

Hidden Password

Problem ID: hidden

CPU Time limit: 1 second

Memory limit: 1024 MB

Difficulty: 1.8

Insecure Inc. has decided to shift directions after a failed attempt at developing a new encryption standard. Their new effort is a password system used to hide a password inside another string of characters we denote as a *message*. However, it is important that the message has a certain property relative to the hidden password.

Let us assume that we denote the characters of the password as $c_1 c_2 \dots c_P$ (although those characters need not be distinct). To be a valid message for the password, if you start from the beginning of the message and search for any character from the set $\{c_1, \dots, c_P\}$, it must be that c_1 is the first that you find. Subsequently, if you continue looking from that point of the message for any character from the set $\{c_2, \dots, c_P\}$, it must be that c_2 is the next that you find. Continuing in that manner, c_3 must be the next character from the set $\{c_3, \dots, c_P\}$, and so on until reaching c_P .

For example, if the password is ABC, then the string H**A**PPY**B**IRTHDAY**C**ACEY is a valid message.

- Notice that A is the first of the set $\{A, B, C\}$ to appear in the message. (The initial H is not relevant.)
- Following the A that was found, the next occurrence from the set $\{B, C\}$ is B.
- Following the B that was found, the next occurrence from the set $\{C\}$ is indeed C.
(Note that the A in D**A**Y is not relevant, since we are only looking for a C at this point, and the additional A and C in C**A**CEY are not relevant, because we have already completed the password with the first C.)

However, for the password ABC, the string TR**A**GIC**B**IRTHDAY**C**ACEY is not a valid message.

- While the A is the first of the set $\{A, B, C\}$ to appear in the string, the next occurrence from the set $\{B, C\}$ is C rather than B.

Also, the string H**A**PPY**B**IRTHDAY is not a valid message for the password ABC because the C never appears.

As an example with duplicate letters in the password, consider the password SECRET. For this password, the string **S**OME**C**HORE**S**ARE**T**OUGH is a valid message. In contrast, the string **S**OME**C**HEERSARE**T**OUGH is not a valid message, because an extraneous E is found at the point when an R is first expected.

Input

The input consists of a single line containing two strings. The first string is the password, having length P , with $3 \leq P \leq 8$. The second string has length S , with $10 \leq S \leq 40$. Both strings will consist solely of uppercase letters. (That is, neither string can include whitespace, lowercase letters, digits, or other special characters.)

Output

Output a single line with the word PASS if the second string is a valid message for the password, or FAIL otherwise.

Sample Input 1

```
ABC HAPPYBIRTHDAYACEY
```

Sample Output 1

```
PASS
```

Sample Input 2

```
ABC TRAGICBIRTHDAYACEY
```

Sample Output 2

```
FAIL
```

Sample Input 3

```
ABC HAPPYBIRTHDAY
```

Sample Output 3

```
FAIL
```

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Sample Input 4

SECRET SOMECHORESARETOUGH

Sample Output 4

PASS

Sample Input 5

SECRET SOMECHEERSARETOUGH

Sample Output 5

FAIL