C Programs with Mustafa Rahman

Chapter: 8

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Strings

↓

A character array terminated by a '\0' (null character)

null character denotes string termination

EXAMPLE

char name[ ] = {‘M', ‘U', ‘S', ‘T', ‘A', ‘F', 'A','\0'};

char name[ ] = “MUSTAFA";

Initialising Strings

```
char name[ ] = {‘M', ‘U', ‘S', ‘T', ‘A', ‘F', 'A','\0'};

char name[ ] = “MUSTAFA";
```

```
char class[ ] = {‘M', ‘I', ‘R', ‘S', ‘ A', ‘R', ‘A', ‘I', ‘C', ‘O', ‘L', ‘L’, ‘E’, ‘G’, ‘E’, '\0'};

char class[ ] = “MIRSARAI COLLEGE";
```

What Happens in Memory?

char name[ ] = {‘M', ‘U', ‘S', ‘T', ‘A', ‘F', 'A','\0'};

char name[ ] = “MUSTAFA";

name

String Format Specifier

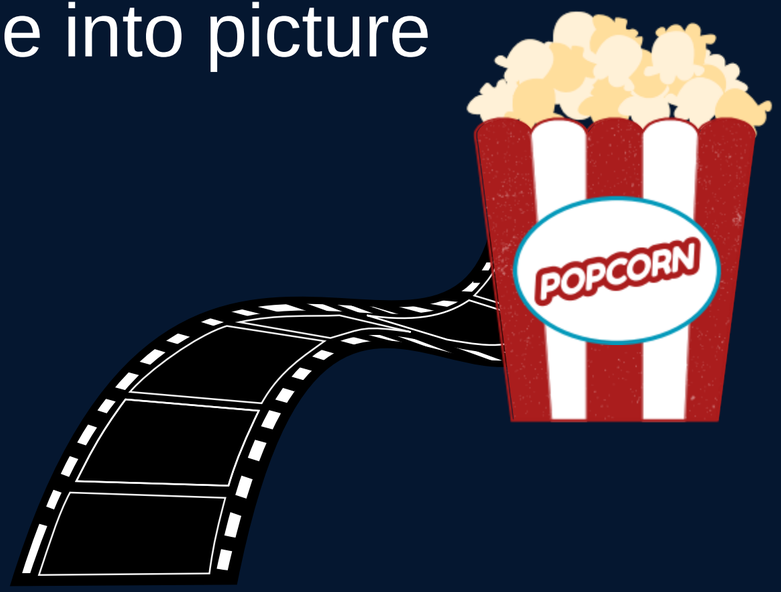
"%s"

```
char name[ ] = “MUSTAFA";
printf("%s", name);
```

IMPORTANT

scanf( ) cannot input multi-word strings with spaces

Here,
gets( ) & puts( ) come into picture



String Functions

gets(str) ⟶ Dangerous & Outdated

input a string
(even multiword)

puts(str)

output a string

fgets(str, n, file)

stops when n-1
chars input or new
line is entered

String using Pointers

char *str = "Hello World";

Store string in memory & the assigned address is stored in the char pointer 'str'

char *str = "Hello World"; //can be reinitialized

char str[ ] = "Hello World";
//cannot be reinitialized

Standard Library Functions

<string.h>

1 strlen(str)

count number of characters excluding '\0'

Standard Library Functions

<string.h>

2 strcpy(newStr, oldStr)

copies value of old string to new string

Standard Library Functions

<string.h>

3 strcat(firstStr, secStr)

concatenates first string with second string

firstStr should be large enough

Standard Library Functions

<string.h>

4 strcpm(firstStr, secStr)

Compares 2 strings & returns a value

0 -> string equal

positive -> first > second (ASCII)

negative -> first < second (ASCII)