

C++

Duration: 40 Hrs

Topics:

1. C++ Basic

- 1.1. C++ Intro
- 1.2. C++ Get Started
- 1.3. C++ Syntax
- 1.4. C++ Output
- 1.5. C++ Comments
- 1.6. C++ Variables
- 1.7. C++ User Input
- 1.8. C++ Data Types
- 1.9. C++ Operators
- 1.10. C++ Strings
- 1.11. C++ Math
- 1.12. C++ Booleans
- 1.13. C++ Conditions
- 1.14. C++ Switch
- 1.15. C++ While Loop
- 1.16. C++ For Loop
- 1.17. C++ Break/Continue

2. Friend Functions

- 2.1. Granting friendship to a function
- 2.2. Granting friendship to another class

3. Operator Overloading

- 3.1. Rules for overloading an operator
- 3.2. Unary operator overloading
 - 3.2.1. Through member function
 - 3.2.2. Through friend function
- 3.3. Overloading Increment/Decrement Unary Operators
- 3.4. Binary Operator Overloading
 - 3.4.1. Through Member Function
 - 3.4.2. Through friend Function
- 3.5. Overloaded Subscript Operator

4. Function

- 4.1. Function Object

5. Smart Pointer

6. Exception Handling

- 6.1. What is an exception?
- 6.2. How to handle an exception?
- 6.3. How to throw an exception
- 6.4. How to catch an exception
- 6.5. Using multiple throw and catch statements

7. Inheritance Revisited

- 7.1. Multiple Inheritance
- 7.2. Hybrid Inheritance
- 7.3. Virtual Base Class
- 7.4. Ambiguities in Multiple Inheritance

8. Templates

- 8.1. Function Templates
- 8.2. How to write a function template?
- 8.3. Overloading a function template
- 8.4. Class Templates

9. Namespaces

- 9.1. using keyword
- 9.2. Nested namespaces

10. File Input / Output

- 10.1. Formatted I/O
- 10.2. File I/O

11. Casting Operators

- 11.1. static_cast
- 11.2. dynamic_cast
- 11.3. reinterpret_cast
- 11.4. const_cast

12. RTTI – Run Time Type Information

13. The string Class

14. Introduction to STL – Standard Template Library

- 14.1. Container, Iterator, Algorithm

- 14.2. vector
- 14.3. map