Strings

In c language strings are treated as arrays of type char and are terminated by a Null character ('\0'). This Null character has ASCII Value as Zero.

These are the two forms of initilization of a string variable

```
Char str[10] = {'I', 'N', 'D', 'I', 'A', '\0'};
Char str[10] = "India";
```

Here '\0' is auto-maticaly placed by the compil at the end of string.

Strings are generally used to store and manipulate data in text form like words or sentences.

String Variables :

To create a string variable we need to declare a character array with sufficient size to hold all the characters of the string including NULL character.

```
char str[] = {'I', 'N', 'D', 'I', 'A', '\0'};
```

or

```
char str[] = "India";
```

Note:-

Here the string constant does not represent an address. The array will be stored in memory as:-

1000	1001	1002	1003	1004	1005
I	N	D	I	A	'\0'
str[0]	str[1]	str[2]	str[3]	str[4]	str[5]

Character		Address	
Character	= I	Address	= 1000
	= N		= 1001
	= D		= 1002
	= I		= 1003
	= A		= 1004

String Library functions

1) strlen()

Returns the length of string i.e number of characters in the string excluding the of characters in the string excluding the terminating NULL character.

for Example

```
void main()
 {
  char str[20];
  int length;
  printf("Enter the string");
  scanf("%s", str);
length = strlen(str);
printf("Length of the string is %d", length);
}
```

2) strcmp()

This function is used for comparision of two strings. If the two string matches, strcmp returns a value 0, otherwise it returns ~~non-return~~ non-zero value. This function compares the strings character by characters in the two string are same or not. The non-zero value returned on mismatch is the difference of the ASCII value of the non matching characters

<0 when s1<s2
=0 when s1==s2
>0 when s1>s2

strcmp(s1, s2) return the value As

for Example

```
void main()
{
char str1[10], str2[10];
printf("Enter first string");
scanf("%s", str1);
printf("Enter second string");
scanf("%s", str2);
if ((strcmp(str1, str2)
        ==0));
 printf("strings
  are equal");
Else
printf("Not Equal");
}
```

3 strcpy()

This function is used for copying one string to another string strcpy(str1, str2) copies str2 to str1. Here str2 is the source string and str1 is destination string.

```
Void main()
  {
     char str1[10] = "India";
     char str2[10] = "Mumbai";
     strcpy (str1, str2);
     printf ("%s %s", str1, str2);
  }
```

4 strcat ()

This function is used for concatenation of two strings. If first string is "King" and second string is "Kong" then after using this function the first string becomes "KingKong".

⇒ strcat (str1, str2);

Here str2 is concatenate at the end of str1.

```
void main()
 {
  char str1 = "King";
  char str2 = "Kong";
  strcat(str1, str2);
  printf("%s", str1);
 }
```