



Week 1: Introduction to C++ Programming

- Overview of C++ programming language
- Setting up a C++ programming environment
- Basic program structure and syntax

Week 2: Data Types and Variables

- Understanding data types in C++
- Declaring and initializing variables
- Basic arithmetic and logical operators

Week 3: Conditional Statements

- Using if-else statements in C++
- Switch statements and conditional operators

Week 4: Loops and Iteration

- Introduction to loops in C++ (for, while, do-while)
- Loop control statements (break, continue)
- Nested loops and iteration

Week 5: Functions and Modular Programming

- Creating and calling functions in C++
- Passing arguments to functions
- Understanding function return values

Week 6: Object-Oriented Programming (OOP) Concepts

- Introduction to OOP

- Understanding classes and objects in C++
- Encapsulation, inheritance, and polymorphism

Week 7: Pointers and Memory Management

- Pointers and memory addresses in C++
- Dynamic memory allocation and deallocation
- Pointers to functions and objects

Week 8: Advanced C++ Programming

- Templates and generic programming
- Exception handling in C++
- Standard Template Library (STL) containers and algorithms

Week 9: File Input and Output

- Reading from and writing to files in C++
- Understanding file I/O streams
- Error handling and file management

Week 10: Advanced Topics in C++

- C++11 and C++14 features and updates
- Introduction to multi-threading in C++
- Advanced data structures and algorithms