

C++ Language

FOR 30 DAYS COURSE (45 HOURS)

C++ Overview

- C++ Characteristics
- Object-Oriented Terminology
- Polymorphism
- Object-Oriented Paradigm
- Abstract Data Types
- I/O Services
- Standard Template Library
- Standards Compliance

Functions and Variables:

- Functions: Declaration and Definition
- Variables: Definition, Declaration, and Scope
- Variables: Dynamic Creation and Derived Data
- Arrays and Strings in C++
- Qualifiers

Scope Resolution Operator:

- Calling using Scope.
- Member Function Accessing Using Scope
- Data Types Accessing using Scope

Classes in C++:

- Defining Classes in C++
- Classes and Encapsulation
- Member Functions
- Instantiating and Using Classes
- Using Constructors
- Multiple Constructors and Initialization Lists
- Using Destructors to Destroy Instances
- Friendship

Initialization and Assignment:

- Initialization vs. Assignment
- The Copy Constructor
- Assigning Values
- Specialized Constructors and Methods
- Constant and Static Class Members

ADDITIONAL TOPICS FOR 60 DAYS COURSE (90 HOURS)

Polymorphism:

- Overview of Polymorphism.
- Types of Polymorphism
- Static Polymorphism.
- Dynamic Polymorphism

Operator Overloading:

- Operator Overloading
- Working with Overloaded Operator Methods

Storage Management:

- Memory Allocation
- Dynamic Allocation: new and delete

Inheritance:

- Overview of Inheritance
- Types Of Inheritance
- Constructor and Destructor Calls

Input and Output in C++ Programs

- Standard Streams
- Manipulators
- Unformatted Input and Output
- File Input and Output

Exceptions

- Exceptions
- Inheritance and Exceptions
- Exception Hierarchies
- Inside an Exception Handler

Functions

- Friend Function
- Static Function
- Constant Function
- Inline Function
- Parameter Function

Templates

- Template Overview
- Customizing a Templated Method
- Standard Template Library Containers