

Given two strings  $a$  and  $b$  of equal length, what's the longest string ( $S$ ) that can be constructed such that it is a child of both?

A string  $x$  is said to be a child of a string  $y$  if  $x$  can be formed by deleting 0 or more characters from  $y$ .

For example, `ABCD` and `ABDC` has two children with maximum length 3, `ABC` and `ABD`. Note that we will not consider `ABCD` as a common child because `C` doesn't occur before `D` in the second string.

## Input format

Two strings,  $a$  and  $b$ , with a newline separating them.

## Constraints

All characters are upper cased and lie between ASCII values 65-90. The maximum length of the strings is 5000.

## Output format

Length of string  $S$ .

## Sample Input #0

```
HARRY
SALLY
```

## Sample Output #0

```
2
```

The longest possible subset of characters that is possible by deleting zero or more characters from `HARRY` and `SALLY` is `AY`, whose length is 2.

## Sample Input #1

```
AA
BB
```

## Sample Output #1

```
0
```

AA and BB has no characters in common and hence the output is 0.

## Sample Input #2

```
SHINCHAN
NOHARAAA
```

## Sample Output #2

3

The largest set of characters, in order, between *SHINCHAN* and *NOHARAAA* is *NHA*.

### Sample Input #3

```
ABCDEF  
FBDAMN
```

### Sample Output #3

2

*BD* is the longest child of these strings.