Introduction to Modern C++

Created on March 16, 2023

The Qt, OpenGL and C++ Experts
Introduction to C++

- A whirlwind tour of C++
- What is C++?
  - Hello, world!

C++ Fundamentals

- Control flow
  - Control flow
  - Selection statements
  - Iteration statements
  - Jump statements

- Data types
  - Fundamental types
  - Derivative types

- Functions
  - Functions in C++
  - Function overloading

- Objects
  - Object Declarations
  - Object Lifetime

User-defined Types

- Classes
  - Introduction to Classes
  - Construction, destruction and assignment
  - Static members
  - Inheritance and runtime polymorphism
C++ Standard Library

- Introduction
- Containers
  - std::vector
  - std::map
  - std::unordered_map
- Iterators
- Algorithms

Optional topics

- Exceptions
- Lambdas
- Templates
  - Introduction
  - Templates
- Rvalue References
- Namespaces
- Operator Overloading
- Static Lifetime
- User declared types
  - Enumerations
  - Type aliases
- Smart Pointers
- The C++ Compilation Model