

The Missing Characters



You are given a paragraph of text, all in one line. These snippets of text were extracted from articles about people and places, from [Wikipedia](#). Certain letters (a-z or A-Z) have been blanked out and replaced by '#' signs instead. Identify what those letters originally were.

Input Format

Exactly one line of a text snippet - which may contain either one sentence, or a paragraph (of multiple sentences). At certain positions, letters (a-z or A-Z) have been blanked out and replaced by '#' signs instead.

Constraints

Number of characters in the input will not exceed 2000.

There will be no extra '#' other than those which need to be replaced by letters. Please note that the text may have non-ASCII (UTF-8) characters. However, the the valid replacements for '#' symbols, in all cases, are one of the letters (a-z or A-Z; case agnostic). Characters have been blanked out with approximately 5% probability; i.e. roughly 1 in 20 letters are missing.

Output Format

The output should contain as many lines as the number of '#' signs in the input text. The i^{th} line should contain the letter of the alphabet which was originally present in place of the i^{th} hash symbol. Evaluation will be case insensitive.

Sample Input

```
William Shakespea#e was an Englis# poet, playwright a#d actor, widely regarded as the greatest writer in the Eng#ish langu#ge
and the worl#'s pre-eminent dramat#st. He is ofte# called Englan#'s national poet an# the "Bard of Avon".
```

Sample Output

```
r
h
n
l
a
d
i
n
d
d
```

Training File

You may download and use [this corpus of text](#) for **offline** training and constructing a model which may be embedded in your submitted solution. This will not be available during program execution.

Regular ML and NLP libraries, as described in [the environment](#) will be available.

Explanation

The first of the missing characters is the letter 'r' in Shakespea*/*e, the second missing character is the 'h' in the word 'Englis*/h*'; the third missing character is 'n' in the word 'a*/*d' - and so on.

The original snippet of text was:

William Shakespeare was an English poet, playwright and actor, widely regarded as the greatest writer in the English language and the world's pre-eminent dramatist. He is often called England's national poet and the "Bard of Avon".

Scoring

For each test case your score will be: **C/N**

Where **C** is the number of characters correctly identified; and **N** is the total number of characters which were blanked out and replaced by hash symbols (#). Your overall score is the average of your score across all test cases.