 <b>Marwadi</b> University	<b>Marwadi University</b> <b>Faculty of Technology</b> <b>Department of Information and Communication Technology</b>	
<b>Sem : 5</b>	<b>Name : Pushti Depani</b>	
<b>Day : 26</b>	<b>Date : 12/11/2022</b>	<b>Enrollment No: 92000133018</b>

## CP Club 365Days Challenge

Date – 12/11/2022

Programming language – only C language

### Problem Statement

**Code must be in C language only**

<https://www.hackerrank.com/challenges/caesar-cipher-1/problem?isFullScreen=true>

### Your Code:

```


#include <assert.h>
#include <ctype.h>
#include <limits.h>
#include <math.h>
#include <stdbool.h>
#include <stddef.h>
#include <stdint.h>
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

char* readline();
char* ltrim(char*);
char* rtrim(char*);

int parse_int(char*);

/*
 * Complete the 'caesarCipher' function below.
 *
 * The function is expected to return a STRING.
 * The function accepts following parameters:

```

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```

* 1. STRING s
* 2. INTEGER k
*/

/*
 * To return the string from the function, you should either do static alloca-
tion or dynamic allocation
 *
 * For example,
 * char* return_string_using_static_allocation() {
 *     static char s[] = "static allocation of string";
 *
 *     return s;
 * }
 *
 * char* return_string_using_dynamic_allocation() {
 *     char* s = malloc(100 * sizeof(char));
 *
 *     s = "dynamic allocation of string";
 *
 *     return s;
 * }
 */
char* caesarCipher(char* s, int k) {
    int i = 0;
    char ch;
    while (s[i] != '\0') {
        if (s[i] >= 'a' && s[i] <= 'z') {
            ch = 'a';
            s[i] = ch + (s[i] - ch + k) % 26;
        } else if (s[i] >= 'A' && s[i] <= 'Z') {
            ch = 'A';
            s[i] = ch + (s[i] - ch + k) % 26;
        }

        i++;
    }
    return s;
}

```

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}

```
int main()
{
    FILE* fptr = fopen(getenv("OUTPUT_PATH"), "w");

    int n = parse_int(ltrim(rtrim(readline())));

    char* s = readline();

    int k = parse_int(ltrim(rtrim(readline())));

    char* result = caesarCipher(s, k);

    fprintf(fptr, "%s\n", result);

    fclose(fptr);

    return 0;
}
```

```
char* readline() {
    size_t alloc_length = 1024;
    size_t data_length = 0;


    char* data = malloc(alloc_length);

    while (true) {
        char* cursor = data + data_length;
        char* line = fgets(cursor, alloc_length - data_length, stdin);

        if (!line) {
            break;
        }

        data_length += strlen(cursor);

        if (data_length < alloc_length - 1 || data[data_length - 1] == '\n') {
            break;
        }
    }
}
```

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```

    alloc_length <= 1;

    data = realloc(data, alloc_length);

    if (!data) {
        data = '\0';

        break;
    }
}

if (data[data_length - 1] == '\n') {
    data[data_length - 1] = '\0';

    data = realloc(data, data_length);

    if (!data) {
        data = '\0';
    }
} else {
    data = realloc(data, data_length + 1);


    if (!data) {
        data = '\0';
    } else {
        data[data_length] = '\0';
    }
}

return data;
}

char* ltrim(char* str) {
    if (!str) {
        return '\0';
    }

    if (!*str) {
        return str;
    }
}

```

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```

    }

    while (*str != '\0' && isspace(*str)) {
        str++;
    }

    return str;
}

char* rtrim(char* str) {
    if (!str) {
        return '\0';
    }

    if (!*str) {
        return str;
    }

    char* end = str + strlen(str) - 1;

    while (end >= str && isspace(*end)) {
        end--;
    }

    *(end + 1) = '\0';


    return str;
}

int parse_int(char* str) {
    char* endptr;
    int value = strtol(str, &endptr, 10);

    if (endptr == str || *endptr != '\0') {
        exit(EXIT_FAILURE);
    }

    return value;
}

```

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## Output (Screen Shot):

### Congratulations!

You have passed the sample test cases. Click the submit button to run your code against all the test cases.

#### ✓ Sample Test case 0

Input (stdin)

[Download](#)

#### ✓ Sample Test case 1

```
1 11
2 middle-Outz
3 2
```

Your Output (stdout)

```
1 okffng-Qwvb
```

Expected Output

[Download](#)

```
1 okffng-Qwvb
```

## Understanding about problem:

In this program we have to rotate the alphabet by the given number so if the input given is 'abcdef' and the rotation is +2 then we have to start from c so the output will be 'cdefgh.'

Note: If you can't understand the problem, feel free to contact us and we'll help you. Please don't copy and paste from anywhere.

**ALL THE BEST**

Team CP Club