

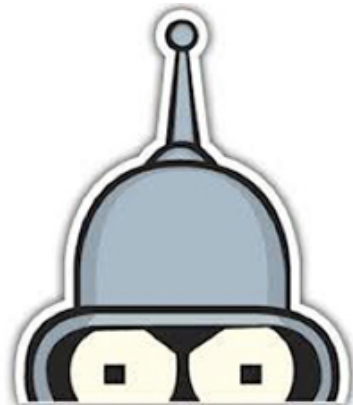


B2 - Stumpers

B-CPE-210

Text-to-Multi-Tap

Solo Stumper



Text-to-Multi-Tap

binary name: `text_to_multi_tap`

language: C

compilation: via Makefile, including `re`, `clean` and `fclean` rules



- The totality of your source files, except all useless files (binary, temp files, obj files,...), must be included in your delivery.
- Error messages have to be written on the error output, and the program should then exit with the 84 error code (0 if there is no error).



For this project, the **only** authorized function is `write`.

Old phones have a text entry system called the *multi-tap*. With this system, each numbered key of the phone has a set of characters it can produce, done so by pressing it a certain number of times.

The number-letters association is as follows:

- 2: abc
- 3: def
- 4: ghi
- 5: jkl
- 6: mno
- 7: pqrs
- 8: tuv
- 9: wxyz
- 0: (whitespace character)

For example, by pressing twice the key 4, you obtain the letter `h`.

Moreover, pressing the `#` key makes the next character uppercase.

When two letters that are on the same key are wanted to be typed next to each other, the user has to wait a small amount of time for the system to consider the next keystroke as one for a new character (unless the user pressed another convenience key in between, such as the whitespace or uppercase one).

Write a program that takes a single string as parameter, and displays the minimal necessary keystrokes (i.e. no useless keystrokes or waiting) to type the string using a multi-tap system, followed by a newline. If there is a need to wait before pressing a key, the program will print a whitespace

If the string contains characters that cannot be written using a multi-tap system, it is considered an error.



EXAMPLES

```
Terminal
~/B-CPE-210> ./text_to_multi_tap "cafe"
222 2333 33
~/B-CPE-210> ./text_to_multi_tap "Chocolatine"
#22244666222666555284446633
~/B-CPE-210> ./text_to_multi_tap "Hello World" | cat -e
#4433555 5556660#96667775553$
~/B-CPE-210> ./text_to_multi_tap "AAAH"
#2#2#2#44
~/B-CPE-210> ./text_to_multi_tap "" | cat -e
$
~/B-CPE-210> ./text_to_multi_tap "" > /dev/null ; echo $?
0
~/B-CPE-210> ./text_to_multi_tap "pain au choc****" ; echo $?
84
```