**Spy Master**

You are the spy master of a guild of spies, since you’re all carefully watched, your spies communicate with you by leaving encoded messages. You will receive a special key and lines of text which you must comb in order to find the encoded messages.

The special key will consist only of one or more English letters.

The special key must be preceded by either a space or the start of the string in order to be considered valid in the string.

The special key may appear in any casing (its letters could be a random mix of lower and uppercase) in the lines of text.

Valid encoded messages must meet these requirements:

An encoded message must immediately follow the special key, being separated from it only by one or more spaces.

An encoded message must be at least 8 symbols long and consist only of the symbols !, %, $, # or Capital English letters.

The encoded message must be followed by a space, a dot (.), a comma (,) or the end of the string.

After finding the correct encoded messages, you must decode and replace them in the original text. The decoding should be as follows:

The symbol ! becomes the number 1

The symbol % becomes the number 2

The symbol # becomes the number 3

The symbol $ should become the number 4

Capital English letters should become their lower case counterparts

**Constraints**

A pair of a special key and encoded message will never be split between multiple lines.

The preceding space before a special key will never overlap with a trailing space after an encoded message.

There will never be an encoded message equal to the special key.

**Input**

The input comes as an array of strings - the first element is the special key, each element after it is a line of text.

**Output**

The output should be printed on the console - consisting of the entire text with the correct encoded messages replaced with their decoded versions, each line of text on a new line.

**Examples**

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| Input |
| specialKey  In this text the specialKey HELLOWORLD! is correct, but  the following specialKey $HelloWorl#d and spEcIaLKEy HOLLOWORLD1 are not, while  SpeCIaLkeY SOM%%ETH$IN and SPECIALKEY ##$$##$$ are! |
| Output |
| In this text the specialKey helloworld1 is correct, but  the following specialKey $HelloWorl#d and spEcIaLKEy HOLLOWORLD1 are not, while  SpeCIaLkeY som22eth4in and SPECIALKEY 33443344 are! |
| Input |
| enCode  Some messages are just not encoded what can you do?  RE - ENCODE THEMNOW! - he said.  Damn encode, ITSALLHETHINKSABOUT, eNcoDe BULL$#!%. |
| Output |
| Some messages are just not encoded what can you do?  RE - ENCODE themnow1 - he said.  Damn encode, ITSALLHETHINKSABOUT, eNcoDe bull4312. |