

Chapter 1 Intro

1. Introduction
2. Lexical Conventions
3. Syntax Notation
4. Meaning of Identifiers
5. Objects and Lvalues
6. Conversions
7. Expressions
8. Declarations
9. Statements
10. External Declarations
11. Scope and Linkage
12. Preprocessor
13. Grammar

Chapter 2 Standard Library

1. Input and Output: <stdio.h>
1. File Operations
2. Formatted Output
3. Formatted Input
4. Character Input and Output Functions
5. Direct Input and Output Functions
6. File Positioning Functions
7. Error Functions
2. Character Class Tests: <ctype.h>
3. String Functions: <string.h>
4. Mathematical Functions: <math.h>
5. Utility Functions: <stdlib.h>
6. Diagnostics: <assert.h>
7. Variable Argument Lists: <stdarg.h>
8. Non-local Jumps: <setjmp.h>
9. Signals: <signal.h>
10. Date and Time Functions: <time.h>
11. Implementation-defined Limits: <limits.h> and <float.h>

Chapter 2: Types, Operators and Expressions

1. Variable Names
2. Data Types and Sizes
3. Constants
4. Declarations
5. Arithmetic Operators
6. Relational and Logical Operators
7. Type Conversions
8. Increment and Decrement Operators
9. Bitwise Operators
10. Assignment Operators and Expressions

- 11. Conditional Expressions
- 12. Precedence and Order of Evaluation
- 3. Chapter 3: Control Flow
 - 1. Statements and Blocks
 - 2. If-Else
 - 3. Else-If
 - 4. Switch
 - 5. Loops- While and For
 - 6. Loops- Do-While
 - 7. Break and Continue
 - 8. Goto and labels

Chapter 3: Control Flow

- 1. Statements and Blocks
- 2. If-Else
- 3. Else-If
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- 5. Loops- While and For
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- 8. Goto and labels
- 4. Chapter 4: Functions and Program Structure
 - 1. Basics of Functions
 - 2. Functions Returning Non-integers
 - 3. External Variables
 - 4. Scope Rules
 - 5. Header Files
 - 6. Static Variables
 - 7. Register Variables
 - 8. Block Structure
 - 9. Initialization
 - 10. Recursion
 - 11. The C Preprocessor
 - 11.1. File Inclusion
 - 11.2. Macro Substitution
 - 11.3. Conditional Inclusion

Chapter 5: Pointers and Arrays

- 1. Pointers and Addresses
- 2. Pointers and Function Arguments
- 3. Pointers and Arrays
- 4. Address Arithmetic
- 5. Character Pointers and Functions
- 6. Pointer Arrays; Pointers to Pointers
- 7. Multi-dimensional Arrays
- 8. Initialization of Pointer Arrays
- 9. Pointers vs. Multi-dimensional Arrays
- 10. Command-line Arguments
- 11. Pointers to Functions

12. Complicated Declarations

6. Chapter 6: Structures

1. Basics of Structures
2. Structures and Functions
3. Arrays of Structures
4. Pointers to Structures
5. Self-referential Structures
6. Table Lookup
7. Typedef
8. Unions
9. Bit-fields

Chapter 7: Input and Output

1. Standard Input and Output
2. Formatted Output- printf
3. Variable-length Argument Lists
4. Formatted Input- Scanf
5. File Access
6. Error Handling- Stderr and Exit
7. Line Input and Output
8. Miscellaneous Functions
 - 8.1. String Operations
 - 8.2. Character Class Testing and Conversion
 - 8.3. Ungetc
 - 8.4. Command Execution
 - 8.5. Storage Management
 - 8.6. Mathematical Functions
 - 8.7. Random Number generation

Chapter 8: The UNIX System Interface

1. File Descriptors
2. Low Level I/O- Read and Write
3. Open, Creat, Close, Unlink
4. Random Access- Lseek
5. Example- An implementation of Fopen and Getc
6. Example- Listing Directories
7. Example- A Storage Allocator