)==t.charAt(tt)) return true
            if(s.charAt(ss)==t.charAt(tt)){
```

```
        tt+=1
        ss+=1
    }else tt+=1
}
false
}
}
```