



Kursus
5 dage
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Dato
22-04-2024
09-09-2024
02-12-2024

Sted
Taastrup
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C++ Programming

Kom hurtigt i gang med programmering i C++. På dette kursus lærer du at udvikle C++ programmer og implementere objektorienterede koncepter i C++. Du forventes at have programmeringserfaring fra et andet sprog, men ikke nødvendigvis erfaring med OO. Undervisningen foregår på engelsk.

Deltagerprofil

Dette kursus er for dig som gerne vil lære at programmere i C++.

Forudsætning

Det forventes, at du har mindst seks måneders erfaring med programmering. Der forventes ingen erfaring med OO.

Udbytte

- Understanding C++ types, variables, and operators
- Using C++ flow-of-control constructs
- Writing and calling functions
- Using pointers, arrays, and structures
- Defining classes and creating objects
- Implementing operators and conversions



- Using inheritance and polymorphism effectively

Det får du på arrangementet

- Kursusbevis
- Erfaren underviser
- Fuld forplejning
- Gratis parkering
- Materiale på engelsk
- Undervisning på engelsk

Indhold

Introduction to C++

- Key features of C++
- Defining variables
- Formulating expressions and statements
- Built-in data types
- Console input/output

Operators and Types

- Assignment
- Compound Assignment
- Increment and decrement operators
- Const declarations
- Type conversions

Going Further with Data Types

- Enumerations
- Arrays
- Using the standard vector class
- Using the standard string class
- Structures

Flow of Control

- Decision making with if, if-else, and switch
- Looping with for loops, while loops, and do-while loops

Defining functions

- Declaring, calling and defining functions
- Function overloading
- Defining default arguments
- Pass-by-copy versus pass-by-reference
- Defining inline functions
- Header files and source files

Pointers

- Overview of pointers
- Defining pointers
- Dereferencing pointers
- Const pointers
- Null pointers



Overview of Object Oriented Concepts

- Classes and objects
- Abstraction
- Encapsulation
- Inheritance and polymorphism

Defining Classes

- Syntax of class declarations
- Public and private members
- Creating objects
- Using new and delete
- Structures vs. classes

Implementing Class Functionality

- Function overloading
- Default arguments
- Anonymous arguments
- Ambiguities
- Resolving scope conflicts
- Using the this pointer

Defining Constructors and Destructors

- Overview of an object's lifetime
- Defining constructors
- Constructor chaining
- Defining destructors

Operator Overloading

- Overview of operator functions
- Defining unary operators
- Defining binary operators
- Defining the [] operator
- Defining input and output operators

Defining Class-Wide Members

- Overview
- Static data members
- Static member functions
- Nested types
- Friend classes

Creating Collections of Objects

- The need for collections
- Introduction to template classes
- Using vector and list
- Using iterators
- Introduction to template functions
- Using the Standard Template Library

Copying and Conversions

- The copy assignment operator
- Copy constructors



- Conversions to a class
- Conversions from a class

Inheritance

- Recap of inheritance principles
- Defining a subclass
- Defining protected members
- Scoping and initialisation
- Multiple inheritance
- Abstract base classes

Polymorphism

- Recap of polymorphism
- Defining virtual functions
- Virtual destructors
- Pure virtual functions and abstract classes

Næste kursus

[C++ Advanced programming](#) eller se også [Modern C++ Development](#).

Aktuelt online kursus

Online kurset "[C++ Programming](#)" kunne også være interessant for dig.



UNDERVISER

Andy Olsen

Andy kommer fra Storbritannien og har mere end 30 års erfaring inden for IT. Andy begyndte sin professionelle karriere som C/C++ udvikler og senere udvikling i Java, C# og andre sprog. Andy er aktivt involveret i en bred vifte af teknologier herunder Full-Stack Development, Cloud Native applikationer, Data Science og meget mere. Andy er meget engageret og brænder for at undervise.

Har du faglige spørgsmål så kontakt



Mette Rosenløv Vad
+45 72202432
mva@teknologisk.dk