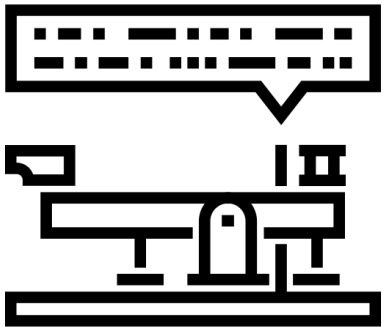
# Problem X
## Remorse
Time limit: 1 second



A Morse-like code is an assignment of sequences of dots and dashes to alphabet characters. You are to create a Morse-like code that yields the shortest total length to a given message, and return that total length.

A dot has length 1. A dash has length 3. The gap between dots and dashes within a character has length 1. The gap between characters has length three. Spaces, punctuation, and alphabetic case are ignored. For example, the text

```
The quick brown dog jumps over the lazy fox.
```

is encoded as though it were just

```
THEQUICKBROWNDOGJUMPSOVERTHELAZYFOX
```

For example, with input `ICPC`, the answer is 17: Encode the `C`'s with a single dot, the `I` with a dash, and the `P` with two dots, for a total of '`-  .  ..  .`' which has length 3+3+1+3+1+1+1+3+1 or 17.

## Input

The input will be a single line consisting of uppercase or lowercase letters, spaces, commas, periods, exclamation points, and question marks. The line will have a maximum length of 32 000 characters and will contain at least one letter. Everything but the letters should be ignored.

## Output

The output will consist of the length of the encoded string when an optimal Morse-like code is used.

## Examples

| Sample Input 1 | Sample Output 1 |
|---|---|
| ICPC | 17 |

| Sample Input 2 | Sample Output 2 |
|---|---|
| A | 1 |

| Sample Input 3 | Sample Output 3 |
|---|---|
| The quick brown dog jumps over the lazy fox. | 335 |