String

Strings

String is one dimensional array of character terminated by a null ('\0'). String are always enclosed by double quotes, whereas character is enclosed by single quotes in C. String handling function are define in the header file <string.h>.

- **Declaration of String:** It is necessary to declare string before it is used. To declare a string, use the char variable type, then specify how many characters are in the string. Add one to this number, because at the end of the string there is "\0", which tells the computer that the string has ended.

Syntax:

char str_name[size];

Example:

char name[10]={Gyansabha}

Here, the character of string **"Gyansabha"** is stored in an individual element of an array name. It the string they are automatically adds the null character on the ends.

Size of string is 10 characters.

c[0]	c[1]	c[2]	c[3]	c[4]	c[5]	c[6]	c[7]	c[8]	c[9]
G	Y	A	N	S	A	B	H	A	\0

- **Initialization of string:** A string can be initialization in different ways. We will explain this with the help of an example.

  ```
  char s[]=”Gyansabha”;

  char s[10]=”Gyansabha”;

  char s[] = {‘G’, ‘y’, ‘a’, ‘n’, ‘s’, ‘a’, ‘b’, ’h’, ‘a’, ‘\0’} ;

  char s[10] = {‘G’, ‘y’, ‘a’, ‘n’, ‘s’, ‘a’, ‘b’, ’h’, ‘a’, ‘\0’} ;
  ```

gets & puts

gets:

gets() function can input a complete character string from the keyboard to the computer’s memory. This function can include blanks and special characters in the string. It reads a line from stdin and stores it into string pointed to by str. It stops when either the newline character is read or when the end-of-file is reached, whichever comes first.

Syntax:

```
        char*gets (char * str)
```

Example:

```
        #include<stdio.h>
        #include <string.h>
        void main ()
        {
                char name[20];
                printf(“Enter Your Name: ”);
                gets(name);
        }
```

Output:

```
Enter Your Name: Gyansabha
```

Puts:

puts() is an output function. It is used to display a string inputted by gets() function. It is also used to display a text message on the screen for program simplicity. This function appends a new line(‘n’) character to the output.

Syntax:

```
puts();
```

Example:

```
#include<stdio.h>
#include <string.h>
int main()
{
        char name[20];
        printf(“Enter Your Name: ”);
        gets(name);
        puts(name);
}
```

Output:

```
Enter Your Name: Gyansabha
Gyansabha
```

String Function

It is possible to manipulate a string as per the requirement of the user. Some of the string manipulation statements used in C language.

Function	Work
strlen()	Calculate length of a string.
strcpy()	Copies a string to another.
strcmp()	Compares two strings.
strcat()	concatenates (joins) two strings.
strrev()	Reverse a string.
strlwr()	Converts string to lowercase.

strlen(): This function is used to calculate length of a string. The function takes a single argument, i.e., string variable whose length is to be found, and returns the length of the string passed.

strcpy(): This function is used to copy a string from source to destination array here destination array is sufficiently large to accommodate a string.

strcmp(): This function takes **two string and return an integer**. The strcmp() compares two strings character by character. It the first character of two strings are equal, next character of two strings are compared. This continues until the corresponding characters of two strings are different or a null character “\0” is reached.

strcat(): This function is used to concatenate two strings. It takes two arguments, i.e., two strings or character arrays and stores the resultant concatenated string in the first string specified in the argument.

strrev(): This function is used to reverse a string.

strlwr(): This function is used to convert the upper case letter to lower case letter of the given string.