Practical-7

To study about character arrays and strings

Practical-7.1

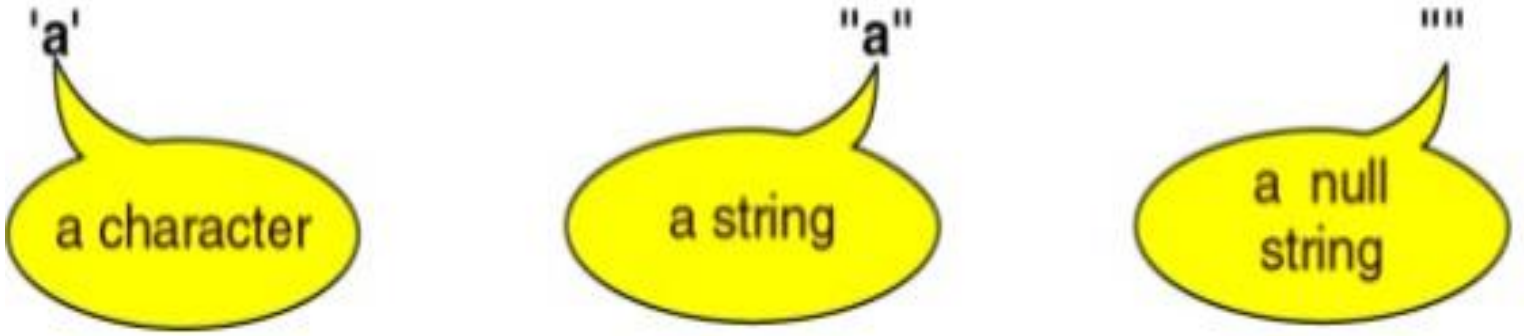
- Write a program to find length of the string.

    1. Without using inbuilt function strlen().

    2. Using strlen()

String

- Strings are defined as an array of characters
- A string is a sequence of characters terminated with a null character \0



String Declaration

- Datatype String_name [Size];
- Datatype String_name [Size] =“string”;
- Datatype String_name [Size] ={‘s’,’t’,’r’,’i’,’n’,’g’,’\0’};

  //NULL character '\0' is required at end in this declaration

- Char name[10]=“Reema”;
- Char name[10]={‘R’, ‘e’, ‘e’,’m’, ‘a’, ‘\0’};
  - //size of string is 6 (5 character + 1 NuLL)

String initialization

- char c[] = "abcd";
- char c[50] = "abcd";
- char c[] = {'a', 'b', 'c', 'd', '\0'};
- char c[5] = {'a', 'b', 'c', 'd', '\0'};
- **char c[5] = "abcde";**
- we are trying to assign 6 characters (the last character is '\0‘) to a char array having 5 characters.

String input and output functions

- gets() :
  - Reads characters from the standard input and stores them as a string.
  - It is used to read the input until it encounters newline
  - like scanf() skip whitespaces gets() does not skip white space.
- puts() :
  - prints characters from the standard output.
  - Puts add new line after string

String Handling Functions

- Are used to perform operations on the string.
- string manipulation can be done manually but, this makes programming complex and large.
- To solve this, C supports a large number of string handling functions.

strlen()

- strlen() function returns the length of the string.
- strlen() function returns integer value.
- **Example:**

```
Char str[6] = “UVPCE";

int  Length;

Length = strlen(str);
```

Practical-7.2

Write a program to convert string into uppercase.

1. using strupr()
2. without using strupr()

Strlwr() & Strupr()

- converting the characters of the given string str to lowercase or Upper Case
- **Syntax :**
- Strupr(str); Strlwr(str);
- **Example:**
  - Char s1[10]="ABCD"; Char s2[10]="abcd";
  - Strlwr(s1); Strupr(s2);
  - Puts(s1); //abcd
  - Puts(s2); //ABCD

Practical-7.3

- Write a program to reverse a string.
    1. Without using inbuilt function strrev().
    2. Using strrev()

strrev()

- This function reverses the characters in a particular string.
- **Syntax**
- strrev(string);
- **Example**:
  - char s1[10] = “Engineering";
  - Strrev(s1);
  - Puts(s1);

Practical-7.4

- Write a program to copy one string to another.
    1. With using inbuilt function strcpy()
    2. without using strcpy()

Strcpy()

- strcpy() function is used to copy one string to another.
- **Syntax:**
- strcpy(Destination_String,Source_String);
  - **Example:**

    char s1[20];
  - char s2[20];
  - Char s1 = “Engineering";
  - Puts(s2);
  - strcpy(s2,s1);
  - Puts(s2);

Practical-7.5

- Write a program to concatenate two strings.

    1. With using inbuilt function strcat()
    2. without using strcat()

Strcat()

- strcat() is used to concatenate two strings.
- **Syntax:**

  strcat(Destination_String, Source_String);
- **Example:**
  - char s1[10] = “U. V. PATEL";
  - char s2[10] = “Engineering college”;
  - strcat(s1,s2);
  - Puts(s1);

Practical-7.6

- Write a program to convert string into lowercase.
    1. using inbuilt function strlwr()
    2. without using strlwr()

Practical-7.7

- Write a program to Count no. of Vowels in given String.[a,e,I,o,u]
- Algoritham //abcdef =2
    1. Start
    2. Declare char Array
    3. Read string
    4. While s[i] !='\o'
        1. Check vowel or not
        2. If vowel count total vowels in string
    5. End

Practical-7.8

- Write a program to check whether given String is Palindrome or not.
- Algorithm
    1. Start
    2. Declare and read string
    3. Get reverse of string
    4. Check reverse== string
    5. Print Palindrome
    6. Else
    7. Not Plaindrome

Practical-7.9

- Make a program to sort the characters for the given string.

Practical-7.10

- Take a sentence in a string using scanf without for loop.
- Now find out total no of characters and words in that sentence excluding spaces.

"%[^\n]" format specifier

- Is used to read string with space
- Scanf(“%s”,name);//Ganpat University
- Printf(“%s”,name); //Ganpat
- Scanf(“%[^\n]s”,name);

  //"%[^\n]" tells to the compiler that read the characters until "\n" is not found

- Printf(“%s”,name); //Ganpat University