

Chapter 1: Introduction and Review

You will learn:

- Program structure.
- Program statements.
- Datatypes.
- Pointers.
- Arrays.
- Structures.
- Function breakdown.

Chapter 2: Preprocessor Techniques

You will learn:

- Concepts.
- Macro expansion.
- C preprocessor commands.
- Macros versus functions.
- Manifest constants.
- Macros with parameters.
- Conditional compilation.
- Header and other include commands.
- Message pragma.
- Preprocessor directives.

Chapter 3: Data Types and Storage Classes

You will learn:

- Typedefs.
- Enumerated sets.
- Unions and nit usage.
- Referencing structure members.
- Self-referential structures.
- Type conversions and casting.
- Void data type.
- The const specifier variable type.
- The volatile specifier variable type.
- Storage classes.
- Scope.

Chapter 4: Pointers, Arrays, and Structures

You will learn:

- Storage classes and array initialization.
- Pointers
- Assignment of pointers and address.
- Precedence and pointers.
- Pointer and strings.
- Arrays of pointers.
- Pointers to functions.
- Multi-dimensional arrays.
- Structures and pointers.
- Structure referencing.

Chapter 5: Memory Management and Linked Lists

You will learn:

- Memory usage during program execution.
- stacks.
- Allocating memory.
- Dynamically sized arrays.
- Strategy of dynamic memory allocation
- Linked list.

Chapter 6: Input/Output Processing

You will learn:

- Files and streams.
- I/O functions.
- Predefined stream pointers.
- Predefined file handles.
- Text vs binary.
- File pointers.
- File structure.

Chapter 7: Standard Library Functions

You will learn:

- General facilities.
- Frequently used C library functions.
- String processing.
- C string I/O library functions.
- Character processing.
- Memory/buffer.
- Control and miscellaneous.

Chapter 8: Command Line Processing/Environment

You will learn:

- main() function.
- Argument description.
- Rules for parsing command line arguments.
- Customizing command line processing.
- getenv() function.
- putenv() function.
- system() function.

Chapter 9: Sparse-Array Processing

You will learn:

- Purpose and function.
- Spreadsheets and sparse array processing.
- Linked-list approach to sparse arrays.
- Hashing approach to sparse arrays.
- Choosing an approach.