NIELIT GORAKHPUR

Course Name: O Level (2nd Sem B2 and B3 Batch)   **Subject:** C Language
Topic: String in C   **Date:** 21-May-2020

What is String?
➢ String is a sequence of characters that is treated as a single data item and terminated by null character '\0'.
➢ A string is actually one-dimensional array of characters in C language.
➢ These are often used to create meaningful and readable programs.
➢ Remember that C language does not support strings as a data type.

Strings are used in string handling operations such as,
➢ Counting the length of a string.
➢ Comparing two strings.
➢ Copying one string to another.
➢ Converting lower case string to upper case.
➢ Converting upper case string to lower case.
➢ Joining two strings.
➢ Reversing string.

Declaration
Syntax   : char string_nm[size];
Example : char name [15];

Declaring and Initializing String

Declaring character arrays with a string constant

char astring[5]= "Zip!";
char atomic[ ]= "hydrogen";

Declaring a string array with character constants
char astring[ ]= {'Z', 'i', 'p', '!', '\0'};

Note In C, you must always terminate a character array with the **NULL** character, '\0'. Therefore, the array size of your character array should be one plus the maximum length of the string you want to s tore. Example: In the declaration

char atomic[ ] = "hydrogen";
"atomic" is an array of nine elements, the last being **'\0'.**

Memory Representation of String

The memory presentation of the string in C is:

char atomic[10]= "hydrogen";

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0	1	2	3	4	5	6	7	8
h	y	d	r	o	g	e	n	\0

Variable

String memory representation

Actually, you do not place the *null* character at the end of a string constant. The C compiler automatically places the **'\0'** at the end of the string when it initializes the array.

Input & Output of String

- ❑ **Read Strings:**
  To read a string, we can use scanf() function with format specifier %s.

  ```
  char name[50];
  scanf("%s",name);
  ```

- ❑ **Write Strings :**
  To write a string, we can use printf() function with format specifier %s.

  ```
  char name[50];
  scanf("%s",name);
  printf("%s",name);
  ```

Try Yourself:
1. What is string in C?
2. What is meant by Null in character string.