

# Strings



**Mohammad Tasin**

# Agenda

- **Introduction to Strings**
- **NULL character**
- **user input**
- **String Functions**
- **Function Call by Passing String**
- **Handling Multiple Strings**

# **Introduction to Strings**

- **String is a sequence of characters, terminated at null character.**
- **Strings are handled in char arrays**

# Initializing char array during declaration

```
char str[10] = {'B','H','O','P','A','L'};
```

0	1	2	3	4	5	6	7	8	9
B	H	O	P	A	L	\0	\0	\0	\0

# Printing String

```
char str[10] = {'B','H','O','P','A','L'};
```

# Improve your code

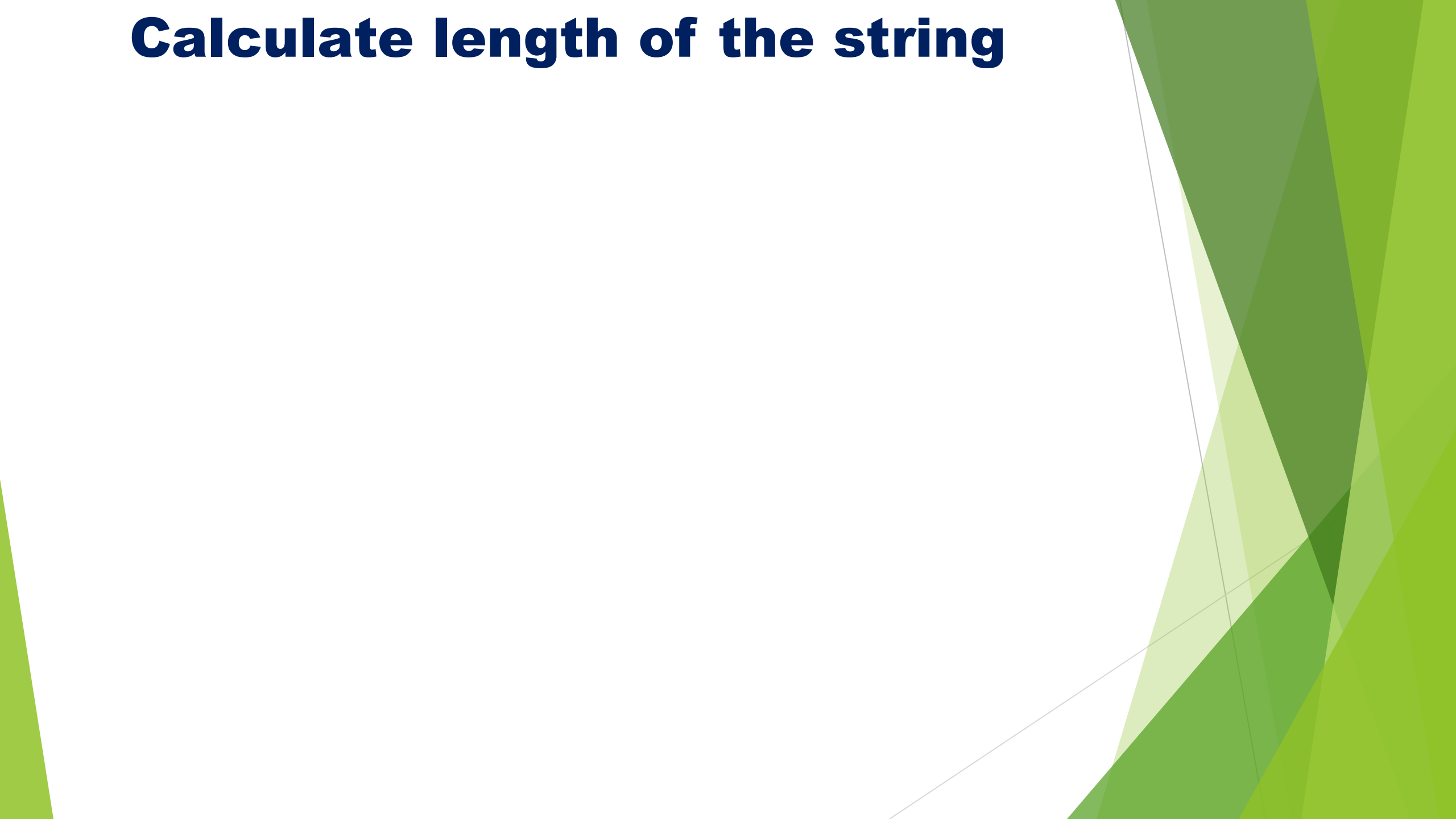
```
int main()  
{  
    char str[10] = "BHOPAL";  
    cout<<str;  
    return 0;  
}
```

# NULL character

```
char str[10] = {'B','H','O','P','A','L'};
```

0	1	2	3	4	5	6	7	8	9
B	H	O	P	A	L	\0			

# Calculate length of the string





# String Constant

**"BHOPAL"** ← **String Constant**  
**String Literal**

**char str[10] = "BHOPAL";**

0	1	2	3	4	5	6	7	8	9
B	H	O	P	A	L	\0			

# User input

## cin

- **cin is not capable to input multiword string.**
- **Because space, TAB. New line character are delimiters**
- **We will not use cin for string input.**

