

Vg101. Introduction to Computer and Programming (Fall 2021)

Homework #5

Assigned: 4 NOV 2021

Due: 11 NOV 2021

Notes for submission: We are using the online judge system to grade your homework, so please submit your homework in the JOJ. For backup purpose, you should also submit your homework to the Canvas. **For canvas submission, please name the file using the format bellow:** “[Your last name][Initial of your first name]_sYourStudentID_hw5.c”. For example, WuJ_s123456789_hw5.c.

The following program should be written in C

Homework problem: Complete the “*char* strshift(char *str, int shift)*” in the following codes to shift a character string. The input parameter *str* is a C-style string, and *shift* is an integer indicating the shifting steps. The return is a pointer pointing to the result string *str*. For example, given input string “abcd”, the shifting result is “dabc” if *shift* = 1, and “bcda” if *shift* = -1. Note that *shift* can be negative, meaning that the string is shifted to the left.

```
#include <stdio.h>
#include <string.h>

char* strshift(char *str, int shift)
{
    /* TODO: complete this function as instructed */
    return str;
}

/* safe version of gets() */
char* vg101_gets(char *str, int count)
{
    int i = 0;
    char ch = getchar();

    while (ch != '\n' && i < count-1)
    {
        str[i++] = ch;
        ch = getchar();
    }
    str[i] = '\0'; /* add the null character */
    return str;
}

int main()
{
    int shift;
```

```
char str[256]; /* suppose the length of string is less than 256 */
char *pstr;

printf("Please input a string: ");
vg101_gets(str, 256);
printf("Please input the shift: ");
scanf("%d", &shift);
pstr = strshift(str, shift);
printf("str = %s\n", str);
printf("*pstr = %s\n", pstr);
return 0;
}
```