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Unit 1: Functions

Types of Functions

- Defining Function
- Arguments
    - Actual Parameter
    - Formal Parameter
- Function Prototype
- Calling Function
- Re-enter Function
- Parameter Passing Mechanism
    - Call by Value
    - Call by Reference
- Recursion

Unit 2: Structures, Unions, and Pointers

Structures

- Introduction
- Declaration and Initialization
- Structure Members
- Nested Structures
- Array of Structures
- Typedef Statement
- Enumerated Datatypes

Unions

- Declaration
- Differences Between Structures and Unions

Pointers

- Introduction
- Address (`&`) and Indirection (`*`) Operators
- Declaration and Initialization of Pointers
- Pointer Expressions and Pointer Arithmetic
- Pointer to Pointer
- Dynamic Memory Allocation in C
    - `malloc()`
    - `calloc()`
    - `free()`
    - `realloc()`

Unit 3: Storage Classes, Preprocessor, and File Handling

Storage Classes

- Scope, Visibility, and Lifetime of Variables
- Blocks and Files

Preprocessor and Directives

- Preprocessor
- Preprocessor Directives
- Conditional Compiler Directives
- Macros

File Handling

- Introduction to File Handling
- Opening and Closing Files
- Types of Files
  - Text Files
  - Binary Files
- File Operations
  - `getch()`
  - `put()`
  - `printf()`
  - `fscanf()`
  - `fread()`
  - `fwrite()`
- Writing and Reading Records
  - From Text Files
  - From Binary Files
- Advanced File Handling
  - Appending, Modifying, and Deleting Records from Random Access Files
  - Functions: `rewind()`, `flushall()`, `remove()`, `rename()`