## fgets()

- **fgets() is a predefine function.**
- **fgets(ArrayName, InputSize, stdin);**

# Memory Concept

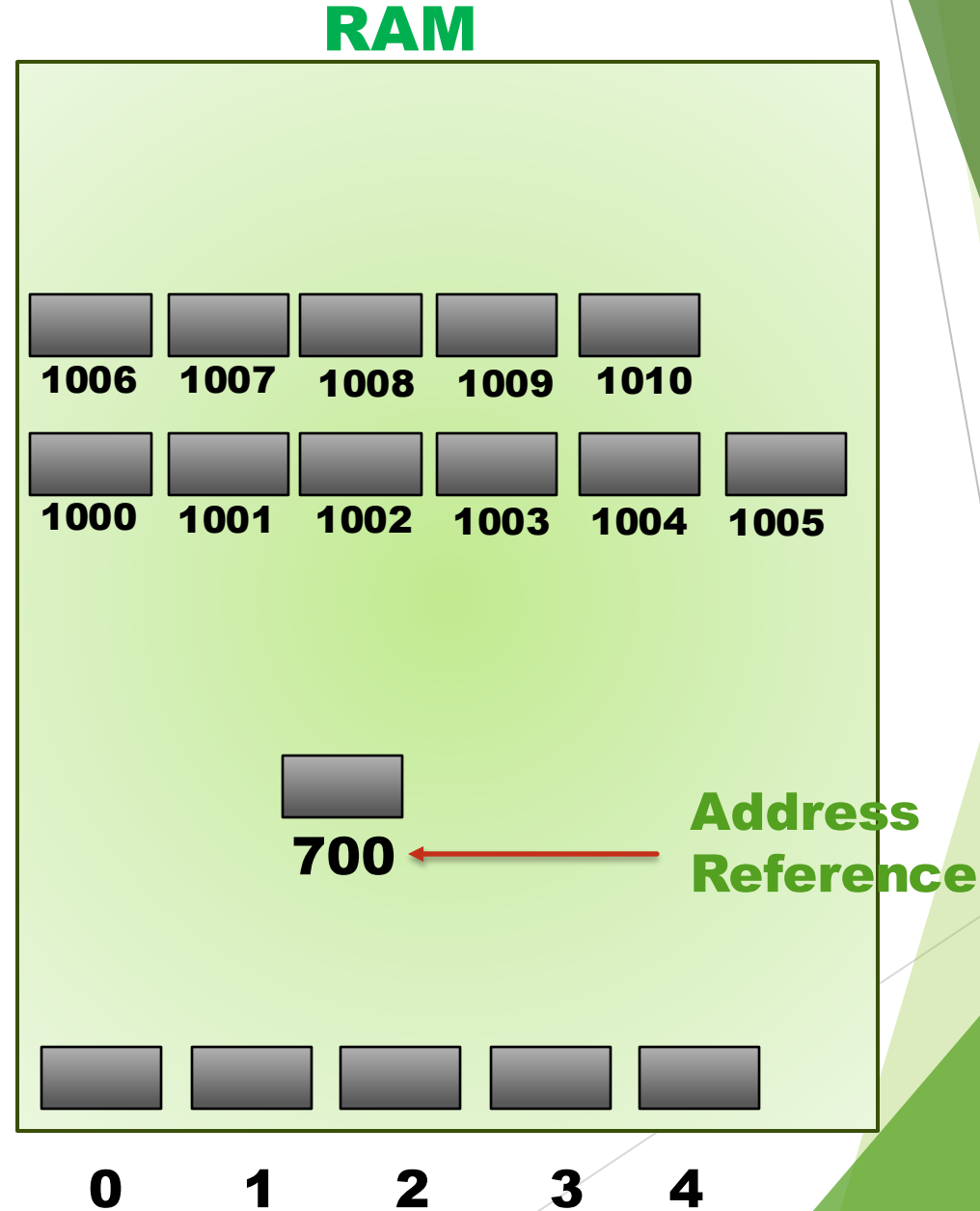
```
char str[20] = "TasiNCoder";  
char x;
```

## Options 1

```
for(int x=0; str[x]; x++)  
    cout<<str[x];
```

## Options 2

```
cout<<str;
```



# String Functions

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

- **int      strlen(char\*);**
- **char\*strupr(char\*);**
- **char\* strlwr(chr\*);**
- **char\* strrev(char\*);**
- **char\* strcpy(char\*, char\*);**
- **char\* strcat(char\*, char\*);**
- **int      strcmp(char\*, char\*);**
- **char\* strchr(char \*, int c)**

- **int strcmp(char\*, char\*);**

**int x = strcmp("Tasin", "Coder");**

**x == -1;    →    dictionary order**

**x == 0;    →    equal**

**x == 1;    →    not dictionary order**

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- **char\* strchr(char \*, int c)**

**char \*p = strchr("TasiNCoder", 'N');**

- **Character is find return Address**
- **Character is not find return **NULL****

# Function Call by Passing String

# **Handling Multiple Strings**