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-matically placed by the compiler 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.

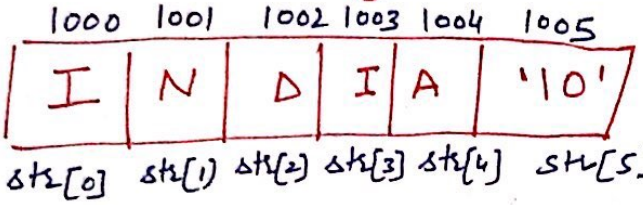
```
char str[] = { 'I', 'N', 'D', 'I', 'A', '\0' };
```

or

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

Note:-

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



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 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 = "Kinp";
char str2 = "Kong";
strcat(str1, str2);
printf("%s", str1);
}
```