P4 - Encryption Scheme

Most text encryption schemes use a secret key string to convert the plain text to the enciphered text in some way. A novel method being tested by the Australian Security Service consists of a transformation of a key string *K* into a target string *P* using block moves. Each *block move* is of the form *copy*(*start*, *length*), where *start* indicates a position in *K* and *length* is the number of characters to be copied from *K* to *P*. Since the idea is to eventually transmit only the block moves, the principle is to use as few block moves as possible. For example if:

```
K: abaabba
P: aaabbbabbbaaa
```

Assuming that here string positions start with 1, two shortest block move sequences would be:

copy(3,2);*copy*(4,3);*copy*(2,2);*copy*(5,2);*copy*(2,3);*copy*(1,1)

or

copy(7,1);*copy*(3,3);*copy*(5,2);*copy*(4,2);*copy*(5,3);*copy*(3,2)

The actual shortest block move sequences are not unique but the minimum number is, 6 in this case. If the moves are now transmitted, then it is possible to construct the plaintext message *P* from the key string *K*.

The Australian Security Service is now automating this procedure, so given *K* and *P* they need to count the minimum number of block moves from *K* to *P*. To make things simple at the beginning, they are considering strings comprised of lowercase letters and digits. The set of characters within string *P* is a subset of the set of characters of the key string *K*.

You are to help the Australian Security Service by writing a program to get two strings *K* and *P* as above, and print the minimum number of block moves from *K* to *P*. Your code will be tested with a sequence of lines. Odd lines are to be used as the key strings *K*, and even lines to be used as target strings *P*. The output will consist solely of the minimum number of block moves for each pair. The input will be terminated by a '#' by itself in the place of a *K* string.

Assume that each of *K* and *P* is made up of 1 to 120 characters (*K* is allowed to be longer than *P*).

SAMPLE INPUT

```
abaabba
aaabbbabbbaaa
xy0z
zzz0yyy0xxx
#
```

SAMPLE OUTPUT

```
6
10
```

COMMENTS

The first sample is discussed on the first page. Here follows a minimal sequence of block moves for the second sample:

copy(4,1);*copy*(4,1);*copy*(4,1);*copy*(3,1);
copy(2,1);*copy*(2,1);*copy*(2,2);
copy(1,1);*copy*(1,1);*copy*(1,1)