

Strings

8-11-25

Aim – Write a program to demonstrate string functions and another to check if the entered string is palindrome or not and output the result.

Theory –

Length function counts characters in a string until the null terminator, excluding it. Indexing allows accessing each character using its position starting from zero, enabling reading, modifying, or traversing the string in C programming language. Indexing a string allows us to treat it as an array of chars and perform the required functions. We also saw functions that are used to add two strings, reverse a string and check which one is greater.

A1.

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

```
void main(){
    char s[100], c[100];
    printf("Please enter the string: ");
    gets(s);
    int len = strlen(s);
    printf("Length %d\n", len);
    strcpy(c, s);
    printf("Copy is %s\n", c);
    strcat(c, s);
    printf("The concated string is (C is changed) %s\n", c);
    if (strcmp(c, s) == 0)
        printf("The String are same\n");
    else if (strcmp(c, s) > 0)
        printf("The String c is greater than s\n");
    else
        printf("The String s is grater than c\n");
    strrev(s);
    printf("The reversed String is: %s", s);
}
```

```
"C:\Users\tarun\Downloads\T  ×  +  ∨  
Please enter the string: AMDD  
Length 4  
Copy is AMDD  
The concated string is (C is changed) AMDDAMDD  
The String c is greater than s  
The reversed String is: DDMA  
Process returned 28 (0x1C)    execution time : 3.699 s  
Press any key to continue.
```

A2.

```
#include<stdio.h>  
  
#include<conio.h>  
  
void main(){  
    char s[100];  
    printf("Please enter the string: ");  
    scanf("%s", s);  
    int pal = 1;  
    int len = 0;  
    while (s[len] != '\0') {  
        len++;  
    }  
    for(int i = 0; i<len/2; i++){  
        if (s[i] != s[len - i - 1]) {  
            pal = 0;  
            break;  
        }  
    }  
    if (pal == 1){  
        printf("Palindrome String");  
    } else {  
        printf("Not a Palindrome String");  
    }  
}
```

A screenshot of a Windows command prompt window. The title bar shows the file path "C:\Users\tarun\Downloads\T" with a close button. The command prompt displays the following text: "Please enter the string: ABBA", "Palindrome String", "Process returned 17 (0x11) execution time : 1.622 s", and "Press any key to continue." The text is in a monospaced font on a black background.

Conclusion

In conclusion, string operations such as checking for palindrome, copying strings, and finding their length help in understanding how strings are handled in C. These programs strengthen the concepts of character arrays, indexing, and the importance of the null terminator '\0', enabling efficient manipulation and processing of textual data. We also looking into various string functions and their uses.