**KMP**

class Solution **{**

public int strStr**(**String haystack**,** String needle**)** **{**

**if(**haystack**.**equals**(**""**)&&**needle**.**equals**(**""**)||**needle**.**equals**(**""**))**

**return** 0**;**

int **[]** lps **=** **new** int**[**needle**.**length**()];**

lps**[**0**]=**0**;**

int i**=**0**;**

int j**=**0**;**

**while(**j**<**needle**.**length**()){**

**if(**needle**.**charAt**(**i**)==**needle**.**charAt**(**j**)){**

i**++;**

lps**[**j**]=**i**;**

j**++;**

**}else{**

**if(**i**==**0**){**

lps**[**j**]=**0**;**

j**++;**

**}else{**

i**=**lps**[**i**-**1**];**

**}**

**}**

**}**

i**=**0**;**

j**=**0**;**

**while(**i**<**haystack**.**length**()){**

**if(**haystack**.**charAt**(**i**)==**needle**.**charAt**(**j**)){**

i**++;**

j**++;**

**}**

**if(**j**==**needle**.**length**()){**

j**=**lps**[**j**-**1**];**

**return** i**-**j**;**

**}else** **if(**i**<**haystack**.**length**()&&**haystack**.**charAt**(**i**)!=**needle**.**charAt**(**j**)){**

**if(**j**==**0**){**

i**++;**

**}else{**

j**=**lps**[**j**-**1**];**

**}**

**}**

**}**

**return** **-**1**;**

**}**