Exercices de programmation en C
Avec les auteurs : Hamidou Woury Ba et Issakha Diouf

Hamidou Woury Ba   Issakha Diouf

8 mars 2023

On tient à préciser et même à jurer que ceci est le fruit de notre travail.
Nous n'avons copier le travail de personnes, ni aller sur chatGPT.
Merci de nous croire.

Écrire la fonction int count_matches(char* c, char* strs[], int s) ;char * strs[] = "rainbow", "sunshine", "bowtie", "cow", "ow", "happy" ;count_matches("ow", strs, 6) renvoie 4.
Le code se trouve ci-dessous ainsi qu'une capture permettant de l'illustrer :

```c
#include <stdio.h>

int count_matches(char* c, char* strs[], int s) {
    int count = 0;
    int len_c = 0;
    while (c[len_c] != '\0') {
        len_c++;
    }
    for (int i = 0; i < s; i++) {
        int len_s = 0;
        while (strs[i][len_s] != '\0') {
            len_s++;
        }
        if (len_s >= len_c) {
```

```c
                int j = 0;
                while (j <= len_s - len_c) {
                    int k = 0;
                    while (k < len_c && strs[i][j + k] == c[k]) {
                        k++;
                    }
                    if (k == len_c) {
                        count++;
                        break;
                    }
                    j++;
                }
            }
        }
        return count;
}


int main(){

    //------------TEST------------------------------------------------
    char * strs[] = {"rainbow", "sunshine", "bowtie", "cow", "ow", "happy"} ;
    char * tab1[] = {"", "a", "aa", "aaa", "aaaa"};
    char * tab2[] = {};
    char * tab3[] = {""};
    printf("count_matches('ow', strs, 6) ------>  %d\n\n", count_matches("ow", strs, 6))
    printf("count_matches('aa', tab1, 5) ------>  %d\n\n", count_matches("aa", tab1, 5))
    printf("count_matches('a', tab1, 5) ------>  %d\n\n", count_matches("a", tab1, 5));
    printf("count_matches('', tab1, 5) ------>  %d\n\n", count_matches("", tab1, 5));
    printf("count_matches('', tab2, 0) ------>  %d\n\n", count_matches("", tab2, 0));
    printf("count_matches('', tab3, 1) ------> %d\n\n", count_matches("", tab3, 1));
    return 0;
}
```

Exercice1 (image)

```
D:\DIC1\Semestre1\LangageC\M.TOURE\TP_char\rapport\Exercice>exercice1
count_matches('ow', strs, 6) ------>  4

count_matches('aa', tab1, 5) ------>  3

count_matches('a', tab1, 5) ------>  4

count_matches('', tab1, 5) ------>  5

count_matches('', tab2, 0) ------>  0

count_matches('', tab3, 1) ------> 1
```

Écrire la fonction qui accepte deux strings comme char* et qui renvoie le nombre de caractères sur lesquels les deux chaines coïncident. Par exemple : overlap("hello", "lol") renvoie 2. Le code se trouve ci-dessous ainsi qu'une capture permettant de l'illustrer :

```c
#include <stdio.h>

int nombre_De_char(char *c) {
    int len_c = 0;
    while (c[len_c] != '\0') {
        len_c++;
    }
    return len_c;
}

int overlap(char *char1, char *char2) {
    int count = 0;

    for (int i = 0; i < nombre_De_char(char1); i++) {
```

```c
        for (int j = 0; j < nombre_De_char(char2); j++) {
            if (char1[i] == char2[j]) {
                count++;
                i++;
            }
        }
    }
    return count;
}

int main() {
    // printf("%d\n", nombre_De_char("issakha"));
    printf("%d\n", overlap("hello", "lol"));
    printf("%d\n", overlap("hello", "Michel"));
    printf("%d\n", overlap("hello", "CS107"));
    printf("%d\n", overlap("hello", "ell"));
    printf("%d\n", overlap("ell", "hello"));
    printf("%d\n", overlap("lo", "hello"));
    printf("%d\n", overlap("he", "hello"));
    printf("%d\n", overlap("hello", "lo"));
    printf("%d\n", overlap("hello", "he"));
    printf("%d\n", overlap("hello", "o"));
    printf("%d\n", overlap("hello", "h"));
    printf("%d\n", overlap("o", "hello"));
    printf("%d\n", overlap("h", "hello"));
    printf("%d\n", overlap("", "cat"));
    printf("%d\n", overlap("  cat  ", "  cat  "));
    printf("%d\n", overlap("a", "a"));
    printf("%d\n", overlap("", "a"));
    printf("%d\n", overlap("a", ""));
    printf("%d\n", overlap("", ""));
    return 0;
}
```

Exercice2 (image)

```
D:\DIC1\Semestre1\LangageC\M.TOURE\TP_char\rapport\Exercice>exercice2
2
3
0
3
3
2
2
2
2
1
1
1
1
0
7
1
0
0
0
```

Fin