Question **1**

Correct

Marked out of 10.00

Devi has joined the key strategy office in a new company as Information Manager and one of her task is to maintain records of all the key strategy discussions that happen in the team. For some of the information that is vital and confidential, she decides to store the information in an

encrypted format. She decides on the below encryption format. If a sentence (string) has to be encrypted, Encrypt all words in the sentence as follows:

Between each adjacent character, insert a new alphabet that should be the alphabet corresponding to the difference between the alphabetic positions of the two adjacent characters.

For example - if the original word is “board", the encrypted word would be "bmonaqrnd".

Explanation is as below:

The given word is "board".

The absolute difference between first two adjacent characters, 'b' and 'o' is = 13 (subtracting the alphabetic positions of b and o = 2 - 15 = 13).

In English alphabet series, the alphabet corresponding to position 13 is 'm'.

So, we insert 'm' between 'b' and 'o' and form "bmo".

Similarly, the absolute difference between the next two adjacent characters, 'o' and 'a' is = 14 (subtracting the alphabetic positions of o and a =15 – 1 = 14).

In English alphabet series, the alphabet corresponding to position 14 is 'n'.

So, we insert 'n' between 'o' and 'a', and thus the word forms as "bmona".

Continuing this way further, we continue finding the absolute difference between adjacent characters of the word, and keep inserting the alphabet corresponding to the absolute difference, between the adjacent characters.

a-r = 17 which corresponds to 'q', so we get "bmonaqr".

r-d = 14 which corresponds to 'n', so we get "bmonaqrnd".

To summarize:

b-o = 2-15 = 13 which corresponds to 'm', so we get "bmo"

o-a = 15-1 = 14 which corresponds to 'n', so we get "bmona"

a-r = 1-18 = 17 which corresponds to 'q', so we get "bmonaqr"

r-d = 18-4 = 14 which corresponds to 'n', so we get "bmonaqrnd"

NOTE:

1. Space should be retained as it is in the string. For example, if the original string is "wipro technologies", the encrypted string would be "wnigpbrco toebcehfnaoclcohgbidens” (note that the space character between words is retained as it is)

2. If an alphabetic character is succeeded or preceded by itself, i.e. if the same alphabet appears consecutively, then the difference between them will be zero, so a 0 (zero character) must be inserted between them, E.g. dd or tt should become d0d or t0t respectively. For example, if the original string is "kangaroos", the encrypted string would be "kjamnggfaqrco0ods”.

IMPORTANT NOTE: If an alphabetic character is succeeded or preceded by a digit or any other non-alphabetic character, there must be no change and both the characters should be retained as it is. E.g. 5c or c5 should remain 5c or c5 respectively. For example, if the original string is "kangaroos 14 world9", the encrypted string would be "kjamnggfaqrco0ods 14 whocrflhd9"

You are expected to help Devi write the logic in the given method (function) for generating the encrypted string for the provided input string input1.

IMPORTANT NOTE: Irrespective of whether the input string has alphabets in uppercase or lowercase, you must ensure that the alphabetic characters in the encrypted string should all be in lower-case.

For example:

Input	Result
`board`	`bmonaqrnd`
`wipro technologies`	`wnigpbrco toebcehfnaoclcohgbidens`
`kangaroos`	`kjamnggfaqrco0ods`

Input	Result
kangaroos 14 world9	kjamnggfaqrco0ods 14 whocrflhd9

Answer: (penalty regime: 0 %)

```
s=input()
l=[]
for i in range(len(s)):
    if (s[i]).isdigit()==True:
        l.append(s[i])
    elif i==(len(s))-1:
        l.append(s[i])
    elif s[i].isalpha()==True and s[i+1].isalpha()==True:
        r1=abs((ord(s[i]))-(ord(s[i+1])))
        l.append(s[i])
        if r1==0:
            l.append(0)
        else:
            l.append(chr(r1+96))
    else:
        l.append(s[i])
print("".join(str(x) for x in l))
```

	Input	Expected	Got	
✔	board	bmonaqrnd	bmonaqrnd	✔
✔	wipro technologies	wnigpbrco toebcehfnaoclcohgbidens	wnigpbrco toebcehfnaoclcohgbidens	✔
✔	kangaroos	kjamnggfaqrco0ods	kjamnggfaqrco0ods	✔
✔	kangaroos 14 world9	kjamnggfaqrco0ods 14 whocrflhd9	kjamnggfaqrco0ods 14 whocrflhd9	✔

Passed all tests! ✔