

# Summer Institute '17 Contest 1 P4 - Clips of Video

## Summer Institute @ University of Central Florida: Contest 1, Problem 4

A Youtube Poop is a type of video which is a modification of another video, in which the modified video consists of several (possibly duplicate) clips of someone speaking in the original video, with an ordering which makes it sound like the speaker is saying something else. Youtube Poops are usually considered humorous and crude, but are almost universally considered of much higher quality when the Youtube Poop does not need to use as many clips to produce the desired mangled-up text the creator of the Youtube Poop intends.

Let's say string  $A$  represents the speech given in an original video, and we want to create a Youtube Poop of the original video in which string  $B$  represents the speech given in our Youtube Poop. What, then, is the minimum amount of substrings of  $A$  needed to form string  $B$ ?

## Input Specifications

The first line of input consists of the string  $A$  ( $1 \leq |A| \leq 10^5$ ). The second line of input consists of the string  $B$  ( $1 \leq |B| \leq 10^5$ ). All strings will only contain lower-case Latin letters.

## Output Specifications

Output the minimum number of substrings of  $A$  necessary to form  $B$ . If it is not possible to take substrings of  $A$  to make  $B$ , output `-1`.

## Sample Input 1

```
abcbcd  
abcd
```

## Sample Output 1

```
2
```

## Sample Input 2

```
iamsmart  
iamdumb
```

## Sample Output 2

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-1

## Sample Input 3

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```
asmallmallinmalta  
atallmallinlima
```

## Sample Output 3

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5