

## E. Dreamoon and Strings

time limit per test: 1 second  
 memory limit per test: 256 megabytes  
 input: standard input  
 output: standard output

Dreamoon has a string  $s$  and a pattern string  $p$ . He first removes exactly  $x$  characters from  $s$  obtaining string  $s'$  as a result. Then he calculates  $\text{occ}(s', p)$  that is defined as the maximal number of non-overlapping substrings equal to  $p$  that can be found in  $s'$ . He wants to make this number as big as possible.

More formally, let's define  $\text{ans}(x)$  as maximum value of  $\text{occ}(s', p)$  over all  $s'$  that can be obtained by removing exactly  $x$  characters from  $s$ . Dreamoon wants to know  $\text{ans}(x)$  for all  $x$  from 0 to  $|s|$  where  $|s|$  denotes the length of string  $s$ .

### Input

The first line of the input contains the string  $s$  ( $1 \leq |s| \leq 2\,000$ ).

The second line of the input contains the string  $p$  ( $1 \leq |p| \leq 500$ ).

Both strings will only consist of lower case English letters.

### Output

Print  $|s| + 1$  space-separated integers in a single line representing the  $\text{ans}(x)$  for all  $x$  from 0 to  $|s|$ .

### Examples

input
aaaaa aa
output
2 2 1 1 0 0

input
axbaxxb ab
output
0 1 1 2 1 1 0 0

### Note

For the first sample, the corresponding optimal values of  $s'$  after removal 0 through  $|s| = 5$  characters from  $s$  are {"aaaaa", "aaaa", "aaa", "aa", "a", ""}.

For the second sample, possible corresponding optimal values of  $s'$  are {"axbaxxb", "abaxxb", "axbab", "abab", "aba", "ab", "a", ""}.

### Codeforces Round #272 (Div. 2)

Finished
Practice


### → Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

[Start virtual contest](#)

### → Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

### → Submit?

Language: GNU G++ 5.1.0

Choose file: [Choose File](#) No file chosen

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

[Submit](#)

### → Last submissions



Submission	Time	Verdict
<a href="#">23811462</a>	Jan/14/2017 20:25	Wrong answer on test 2
<a href="#">23811208</a>	Jan/14/2017 20:12	Wrong answer on test 11
<a href="#">23811171</a>	Jan/14/2017 20:11	Wrong answer on test 11
<a href="#">23811119</a>	Jan/14/2017 20:08	Wrong answer on test 11

### → Problem tags

dp strings

No tag edit access

→ **Contest materials**

- Announcement 
- Tutorial 

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Server time: Jan/14/2017 23:25:47<sup>UTC+6</sup> (c3).  
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