# D. String Transformation

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Let $s$ be a string whose length equals $n$. Its characters are numbered from 0 to $n$ - 1, $i$ and $j$ are integers, $0 \le i < j < n$. Let's define function $f$ as follows:

$$f(s, i, j) = s[i + 1 \ldots j - 1] + r(s[j \ldots n - 1]) + r(s[0 \ldots i]).$$

Here $s[p \ldots q]$ is a substring of string $s$, that starts in position $p$ and ends in position $q$ (inclusive); "+" is the string concatenation operator; $r(x)$ is a string resulting from writing the characters of the $x$ string in the reverse order. If $j = i + 1$, then the substring $s[i + 1 \ldots j - 1]$ is considered empty.

You are given two strings $a$ and $b$. Find such values of $i$ and $j$, that $f(a, i, j) = b$. Number $i$ should be maximally possible. If for this $i$ there exists several valid values of $j$, choose the minimal $j$.

## Input

The first two input lines are non-empty strings $a$ and $b$ correspondingly. Each string's length does not exceed $10^6$ characters. The strings can contain any characters with ASCII codes from 32 to 126 inclusive.

## Output

Print two integers $i, j$ — the answer to the problem. If no solution exists, print "`-1 -1`" (without the quotes).

### Examples

| input |
| --- |
| Die Polizei untersucht eine Straftat im IT-Bereich.<br>untersucht eine Straftat.hciereB-TI mi  ieziloP eiD |
| **output** |
| 11 36 |

| input |
| --- |
| cbaaaa<br>aaaabc |
| **output** |
| 4 5 |

| input |
| --- |
| 123342<br>3324212 |
| **output** |
| -1 -1 |