



SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

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Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai



DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

COURSE NAME : 23ITT101- PROBLEM SOLVING & C PROGRAMMING

I YEAR /I SEMESTER

Unit 3- C-ARRAYS AND STRINGS

Topic : String- Simple Programs – Part II



Some Useful C Character Functions



Don't forget to **#include <ctype.h>** to get the function prototypes.



Functions



Function	Return true if
<code>int isalpha(c);</code>	<code>c</code> is a letter.
<code>int isupper(c);</code>	<code>c</code> is an upper case letter.
<code>int islower(c);</code>	<code>c</code> is a lower case letter.
<code>int isdigit(c);</code>	<code>c</code> is a digit [0-9].



More Functions



Function

`int isxdigit(c);`

Return true if

`c` is a hexadecimal digit
[0-9A-Fa-f].

`int isalnum(c);`

`c` is an alphanumeric character (`c` is a letter or a digit);

`int isspace(c);`

`c` is a SPACE, TAB, RETURN, NEWLINE, FORMFEED, or vertical tab character.



Even More C Functions



Function	Return true if
<code>int ispunct(c);</code>	<code>c</code> is a punctuation character (neither control nor alphanumeric).
<code>int isprint(c);</code>	<code>c</code> is a printing character.
<code>int iscntrl(c);</code>	<code>c</code> is a delete character or ordinary control character.



Still More C Functions



Function	Return true if
<code>int isascii(c);</code>	<code>c</code> is an ASCII character, code less than 0200.
<code>int toupper(int c);</code>	convert character <code>c</code> to upper case (leave it alone if not lower)
<code>int tolower(int c);</code>	convert character <code>c</code> to lower case (leave it alone if not upper)



Program to Reverse Strings

```
#include <stdio.h>
#include <string.h>
```

```
int main ()
{
int i;
```

```
char a[10];
char temp;
```

```
//clrscr(); // only works on windows
```

```
gets(a);
```

```
for (i = 0; a[i] != '\0' ; i++);
```

```
i--;
```

```
for (int j = 0; j <= i/2 ; j++)
```

```
{
temp = a[j];
```

```
a[j] = a[i - j];
```

```
a[i - j] = temp;
```

```
}
```

```
printf("%s",a);
```

```
return(0);
```

```
}
```



Program to count the number of vowels in a string :



Note Two different ways to declare strings

One using pointers *str

Two using character array char a[]

```
#include <stdio.h>
```

```
#include <string.h>
```

```
void main() {
```

```
char *str;
```

```
char a[]="aeiouAEIOU";
```

```
int i,j,count=0;
```

```
clrscr();
```

```
printf("\nEnter the string\n");
```

```
gets(str);
```

```
for(i=0;str[i]!='\0';i++)
```

```
{
```

```
for(j=0;a[j]!='\0';j++)
```

```
if(a[j] == str[i]
```

```
{
```

```
count++;
```

```
break;
```

```
}
```

```
printf("\nNo. of vowels = %d",count);
```

```
}
```

```
}
```