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**VIJAY KUMAR CHIRUTHA  
SOFTWARE COURSES**



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**81431 86860**

### MODULE 1: INTRODUCTION TO C PROGRAMMING

- Overview of programming languages
- Features of C
- Setting up development environment (IDE / Compiler)
- Structure of a C program
- Writing first C program (“Hello World”)
- Compilation, execution, and debugging

### MODULE 3: FUNCTIONS IN C

- Defining and calling functions
- Function parameters and return types
- Recursion
- Storage classes: auto, static, extern, register
- Scope rules and global vs local variables

### MODULE 2: BASIC C CONCEPTS

- Variables and data types
- Constants and literals
- Operators: Arithmetic, Relational, Logical, Bitwise, Assignment
- Input/Output using printf and scanf
- Conditional statements: if, if-else, switch
- Loops: for, while, do-while

### MODULE 4: ARRAYS AND STRINGS

- One-dimensional and multi-dimensional arrays
- Array operations: insertion, deletion, traversal
- String handling: strlen, strcpy, strcmp, strcat
- String manipulation and processing

### MODULE 5: POINTERS IN C

- Introduction to pointers
- Pointer arithmetic
- Pointers and arrays
- Pointers to functions
- Dynamic memory allocation: malloc, calloc, free
- Pointers to structures

### MODULE 7: FILE HANDLING IN C

- File operations: open, read, write, close
- Text vs binary files
- File pointers and functions: fopen, fclose, fread, fwrite
- File handling for data persistence

### MODULE 6: STRUCTURES AND UNIONS

- Defining and using structures
- Array of structures
- Nested structures
- Unions and differences from structures
- Enumerations and typedef

### MODULE 8: INTRODUCTION TO C++

- Overview of C++ and its features
- Differences between C and C++
- Object-Oriented Programming (OOP) concepts
- Setting up C++ environment

### MODULE 9: C++ BASICS

- Variables, data types, and operators
- Input/Output using cin and cout
- Conditional statements and loops in C++
- Functions in C++ and inline functions
- Function overloading

### MODULE 11: ADVANCED OOP CONCEPTS

- Inheritance: single, multiple, multilevel, hierarchical
- Polymorphism: compile-time (function & operator overloading) and runtime (virtual functions)
- Encapsulation and abstraction
- Friend functions and classes

### MODULE 10: OBJECT-ORIENTED PROGRAMMING IN C++

- Classes and objects
- Constructors and destructors
- Access specifiers: private, public, protected
- Member functions and data members
- this pointer
- Static members

### MODULE 12: C++ ADVANCED FEATURES

- Templates: function and class templates
- Exception handling: try, catch, throw
- Namespaces
- Standard Template Library (STL): Vector, List, Map, Set
- Iterators and algorithms

### MODULE 13: FILE HANDLING IN C++

- File streams: ifstream, ofstream, fstream
- Reading and writing text and binary files
- File pointers and modes
- Error handling in file operations

### MODULE 14: SAMPLE REAL-TIME PROJECTS

- C Project
- C++ Project
- Implementing OOP concepts, file handling, and data structures
- Debugging and testing project applications

### MODULE 15: INTERVIEW PREPARATION & CAREER GUIDANCE

- Common C & C++ interview questions
- Coding exercises and problem-solving
- Data structures & algorithms basics for interviews
- Resume preparation and mock interviews



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# About US

- We are Providing the Software Courses for both Online and Offline
- We have well Experienced and Real Time Trainers
- We give the best content to cover all your course syllabus and its practical knowledge
- We give 2 to 3 Assignments to our students which helps the more interactivity with course and its practical real time scenario knowledge
- We explains the 2 to 3 projects and letting the students to know to how to do real time projects once they get selected



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# THANK YOU SO MUCH

## CONTACT US

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