

SCRAMBLE1

MOCK PE 2010

Question 2

(This question has been adapted from a CS1010e tutorial)

A word is scrambled if, given a word, the first and last letters of the word remain unchanged while the rest of the letters may have their places interchanged.

In this question, we adopt cyclic-scrambling where each letter (except for the first and last) is shifted one place to the right with wrap-around. For example, the word “programming” when cycled once will produce “pnrogrammig”. Notice the letter “n” wraps-around to the second position. When cycled another time the word produced is “pinrogrammg”. Note that the first and last characters always maintain their place.

Write a program that takes in the number of cycles, n , followed by a sentence. The program then proceeds to cyclic-scramble each word in the sentence n times.

You may assume that the length of each word is strictly below 20 characters, and the length of each sentence (aka input) is strictly below 200 characters.

Your program should contain a function ‘cycle’ that takes in arguments of two character strings `str1`, `str2` and an integer value n that performs cycling for n times on `str1` with the resulting word stored in `str2`.

```
void cycle(char str1[], char str2[], int n);
```

=====

Sample 1 (Italicised words are the input, bolded words are the output):

1
According to a research at Cambridge University it does not matter in what order the letters in a word are the only important thing is that the first and last letter be in the right place
Anccordig to a rcesearh at Cgambride Utniversiy it deos not meattr in waht oerdr the lrettes in a wrod are the olny inmportat nthig is taht the fsirt and lsat leettr be in the rhigt pclae

=====

Sample Input 2 (italicised words are the input, bolded words are the output):

3
According to a research at Cambridge University it does not matter in what order the letters in a word are the only important thing is that the first and last letter be in the right place

Adinccorg to a rarceseh at Cidgambre Usitnivery it deos not mttear in waht order the lterets in a wrod are the olny itanmport thing is taht the first and lsat ltteer be in the right place

=====