# Advanced C Programming

## Module II

## Strings and Pointers :

Strings and pointers in c are very closely related. Since a string is an array, the name of the string is a constant pointer to the string. This pointer can be used to perform operations on the string.

Declaration: char *pointer;

Example : char *ptr;

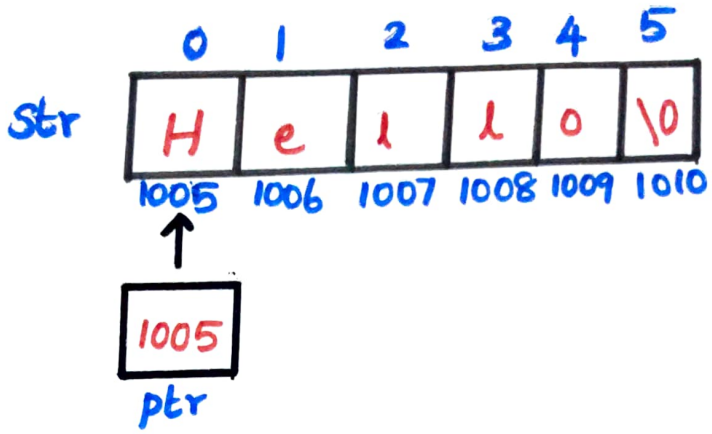
Initialization :

Before use, every pointer must be initialized. To initialize a pointer, we assign it the address of a string.

Syntax : pointer = stringname;

Example :

```
char Str[20] = "Hello";
char *ptr;
ptr = Str;
```




Using the pointer, string characters can be accessed and modified. Each character can be accessed using *ptr. For example, to display all characters using pointer, the following loop can be used.

```
char str[20] = "Hello";
char *ptr;
for(ptr = str; *ptr != '\0'; ptr++)
{
   putchar(*ptr);
}
```

## Accessing string using pointer program:

```
#include <stdio.h>
int main(void)
{
 char str[6] = "Hello"; // string variable
```

```
char *ptr = str; // pointer variable

while (*ptr != '\0')
{
    printf("%c", *ptr); // print the string
    ptr++; // move the ptr pointer to the next
           memory location
}
return 0;

}
```

Output:

Hello

## Using pointer to store string:

```
#include<stdio.h>
int main(void)
{
char *strptr = "Hello"; // pointer variable to store
                        string

 char *t = strptr; // temporary pointer variable

 while (*t != '\0')
 {
    printf("%c", *t); // print the string
    t++; // move the t pointer to the next memory
           location
 }
```

```
    return 0;
}
```

Output :

Hello