C Language

Strings

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Agenda

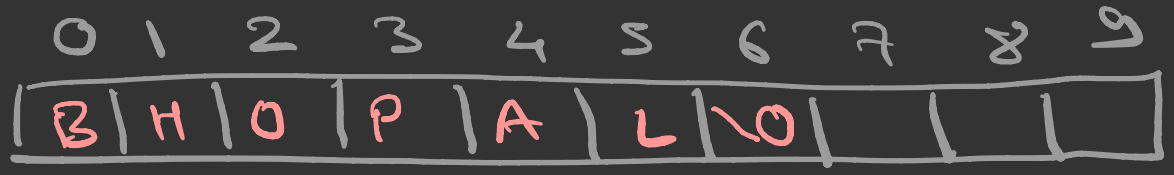
1. String Introduction
2. null character
3. User input

String

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

```
char str[10];
```

Initializing char array during declaration




```
int main()
{
    char str[10] = {'B', 'H', 'O', 'P', 'A', 'L'};
    int i;
    for(i=0; i<=9, i++)
        printf("%c", str[i]);
}
```

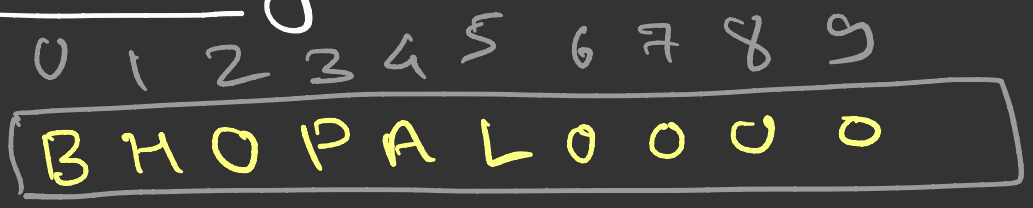
null Character →

ASCII Character	ASCII code
'\0'	0
' '	32
'0'	48
'A'	65
'a'	97

ASCII

Characters	Codes	Screen
'\0'	0	Blank space
' '	32	
'0'	48	
'9'	57	
'@'	64	
'A'	65	A
'B'	66	B
'Z'	90	
'a'	97	

Printing String

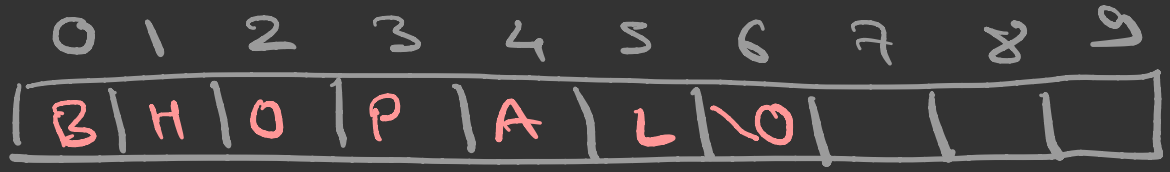



```
int main()
{
    char str[10] = { 'B', 'H', 'O', 'P', 'A', 'L' };
     int i;
     for ( i= 0; i<=5 ; i++)
         printf("%c", str[i]);

     return 0;

}
```

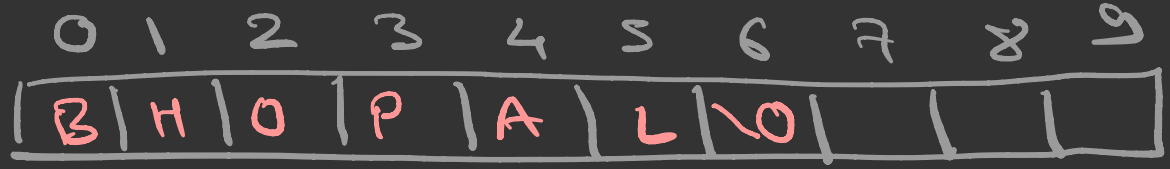
Use of null character




```
int main()
{
    char str[10] = { 'B', 'H', 'O', 'P', 'A', 'L' };
    int i;
    for (i=0; str[i]; i++)
        printf("%c", str[i]);

    return 0;
}
```

Improve your code




```
int main()
{
    char str[10] = { 'B', 'H', 'O', 'P', 'A', 'L' };
    printf("%s", str);
}
```

only name of array

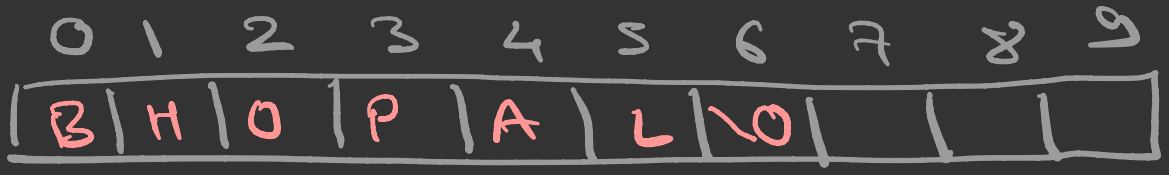
format specifier for string

%s

```
int main()
{
    char str[10] = { 'B', 'H', 'O', 'P', 'A', 'L' };
    printf("%s", str);

    char str[10] = "BHOPAL";
}
```

Calculating length of the String




```
int main()
{
    char str[10] = "BHOPAL";
    int i;
    for( i=0; str[i] ; i++) ;
    printf("Length = %d", i);

    return 0;
}
```

String Constant

"BHOPAL" ← String constant
String Literal

Input from User

```
int main()
{
    char str[20];

    printf("Enter your name");
    scanf("%s", str);

    printf("%s", str);


    return 0;
}
```

scanf()

- scanf uses delimiters to separate input data
- By default delimiters are
  - → space
  - → tabspace
  - → new line character

"Saurabh Shukla"
↑
space

- scanf is not capable to input multiword string

Taking input from User

- scanf is not capable to input multiword string scanf()
- because space, tab, new line characters are delimiters
- we will not use scanf for string input

gets()

- gets() is capable to input multiword string

Input from User

```
int main()
{
    char str[20];

    printf("Enter Your name");

    gets(str);
    printf("%s", str);


    return 0;
}
```

gets()

only for strings

one string at a time

scanf()

multiple values

MySirG Educatim

Servizen Private Limited

↑

unreliable

fgets()

fgets(arrayname , inputsize , stdin)

Input from User

```
int main()
{
    char str[20];

    printf("Enter your name");

    fgets(str, 20, stdin);
    printf("%s", str);


    return 0;

}
```