

String Finding (Hard)

You have a string (indexed from 0) with no more than 10^6 lowercase characters. Find the first occurrence of a string T ($1 \leq |T| \leq |S| \leq 10^6$), or print `-1` if it is not a substring of S .

Input Specification

The first line will have the string S .

The second line will have the string T .

Output Specification

Print the index of the first occurrence of the string T in S , or `-1` if it is not a substring of S .

Sample Input

```
higuyshowsitgoinghiguys  
higuys
```

Sample Output

```
0
```