

Programming in 'C'

Introduction of Programming Languages:-

- Types of Languages
- Evolution of 'C' Language
- Structure of a 'C' Program
- 'C' Program development life cycle
- Executing and Debugging a 'C' Program

Control Statement and Expressions:

- Decision Making using if statement
- Types of if ...else block
- Switch case Block
- Arithmetic Expressions
- Evaluation of Expressions
- goto statement

'C' Tokens:-

- Keywords and Identifiers
- Operators
- Constants
- Variables
- Data Types
- Precedence of Operators
- Scope and Lifetime of Variables

Looping:-

- Concept of Loop
- For loop
- While loop
- Do while loop
- Jumping in Loop
- break and continue statement

Arrays and String

- Functions
- Introduction of Array
- One - D Array
- Two - D Array
- Mutlidimensional Array
- Dynmaic Arrays
- Implementing String Variables
- String handling Functions

Concept of Function

- User defined Function
- System Defined Function
- Types of parameter passing in function

Pointers

- Need of Pointers
- Types of Pointers
- Pointer Expression
- Arrays of Pointers
- Pointers and Functions

Structure and Unions

- Need of Structure
- Implementing Structure Variable
- Arrays of Structure
- Structure within Structure
- Introduction of Unions
- Difference between Structure and Unions
- Introduction to Object Oriented Programming

Programming in 'C++'

Introduction to Object Oriented Programming

- Concept of OOP
- Features of OOP
- Introduction of 'C++'
- Structure of 'C++' program
- Executing and Debugging a 'C++' Program

'C++' Tokens and Type Casting

- Keywords and Identifiers
- Operators
- Constants
- Variables
- Data Types
- Precedence of Operators
- Scope and Lifetime of Variables

Constructors and Destructor:-

- Concept of Constructor
- Types of Constructors
- Memory allocation (new and delete)
- Usage of destructor

Operator Overloading

- Overloading Unary and Binary operators
- Overloading using friend function

Inheritance

- Types of inheritance
- Virtual base classes and abstract base classes
- Constructor and destructor in derived class

Working with files

- File operations
- File pointer and their manipulation
- File updation with random access

Exception Handling

- Various Exception Handling classes
- Implementing try and catch block
- Use of throw keyword

Introduction to Templates

- Class templates, function templates and
- overloading of function templates
- Standard Template Library (STL)
- Run Time Type Identification (RTTI)