

## 18 SubSequence

Given two String S and t, return true if S is a subsequence of t, or false otherwise.

A subsequence of a string is a new string that is formed from the original string by deleting some (can be none) of the characters without disturbing the relative positions of the remaining characters.

(i.e., "ace" is a subsequence of "abcde" while "aec" is not)

Example : 1

Input  $s = \text{"abc"}$ ,  $t = \text{"ahbgdc"}$

output : true.

Example : 2

Input  $s = \text{"axc"}$ ,  $t = \text{"ahbgdc"}$

output : false.

Class Solution {

public boolean isSubsequence(String s, String t) {

if (s.length() == 0) {

return true;

{

int c = 0;

for (int p = 0; p < t.length(); p++) {

if (c < s.length() && s.charAt(c) == t.charAt(p))

c++;

}

}

}

$s = \text{"abc"}$   $t = \text{"ahbgdc"}$   $c = 0$   $p = 0$ .

if  $s.length() == 0 \Rightarrow 3 == 0 \times$ .

$c = 0$   $p = 0$

$p < t.length() \Rightarrow 0 < 6 \checkmark$ .

$0 < s.length() \&\& s.charAt(c) == t.charAt(p)$

$0 < 3 \&\& s.charAt(0) == t.charAt(0)$

$0 < 3 \&\& a == a \checkmark$ .

$c = 1$

$i=1$

$s.length() == 0$

$3 == 0$

$c = 0$

$i=1$   $1 < 6 \checkmark$

$1 < 3 \&\& b == h.x.$

$c = 1$

$i=2$

$2 < 6 \checkmark$

$2 < 3 \&\& b == b \checkmark$

$c = 2$

$i=3$   $3 < 6 \checkmark$

$2 < 3 \&\& g == c.$

No match

$c = 2$

$i=4$   $4 < 6 \checkmark$

$2 < 3 \&\& d == c.$

$c = 2$

$i=5$   $5 < 6 \checkmark$

$2 < 3 \&\& c == c$

$c = 3$

$i=6$   $6 < 6 \times$

$3 < 3 \times$

loop was ended.