

Longest Common Substring II

A string is finite sequence of characters over a non-empty finite set Σ .

In this problem, Σ is the set of lowercase letters.

Substring, also called factor, is a consecutive sequence of characters occurrences at least once in a string.

Now your task is a bit harder, for some given strings, find the length of the longest common substring of them.

Here common substring means a substring of all the considered strings.

Input

The input contains at most 10 lines, each line consists of no more than 100000 lowercase letters, representing a string.

Output

The length of the longest common substring. If such string doesn't exist, print "0" instead.

Example

Input:

```
alsdfkjfkdsal  
fdjskalajfkdsla  
aaaajfaaaa
```

Output:

```
2
```

Notice: new testcases added