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Object Oriented
Programming with C++

Course Overview

The C++ course provides a thorough overview of the C++ programming language. It covers topics such as syntax, data types, control structures, functions, classes, inheritance, polymorphism, templates, and file handling. Students will gain hands-on experience through coding exercises and projects, equipping them with the skills to develop scalable and high-performance applications.

Course Objective List

The objective of the C++ course is to provide a comprehensive understanding of the C++ programming language, its syntax, and its usage in developing efficient and robust applications. Students will learn key concepts such as object-oriented programming, memory management, and file handling, enabling them to create complex software solutions.

What will you learn

Upon completing the beginners level C++ course, students will achieve proficiency in C++ programming, with a solid understanding of syntax, data types, control structures, functions, and arrays. They will develop problem- solving skills, enabling them to break down problems and implement efficient solutions using C++. Students will also gain a basic understanding of object-oriented programming, including classes, objects, and inheritance. They will acquire debugging and troubleshooting skills to identify and fix errors in their code. Through coding exercises and projects, students will gain hands-on experience and confidence in writing clean and error-free C++ programs, preparing them for advanced C++ concepts.

Skills List

- Understanding of Classes and Objects
- Knowledge of Abstraction
- Implementation of Encapsulation
- Application of Inheritance (single, multiple, hierarchical, hybrid)
- Mastery of Polymorphism (compile-time & runtime)

Program Highlights

Curriculum

Module 1 - C++ Fundamentals	-Introduction to C++ -Building Blocks of 'C++' Language -Data Types in 'C++' Language -Structure of a C++ Program -Variables and Constants -Input and Output Operations -Comments in C++ -Operators in C++
Module 2 - C++ Control Flow	-Control Statements in C++ (Branching) -Control Statements in C++ (Looping) -Break and Continue Statements in C++ -Practical Questions based on Control Statements
Module 3 - C++ Control Flow	-Functions in C++ -Arrays in C++
Module 4 - C++ Object-Oriented Programming Approach	-OOP Concepts -Classes and Objects in C++ -Constructors in C++ -Inheritance in C++ Introduction -Single Inheritance Practical -Multilevel and Multiple Inheritance Practical -Polymorphism in C++ -Abstraction in C++
Module 5 - File Handling and Pointer Introduction	-File streams in C++ -Pointers in C++