String Comparison

strcmp()

In C there is a function which called **strcmp()** which is used for compare the strings. This function takes two string as arguments and return -1,0,1 in the output.

strcmp(*first_str*, *second_str*);

In the function what it basically does is it compares the **ASCII** of the characters of the strings correspondingly and it works accordingly to.

(For the asci table - ASCII)

When the return value is 0, it means that the all the characters of first string is equal to the all the characters of the second string.

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

int main(){
    char str1[100] = "hello";
    char str2[100] = "hello";

    if( strcmp(str1,str2) == 0){
        printf("both the strings are equal");
    }
    else if (strcmp(str1,str2) == 1){
        printf("str1 is greater than str2");
    }
    else if(strcmp(str1,str2) == -1){
        printf("str2 is greater than str1");
    }

    return 0;
}
```

Output: `both the strings are equal`

When the return value is 1, it means that the **ASCII** value of first non-matching character in the first string has a greater value than the **ASCII** value of corresponding character of the second string.

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

int main(){
    char str1[100] = "hfllo";
    char str2[100] = "hello";

    if( strcmp(str1,str2) == 0){
        printf("both the strings are equal");
    }
    else if (strcmp(str1,str2) == 1){
        printf("str1 is greater than str2");
    }
    else if(strcmp(str1,str2) == -1){
        printf("str2 is greater than str1");
    }

    return 0;
}
```

Output: `str1 is greater than str2`

Here, we can see that the first non-match character is ‘f’ in str1 and it corresponding value in str2 is ‘e’. The **ASCII** value of f is greater than the **ASCII** value of ‘e’. Which is why we get the given output.

When the return value is -1, it means that the **ASCII** value of first non-matching character in the first string has a lesser value than the **ASCII** value of corresponding character of the second string.

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

int main(){
    char str1[100] = "abcd";
    char str2[100] = "abce";

    if( strcmp(str1,str2) == 0){
        printf("both the strings are equal");
    }
    else if (strcmp(str1,str2) == 1){
        printf("str1 is greater than str2");
    }
    else if(strcmp(str1,str2) == -1){
        printf("str2 is greater than str1");
    }

    return 0;
}
```

Output: `str2 is greater than str1`

Here, the first non-match character is the last character of both string. For str1 it is ‘d’ and for the str2 it is ‘e’. Here the **ASCII** value of ‘d’ is lesser than the **ASCII** value of ‘e’. Which is why we get the given output.