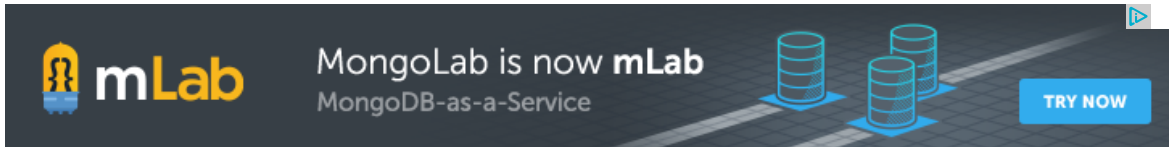


C LANGUAGE

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" C is most widely used general-purpose language today in operating systems, and embedded system development. "



Basics of C Language

Overview of C (overview-of-c.php)

Features of C (features-of-c.php)

My First C program (first-c-program.php)

C Input / Output (c-input-output-function.php)

C Syntax Rules (c-syntax.php)

Keywords and Identifier (keywords-and-identifier.php)

Operators in C Language (operators-in-c.php)

Data Types in C (datatype-in-c.php)

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Arrays (arrays-in-c.php)

string and character array (string-and-character-array.php)

Storage classes (storage-classes-in-c.php)

Pointer Arithmetic

Pointer arithmetic is very important to understand, if you want to have complete knowledge of pointer. In this topic we will study how the memory addresses change when you increment a pointer.

16 bit Machine (Turbo C)

In a 16 bit machine, size of all types of pointer, be it `int*`, `float*`, `char*` or `double*` is always **2 bytes**. But when we perform any arithmetic function like increment on a pointer, changes occur as per the size of their primitive data type.

Size of datatypes on 16-bit Machine :

Type	Size(bytes)
int or signed int	2
char	1
long	4
float	4
double	8
long double	10

Examples for Pointer Arithmetic

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Now lets take a few examples and understand this more clearly.

```
int* i;
i++;
```

In the above case, pointer will be of 2 bytes. And when we increment it, it will increment by 2 bytes because `int` is also of 2 bytes.

Functions in C

Introduction to Functions (user-defined-functions-in-c.php)

Types of Function calls (types-of-function-calls.php)

Passing Array to function (array-in-function-in-c.php)

Structures in C

Introduction to Structures (structures-in-c.php)

Typedef (typedef.php)

Unions (unions-in-c.php)

Pointers in C

Pointers concept (pointers-in-c.php)

Declaring and initializing pointer (declaring-and-initializing-pointer.php)

Pointer to Array (pointers-with-array.php)

Pointer to Structure (pointers-to-structure-in-c.php)

Pointer Arithmetic (pointer-arithmetic-in-c.php)

Pointer with Functions (pointer-with-function-in-c.php)

Advanced Topics in C

File Input / Output (file-input-output.php)

Error Handling (error-handling-in-c.php)

Dynamic memory allocation (dynamic-memory-allocation-in-c.php)

Command line argument (command-line-argument.php)

C programs

```
float* i;
i++;
```

In this case, size of pointer is still 2 bytes. But now, when we increment it, it will increment by 4 bytes because **float** is of 4 bytes.

```
double* i;
i++;
```

Similarly, in this case, size of pointer is still 2 bytes. But now, when we increment it, it will increment by 8 bytes because its data type is **double**.

32 bit Machine (Visual Basic C++)

The concept of pointer arithmetic remains exact same, but the size of pointer and various datatypes is different in a 32 bit machine. **Pointer in 32 bit machine is of 4 bytes.**

And, following is a table for **Size of datatypes on 32-bit Machine :**

Type	Size(bytes)
int or signed int	4
char	2
long	8
float	8
double	16

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[Next → \(pointer-with-function-in-c.php\)](#)

Find Factorial of a Number

(factorial-program.php)

Reverse a String (reverse-a-

string-program.php)

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Sum of Digits of a Number (sum-

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Sorting an Array element (sort-

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Swapping two Numbers

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(find-largest-element-using-

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Pallindrome Program

(pallindrome-program.php)

Remove Duplicate Element from

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Create and Write in File

(program-to-write-in-file.php)

List all Files in Directory

(program-to-list-files-in-

directory.php)

Find Size of a File (program-to-

find-size-of-file.php)

Copy one File data into Another

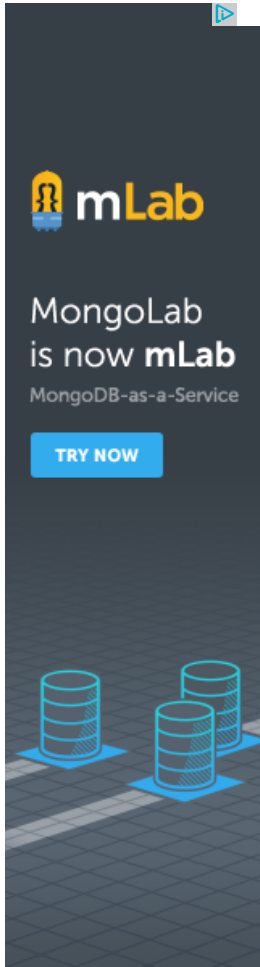
File (program-copy-file-to-

another-file.php)

Reverse Content of File

(program-to-reverse-content-of-

file.php)



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