

Declaration

```

char str[50];
printf("Enter the string");
→ scanf ("%s", str);

int choice;
scanf ("%d", &choice);

```

for print :-

puts ()	→	<u>gets ()</u>
printf		scanf ()
putchar ()		getchar ()

String Length (without using strlen)

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

str

Hello

main ()

{

char str[50], i = 0; length;

printf("Enter string");

scanf("%s", str);

while (str[i] != '\0')

strlen = 5

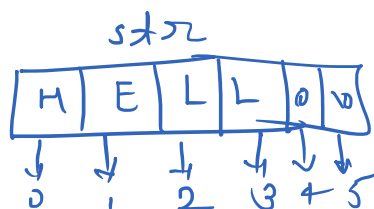
0 →

5 →

{
i = i + 1;
}

length = i;

printf("length of string is
%d", length);
}



1st :- while (str[i] != '\0')

{
i = i + 1;
}

0 + 1
i = 1;

str[0] != '\0'
H != '\0'
✓

2nd :- while (str[1] != '\0')

{
i = i + 1
}

1 + 1
= 2

E != '\0'
✓

3rd :- while (str[2] != '\0')

{
i = i + 1
}

L != '\0'
✓

$$= 2 + 1$$

$$= 3$$

4th :- while (str[3] != '\0')

{

$i = i + 1$ \checkmark $! = '\0'$

$= 3 + 1$

$= 4$

}

5th :- while (str[4] != '\0')

{

$i = i + 1$ \checkmark $! = '\0'$

$= 4 + 1$

$= 5$

}

HELLO

↓

5

6th :- while (str[5] != '\0')

{

x

}

\checkmark $! = '\0'$

X

length = i ;

lowercase to uppercase

a → Z = 97 to 122 $97 + 26 - 1$

A → Z = 65 to 90 $65 + 26 - 1$

[H|e|l|l|o|\0]

I/P Hello

O/P HELLO

a

char str[50]; i = 0; upper[50];

printf("Enter the string\n");

HELLO

$$\begin{aligned}
 & a \quad A \\
 & 97 - 65 \\
 & = \boxed{32}
 \end{aligned}$$

$$\begin{aligned}
 a & \rightarrow A \\
 \text{str}[0] & \rightarrow \text{str}[0] - 32 \\
 & = 97 - 32 \\
 & = 65 \\
 & = A
 \end{aligned}$$

Hint:- lower to upper

$$\text{str}[i] - 32$$

→ upper to lower

$$\text{str}[i] + 32$$

str[30]
↓
3 char

$$i = 0;$$

1st :-

UPPER

H					
---	--	--	--	--	--

```

printf("Enter the string");
scanf("%s", str);

```

```

while (str[i] != '\0')

```

```

{
    if (str[i] >='a' &&
        str[i] <='z')
    {

```

```

        upper[i] = str[i] - 32;
    }

```

```

}

```

else

```

{
    upper[i] = str[i];
}

```

```

i = i + 1;
}

```

upper[i] = '\0'; Hello

```

printf("Final string is : ");
puts(upper);

```

```

}

```

str

H	e	l	l	o	\0
---	---	---	---	---	----

 upper

--	--	--	--	--	--

```

while (str[i] != '\0') str[0] != '\0'
{
    H != '\0'

```

```

    if (str[i] >='a' && str[i] <='z')

```

```

    {
        X
    }

```

```

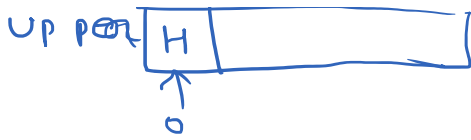
    else
    {

```

```

        upper[i] = str[i] = upper[0] = str[0];
    }

```



$upper[i] = str[i] = upper[0] = str[0]$
 $i = i + 1; = 0 + 1 = 1;$
 $upper[0] = H$

2nd :- while (str[1] != '\0') → e! = '\0'
 (for e)
 if (str[1] >='a' & str[1] <='z')



$upper[i] = str[i] - 32;$
 $upper[1] = str[1] - 32;$
 $= 101 - 32$
 $= 69$
 $= E$

}
 else
 { X
 }

$i = i + 1 = 1 + 1 = 2$

3rd :- while (str[2] != '\0') → l! = '\0'
 (for l)
 if (str[2] >='a' & str[2] <='z')



$upper[2] = str[2] - 32$
 $= 108 - 32$
 $= 76$
 $= L$

```

} else {
    x
    i = i + 1
    = 2 + 1
    = 3
}

```

4th

1 - same as 3rd

H	E	L	L	
---	---	---	---	--

5th :- while (str[4] != '\0') = 0 != '\0' ✓

char str[10];

\0

```

if ( - - - - )
{

```

upper[i] = str[i] - 32

upper[4] = str[4] - 32

= 111 - 32

= 79

0

H	E	L	L	0	\0
---	---	---	---	---	----

```

}
else
{

```

```

    x
}

```

i = i + 1

= 4 + 1 = 5

6th :- while (str[i] != '\0') str[5] != '\0'

```

{
    x
}

```

\0 != '\0' ✗

```

}

```

printf ("%s", upper);

output:- HELLO