UNIT NO. ☐ String

Array

Spring :— A Character is a String or it is a collection of similar type of element who's data type is char. They Treated as Array of type char.

A Character Array is a String. if it End with A null Character ("\0") this null Character take 1-Byte in the memory. The null Character is a ECS Sequence with ASCII value Zero (0) which are used for data manipulation & addition.
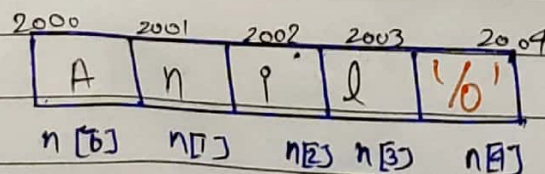
String Constant Or String Litral :-

A String Constant is a Collection of Character its closed in double cot (" ") it is Some time called Litral. (The double cots ("...") not the part of String.

eg.   " 5 "   ,
        " Anil " .

Char name [5];

name [5] = "Anil";

2000	2001	2002	2003	2004
A	n	i	l	'\0'
n [0]	n[1]	n[2] n[3]		n[4]

When ever A String Constant is Return any where in the program. It is stored some where in memory. As an array of character termi- nated by a null character.

The String Constant it self become a pointer to the first character in the Array.

for eg. Take name. Take String. Stored in memory as each character contain One-Byte & Compiler Automatically insert the null character, at the End.

The String constant " Take name " actuall a point to character 'T'.

String Variable :—

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. There are Two- way to intialize the Array using Assignment Operator.

Char name [5];

name [5] = "Anil";

OR

name [5] = 'A', 'n', 'i', 'l', '\0';

Que. WAP a program to input & output a String Variable using Scanf function.

```
# include <Stdio.h>
# include <Conio.h>
Void main ()
{
    Char name [10];

    Scanf ("%. S", name);

    Print ("%. S", name);

}
```

When we enter a String Using Scanf the null Character is automatically Inserted at the END of the Array.
     The Reason behind that the Say function Stop Reading as it Incounter the While Space.

that is the disadvantag of Array in case of String.

Que. WAP to Enter the name Using Space with the with
Helps of get or put function.

```
# include < Stdio.h>
# include < Conio.h>
Void main ()
```

```
{
    char name [10];

    gets (name);

    Puts (name);

}
```

String Library function :— There are Several Library function which are Used to manipulate String. The prototype or definition of this function are Stored in Header file. The function are —

1. **Strlen ( ) :—** This function Return the length of the String. The Number of Correcter in the String Excluding the null Character. It except a Single Argument which is pointer to the first Character of String and Return the Length of String.

```
# include < Stdio.h>
# include < Conio.h>
# include < String.h>
Void main ( )
{
    Char name [5];
    int l;
```

```
scanf ("%S", name);
    l = strlen (name);
    printf ("%d", l);

3
```

27. **Strcmp** :- This function are used to compare two strings if the Two string Match, String Compare function Return a value 0. Otherwise it Return a non-zero value. This function Compare the strings four Character by character. The comparison stop when either the END of string is Reached or the corresponding characters in the two string are not same.

The non zero value Return in the difference of ASCII value.

```
#  include <Stdio.h>
#  include <Conio.h>
#  include <String.h>
    Void main ()
    {
    char St 1 [10], St 2 [10];

    Scanf ("%S %S", St.1, St.2);
    if ((Strcmp (St.1, St.2)) == 0)
    {
    printf ("Same");
    }

    else
    {
    Printf (" Not Same ");
    }
    }

    getch ();
    }
```

3). **Strcat** :- This function is Used for con-cate (Attachment of 2-String)
for eg. If first string is "Ashish" and 2nd String is "Sharma" then
Strcat (St.1 , St.2) = "Ashish Sharma".

Here null Character from the first String removed. and Second String attached to first string at the END.

```
#
#
# include <String.h>
  Void main ( )
  {
  Char St.1 [10] , St.2 [10] ;
  Scanf ("%S %S", St.1 , St.2);

  Strcat (St.1 , St.2);
  Printf (" %S ", St.1);
  3
```

4). **Strcpy** :- This function is used for copying One String to Another.
for eg. Strcpy (St.1 , St.2) Here Copy to St.2 to St.1. Here St.2 is source & St.1 is destination.

```
#    include <Stdio.h>
#    include <Couio.h>
#    include <String.h>
     Void main ( )
```

```
      {
      char St1 [10], St2 [10];
      Scanf ("%s %s", St1, St2);
      Strcpy (St1, St2);
      Printf ("%s %s", St1, St2);

      getch ();
      }
```

Que.   WAP to Enter Any String & print it in a
       Reverse order.

```
      # include < Stdio.h >
      # include < Conio.h >
      # include < String.h >
      Void main ()
      {
      char St [5];
      int l;
      Scanf ("%s", St);
      l =   Strlen (St) - 1;

      While (l >= 0)
      {
      Printf ("%C", St [l]);
      l--;
      }
      getch ();
      }
```