

C Programming

Duration: 40 Hours

Prerequisites

- Computer Fundamentals

Course Contents

1. Introduction to C

- Features of C
- Applications of C
- Programming Language Classification

2. Keywords, Constants and Variables

- Tokens in C
- Variables
- Constants

3. Data Types in C

- Primary Data Types
- Secondary Data Types
- Types of Instruction in C

4. Operator and Expressions

- Arithmetic & Relational Operator
- Logical Operator
- Increment and Decrement Operator
- Assignment Operator
- Size of Operator
- Type Conversion

5. Control Structure

- Conditional Control Structure
- Iterative Control Structures
- Jumping Control Structures
- Multiway Control Structures

6. Storage Classes

- Automatic Storage Class
- Static Storage Class
- External Storage Class
- Register Storage Class

7. Functions

- Defining a Function
- Working of a Function
- Types of Function
- Recursive Function

8. Pointers

- Use of Pointer
- Declaration of Pointer
- Call by Reference
- Operation on Pointers
- Dereferencing of Pointer
- Pointer to Pointer
- Pointer to Function

9. Arrays

- Classification of Arrays
- One-Dimensional Arrays
- Multi-dimensional Arrays
- Arrays and Functions
- Array of Pointers
- Limitations of an Array
- Applications of an Array

10. Structure

- Defining Structure
- Declaring Structure Variable
- Initializing Structure Variable
- Accessing Structure Elements
- Nested Structure
- Array of Structures
- Pointers to Structures
- Passing Structure to Function
- Union

11. String Handling

- Declaration of String
- Initialization of String
- Reading String from Terminal
- Reading Line of Text
- Writing String to Screen
- String Handling Functions
- Other String Functions

12. Preprocessor Directives

- Introduction to Pre-processor
- Working of Pre-Processor
- Types of Pre-processor Directives

13. File Management in C

- Introduction to File
- Types of File
- Basic Operation on File

14. Dynamic Memory Allocation

- Dynamic Memory Allocation Functions
 - Dynamic Data Structures
 - Classification of Data Structure
 - Introduction to Linked List
 - Advantages & Drawbacks of Linked List
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