

String

String

It is a set of character, digit and symbol. We can also define it as array of character. The end of string is marked by special character i.e '\0' means null character.

Syntax:

```
char string_name[size];
```

For example:

```
char name[100];
char address[200];
```

Array of String:

A two dimensional array of character is similar to array of strings. It can be defined as table of string. It is useful for solving string sorting problems. It can be declared and handled just like two dimensional arrays.

Syntax:

```
char string_name[Max][Size];
```

where,

char means character,

string_name means name of string

max means number of string

size means maximum number of characters

For Example:

```
char name[5][100];
char address[10][200];
```

String Handling Function:

The C-Library supports a large number of string handling functions that can be used to carry out many string manipulation. The header file `#include<string.h>` is used for string manipulation functions. Some of the common string manipulation functions are:

- a. `strlen()` function
- b. `strrev()` function
- c. `strlwr()` function
- d. `strupr()` function
- e. `strcpy()` function
- f. `strcat()` function
- g. `strcmp()` function

a. strlen() function:

It is used to find out the length of string.

Syntax:

```
l=strlen(str);
```

For Example:

WAP to find out the length of string.

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
char str[100];
int l;
printf("Enter any String");
gets(str);
l=strlen(str);
printf("The length of string is %d",l);
getch();
}
```

Printf-puts

Scanf -gets

b. strrev() function:

It is used to find out the reverse of string.

Syntax:

```
strrev(str);
```

For Example:

WAP to find out the reverse of string.

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
char str[100];
printf("Enter any String");
gets(str);
puts(strrev(str));
getch();
}
```

c. strlwr() function:

It is used to convert upper case character to lower case character of string.

Syntax:

```
strlwr(str);
```

For Example:

WAP to find out the lower case character of string.

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
char str[100];
printf("Enter any String");
gets(str);
puts(strlwr(str));
getch();
}
```

d. `strupr()` function:

It is used to convert lower case character to upper case character of string.

Syntax:

`strupr(str);`

For Example:

WAP to find out the upper case character of string.

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
char str[100];
printf("Enter any String");
gets(str);
puts(strupr(str));
getch();
}
```

e. `strcpy()` function:

It is used to copy one string to another string.

Syntax:

`strcpy(str1,str2);`

For Example:

WAP to copy one string to another string.

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
char str1[100],str2[100];
printf("Enter any String");
gets(str2);
puts(strcpy(str1,str2));
getch();
}
```

f. strcat() function

It is used to join one string with another string.

Syntax:

```
strcat(str1,str2);
```

For Example:

WAP to copy one string to another string.

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
char str1[100],str2[100];
printf("Enter first String");
gets(str1);
printf("Enter second String");
gets(str2);
puts(strcat(str1,str2);
getch();
}
```

g. strcmp() function

It is used to compare one string with another string.

Syntax:

```
v=strcmp(str1,str2);
```

For Example:

WAP to compare one string with another string.

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
char str1[100],str2[100];
int v;
printf("Enter first String");
gets(str1);
printf("Enter second String");
gets(str2);
v=strcmp(str1,str2);
if(v>0)
printf("%s comes after %s",str1,str2);
else
printf("%s comes before %s",str1,str2);
getch();
}
```

```
V=(str1,str2)>0
```

```
Str1>str2
```

```
(ram>shyam) (shyam>ram)
```

```
Shyam>ram
```

```
Shyam comes after ram
```

```
Ram comes before shyam
```

Imp. Q.1>>Define Array of String. WAP to enter 20 Strings and sort it into alphabetical order.[2+8]

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
char str[20][100], temp[100];
int i,j;
for(i=0;i<20;i++)
{
printf("Enter a String");
scanf("%s",str[i]);
}
for(i=0;i<20;i++)
{
for(j=0;j<20;j++)
{
if(strcmp(str[i],str[j])>0)
{
strcpy(temp,str[i]);
strcpy(str[i],str[j]);
strcpy(str[j],temp);
}
}
}
printf("Sorting of given strings into alphabetical order:");
for(i=0;i<20;i++)
{
printf("%s",str[i]);
}
getch();
}
```

Imp. Q.2>>WAP to enter nth Strings and sort it into alphabetical order.[10]

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
void main()
{
char str[100][100], temp[100];
int i,j,n;
printf("Enter any number");
scanf("%d",&n);
for(i=0;i<n;i++)
{
printf("Enter a String");
scanf("%s",str[i]);
}
}
```

```
for(i=0;i<n;i++)
{
for(j=0;j<n;j++)
{
if(strcmp(str[i],str[j])>0)
{
strcpy(temp,str[i]);
strcpy(str[i],str[j]);
strcpy(str[j],temp);
}
}
}
printf("Sorting of given strings into alphabetical order:");
for(i=0;i<n;i++)
{
printf("%s",str[i]);
}
getch();
}
```