

# C Programming

## **1. Basics**

1.1 Syntax

1.2 Data Types

1.3 Operators

## **2. Control Statements**

2.1 if-else

2.2 switch

2.3 loops

2.3.1 for loop

2.3.2 while loop

2.3.3 do-while loop

## **3. Functions**

3.1 Built-in Functions

3.2 User-defined Functions

3.3 Recursion

## **4. Pointers**

4.1 Pointer Basics

4.2 Pointer Arithmetic

4.3 Pointers and Arrays

## **5. Arrays**

5.1 One-Dimensional Arrays

5.2 Two-Dimensional Arrays

5.3 Multi-Dimensional Arrays

## **6. Structures**

### 6.1 Structure Basics

### 6.2 Nested Structures

## **7. File Handling**

### 7.1 File Reading

### 7.2 File Writing

### 7.3 File Modes

## **8. Advanced Topics**

### 8.1 Dynamic Memory Allocation

### 8.2 Linked Lists

### 8.3 Preprocessors