

NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Computer Science and Engineering - NOC:Programming in Modern C++

Subject Co-ordinator - Prof. Partha Pratim Das

Co-ordinating Institute - IIT - Kharagpur

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 1 - Course Outline
Lecture 2 - Quick Recap 01: Recap of C/1
Lecture 3 - Quick Recap 02: Recap of C/2
Lecture 4 - Course Overview
Lecture 5 - IO and Loop
Lecture 6 - Arrays and Strings
Lecture 7 - Sorting and Searching
Lecture 8 - Stack and Common Data Structures/Containers
Lecture 9 - Tutorial 1: How to build a C/C++ program?: Part 1: C Preprocessor (CPP)
Lecture 10 - Constants and Inline Functions
Lecture 11 - Reference and Pointer
Lecture 12 - Default Parameters and Function Overloading
Lecture 13 - Operator Overloading
Lecture 14 - Dynamic Memory Management
Lecture 15 - Tutorial 2: How to build a C/C++ program?: Part 2: Build Pipeline
Lecture 16 - Static Members
Lecture 17 - Classes and Objects
Lecture 18 - Access Specifiers
Lecture 19 - Constructors, Destructors and Object Lifetime
Lecture 20 - Copy Constructor and Copy Assignment Operator
Lecture 21 - Const-ness
Lecture 22 - Tutorial 3: How to build a C/C++ program?: Part 3: make Utility
Lecture 23 - Static Members
Lecture 24 - Friend Function and Friend Class
Lecture 25 - Overloading Operator for User-Defined Types: Part 1
Lecture 26 - Overloading Operator for User-Defined Types: Part 2
Lecture 27 - Namespace
Lecture 28 - Tutorial 4: How to build a C/C++ program?: Part 4: Static and Dynamic Library
Lecture 29 - Inheritance: Part 2 (Data Member and Member Function - Override and Overload)

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- Lecture 30 - Inheritance: Part 3 (Constructor and Destructor - Object Lifetime)
- Lecture 31 - Inheritance: Part 4: Phone Hierarchy
- Lecture 32 - Inheritance: Part 5: private and protected Inheritance
- Lecture 33 - Tutorial 5: Mixing C and C++ Code: Part 1: Issues and Resolutions
- Lecture 34 - Polymorphism: Part 1: Type Casting
- Lecture 35 - Polymorphism: Part 2: Static and Dynamic Binding
- Lecture 36 - Polymorphism: Part 3: Abstract Base Class
- Lecture 37 - Polymorphism: Part 4: Staff Salary Processing using C
- Lecture 38 - Polymorphism: Part 5: Staff Salary Processing using C++
- Lecture 39 - Tutorial 6: Mixing C and C++ Code: Part 2: Project Example
- Lecture 40 - Virtual Function Table
- Lecture 41 - Type Casting and Cast Operators: Part 1
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- Lecture 43 - Type Casting and Cast Operators: Part 3
- Lecture 44 - Multiple Inheritance
- Lecture 45 - Tutorial 7: How to design a UDT like built-in types?: Part 1: Fraction UDT
- Lecture 46 - Exceptions (Error handling in C): Part 1
- Lecture 47 - Exceptions (Error handling in C++): Part 2
- Lecture 48 - Template (Function Template): Part 1
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- Lecture 50 - Functors: Function Objects
- Lecture 51 - Tutorial 8: How to design a UDT like built-in types?: Part 2: Int and Poly UDT
- Lecture 52 - Input-Output: File Handling in C
- Lecture 53 - Input-Output: Streams in C++
- Lecture 54 - C++ Standard Library: Part 1 (Generic Programming)
- Lecture 55 - C++ Standard Library: Part 2 (STL)
- Lecture 56 - C++ Standard Library: Part 3 (STL)
- Lecture 57 - Tutorial 9: How to design a UDT like built-in types?: Part 3: Updates and Mixes of UDTs
- Lecture 58 - C++11 and beyond: General Features: Part 1
- Lecture 59 - C++11 and beyond: General Features: Part 2
- Lecture 60 - C++11 and beyond: General Features: Part 3
- Lecture 61 - C++11 and beyond: General Features: Part 4: Rvalue and Move/1
- Lecture 62 - C++11 and beyond: General Features: Part 5: Rvalue and Move/2
- Lecture 63 - Tutorial 10: How to optimize C++11 programs using Rvalue and Move Semantics?
- Lecture 64 - C++11 and beyond: General Features: Part 6: Rvalue and Perfect Forwarding
- Lecture 65 - C++11 and beyond: General Features: Part 7: Lambda in C++/1
- Lecture 66 - C++11 and beyond: General Features: Part 8: Lambda in C++/2
- Lecture 67 - C++11 and beyond: Class Features
- Lecture 68 - C++11 and beyond: Non-class Types and Template Features

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- Lecture 69 - Tutorial 11: Compatibility of C and C++: Part 1: Significant Features
- Lecture 70 - C++11 and beyond: Resource Management by Smart Pointers: Part 1
- Lecture 71 - C++11 and beyond: Resource Management by Smart Pointers: Part 2
- Lecture 72 - C++11 and beyond: Concurrency: Part 1
- Lecture 73 - C++11 and beyond: Concurrency: Part 2
- Lecture 74 - Closing Comments
- Lecture 75 - Tutorial 12: Compatibility of C and C++: Part 2: Summary