

C Language

Strings



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Agenda

- ① String functions
- ② Function call by passing string
- ③
- ④ Handling multiple strings.

1 byte = 8 bits

Memory Concept

char str[] = "Bhopal";

① for(i=0; str[i]; i++)
printf("%c", str[i]);

② printf("%s", str);

str ≈ &str[0] ≈ 100

&str ↗

Program's memory

0	1	2	3	4	5	6
B	h	o	P	a	l	l
100	101	102	103			



position number = Address

String Functions

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

```
int strlen(char *);
```

```
char * strcpy (char*, char*);
```

```
char * strcat (char*, char*);
```

```
int strcmp (char *, char *);
```

```
char name[20];
```

```
name = "Santosh"; Error
```

```
name[20] = "Santosh"; wrong
```

```
name[0] = "S";
```

```
name[1] = "a";
```

```
:
```

^{int a;}
a = strlen("Bhopal");

char str[] = "Bhopal";
a = strlen(str);

```
char name[20];  
strcpy(name, "Santosh");
```

```
char s1[50] = "Hello";
```

```
char s2[20] = "Students"
```

s1 0 1 2 3 4 5 6 7 8 9 10 11 12 13
 [Hello Students \0]

s2 0 1 2 3 4 5 6 7
 [Students]

```
strcat(s1, s2);
```

$s1 \rightarrow "Rahul"$
 $s2 \rightarrow "Rajesh"$

-1
0
+1

\Leftarrow strcmp($s1, s2$)

- 1 $s1$ comes before $s2$ in dictionary
- 0 Same
- +1 $s1$ comes after $s2$ in dictionary

Function call by passing String

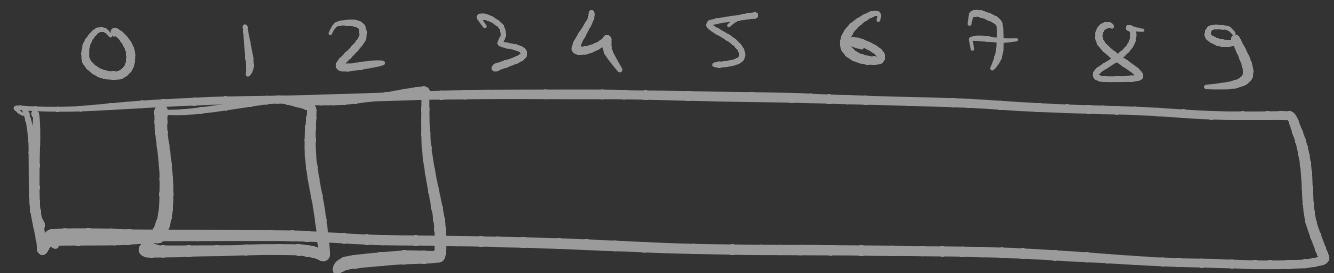
```
fi( "Bhopal"); } void fi(char s[])
fi( str); { }
```

Handling Multiple Strings

```
char s[3][10];    0 1 2 3 4 5 6 7 8 9  
for(i=0; i<=2; i++)  
    fgets(s[i], 10, stdin);  
    0 [ ]  
    1 [ ]  
    2 [ ]
```

```
char s[3][10] = { "Arun", "Chirag", "Varsha"};
```

char str[10];



s^*

$str[0]$

$str[1]$

$str[2]$

$s[0]$

$s[0][0]$

$s[0][1]$

$s[0][2]$

⋮