

Chapter 1: Introduction

You will learn:

- History and background of the C language.
- Steps which comprise the basic load module creation steps - editor, compile, link, workbench, etc.
- Concept of a preprocessor.
- Implementation of a C program and structure.
- Concept of a function.
- Rules of comments, identifiers and escape sequences.

Chapter 2: Datatypes in C

You will learn:

- Different data types and the associated advantages and disadvantages.
- How to declare a variable and where to place the declarations.
- How to recognize the number of bytes for each declaration.
- Ranges of value for each declaration.
- Coding of constants, including hex and octal.

Chapter 3: Operators and Expressions

You will learn:

- Basic operators and how the operators can be used.
- Pitfalls of certain operators such as the difference between = and == .
- Statements - while, for, do.
- Differences between the increment and addition operators.
- Differences between a character and string.
- Rules of precedence in C.
- Logical AND and OR.

Chapter 4: Simple I/O Operations

You will learn:

- Difference between characters and strings.
- Keyboard and screen commands.
- Declaration of a string and simple string.
- Comparison functions - strcmp() and strlen().
- Formatted I/O - print() and scanf().

Chapter 5: Major Program Statements

You will learn:

- C programming statements.
- C programming techniques.
- Differences between simple and compound statements.
- Structured programming techniques.
- Implement statements that terminate loops and programs.

Chapter 6: Aggregate Datatypes

You will learn:

- Declaration and use of an array.
- Define constant for declaring an array.
- Amount of storage required and the storage layout of an array.
- Array initialization techniques.
- Creation and use of multi-dimensional arrays.
- Defining and declaring a structure.
- Initialization and referencing of structure members.
- Creation of a structured array.

Chapter 7: Function and Storage Classes

You will learn:

- Program structure.
- How to code functions.
- Pass values to functions and return a value.
- Reasons for using functions.
- Writing prototypes.
- Appreciate the scope, visibility, and lifetime of a variable.
- Storage classes.
- Creating a string with an array.

Chapter 8: Pointer Processing Arrays and Strings

You will learn:

- Differences between passing by reference and value.
- Passing pointers, arrays, and structures.
- Accessing command arguments and environmental variables.

Chapter 9: Functions, Pointers, and Aggregates

You will learn:

- Differences between passing by reference and value.
- Pass pointers, arrays, and structures.
- Access command arguments and environmental variables.

Chapter 10: Basic File I/O

You will learn:

- Types of I/O and file formats.
- I/O header files.
- Stream I/O using fread, fwrite, fgets, fputs, and fprintf.
- How to open and close a file.