





About Course

C is a procedural programming language with a static system that has the functionality of structured programming, recursion, and lexical variable scoping.

C was created with constructs that transfer well to common hardware instructions. It has a long history of use in programs that were previously written in assembly language.

C LANGUAGE

CURRICULUM

① Introduction and First Program

Why Programming
History of C Language
Hello World Program

② Variables and Data types

Identifiers in C
Variables and DataTypes
Constants

③ Console IO Operations

Printf and Scanf
Unformatted IO Functions

④ Operators and Expressions

Expressions and Arithmetic Operators
Relational and Logical Operators
Bitwise Operators

5 Control Flow Statements

If Statement

Switch Statement

Unconditional Branching using goto statement

While Loop

Do While Loop

For Loop

Break and Continue

Special Cases

6 Working with Functions

Introduction and Writing Functions

Scope of Variables, Storage Classes, Pass by Value and reference

Recursion

7 Working with Arrays

Arrays Declaration and Initialization

Sample Programs using Arrays

Arrays as Function Parameters

2-Dimensional Array

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Pointers

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Pointers as Function Parameter

Pointer Arithmetic

Pointers and Arrays

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Dynamic Memory Allocation using malloc
calloc and comparison with malloc

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String Handling

Introduction to Strings

Sample Program

More Sample Programs

Standard String Library Functions

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Structures and Unions

Declaring and Instantiating Structures

Structure as Parameter and Pointer to Structure

Enumerated Data Type

Union

Bit Fields



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File Handling

What is a Stream

File Handling-Writing and Reading Characters

Writing and Reading Structure in Text Format

Writing and Reading in Binary Format

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Pre-Processor Directives

Understanding Pre-Processor directives

Header Files and Project

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Command Line Arguments and Variable Arguments

Command Line Argument

Variable Number of Arguments

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Searching and Sorting

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Iterative Binary Search

Recursive Binary Search

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Selection Sort

Insertion Sort

Quick Sort

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Stack Using Linked List

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Queue Using Linked List

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Linked List

Introduction to Linked List

Single Linked List

Double Linked List

Circular Linked List

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Trees

Introduction to Trees

Programming Tree - 1

Programming Tree - 2



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