C. Beaver

After Fox Ciel got off a bus, she found that the bus she was on was a wrong bus and she lost her way in a strange town. However, she fortunately met her friend Beaver Taro and asked which way to go to her castle. Taro's response to her was a string s, and she tried to remember the string s correctly.

However, Ciel feels n strings $b_1, b_2, ... , b_n$ are really boring, and unfortunately she dislikes to remember a string that contains a boring substring. To make the thing worse, what she can remember is only the contiguous substring of s.

Determine the longest contiguous substring of s that does not contain any boring string, so that she can remember the longest part of Taro's response.

Input
In the first line there is a string s. The length of s will be between 1 and 10^5, inclusive.

In the second line there is a single integer n ($1 \leq n \leq 10$). Next n lines, there is a string b_i ($1 \leq i \leq n$). Each length of b_i will be between 1 and 10, inclusive.

Each character of the given strings will be either a English alphabet (both lowercase and uppercase) or a underscore ('_') or a digit. Assume that these strings are case-sensitive.

Output
Output in the first line two space-separated integers len and pos: the length of the longest contiguous substring of s that does not contain any b_i, and the first position of the substring (0-indexed). The position pos must be between 0 and $|s|$ - len inclusive, where $|s|$ is the length of string s.

If there are several solutions, output any.

Examples

input

```
Go_straight_along_this_street
5
str
long
tree
biginteger
ellipse
```

output

```
12 4
```

input

```
IhaveNoIdea
9
I
h
a
v
e
N
o
I
d
```

output

```
0 0
```

input

```
unagioisii
2
ioi
unagi
```

output

```
5 5
```

Note

In the first sample, the solution is `traight_alon`.

In the second sample, the solution is an empty string, so the output can be «`0 0`», «`0 1`», «`0 2`», and so on.

In the third sample, the solution is either `nagio` or `oisii`.