

TheTestplace.com

An Introduction to C++ Programming

Description

This 5-day course teaches participants the key concepts and principles of C++.

Format

5 days 50% lecture 50% lab exercises

Participants

The course is intended as an introduction to C++ for participants with little or no C++ experience.

Prerequisites

Delegates need good general computing experience and preferably should have some programming experience. Delegates need to understand the concept of files and directories and be familiar with the use of a text editor.

Working knowledge of Windows® or Linux®/Unix® operating systems

Presentation Requirements

The maximum number of delegates for the course is 12

A room that allows delegates to both work freely at their workstation and view a screen

Direct project from computer system for Tutor for display of slides and demonstration of Programming

PC to screen projector
Whiteboard or flipchart

Course Outline

Introduction to the Course

C++ Programs

C++ history and evolution, Program Structure and Environment, Simple C++ programs

Comments, Keywords, Identifiers, C++ program life cycle, C++ development environments

Types

Numeric Data Types, Initialisation, Arithmetic operations, precedence, assignment, constants, literals, conversions

Text Data Types

Characters, wide characters, strings, general text manipulation

Control Flow

Statements, decisions, conditional statements, looping statements, structured programming

Functions and Methods

Declaring, calling and defining functions and methods in C++, passing arguments to functions by value and by reference

Arrays

Declaration, initialisation, constraints, Accessing array elements, Arrays with functions, character arrays, multidimensional arrays

Pointers

Use of pointers in C++, the concept of pointers. declaring pointers, initialising a pointer
the operators '&' and '*', manipulating pointers

Input and Output

C style Stream I/O, C++ style Stream I/O
Information Modelling - Object-Oriented Systems Analysis

Difficulties in Software Engineering, basic Ideas, abstraction, definition of an Object, attributes, objects in a C++ Program

Classes

Objects in C++, Structs and classes, class members, member functions (Methods)

On-Site Equipment Requirements

The delegates are required to have a copy of ISO/IEC 14882 : 1998 or alternatively this will be supplied at a charge of £25.00 per copy.

To deliver the course each delegate should have individual access to a system, the system shall have:

A ANSI/ISO C++ Compiler
A text editor

An Account on the system that allows a user to compile and execute programs and modify their environment variables

Winzip or equivalent

Additionally it must be possible for the course materials including lab exercises to be transferred onto the systems from an ISO 9660 CD-ROM

If no suitable equipment is available then TFJ can arrange for the hire of equipment for the duration of the course.

Course Materials

Course notes, slides and exercises are supplied in Adobe Acrobat format files (suitable for PC, Mac, and Unix)

Lab exercises are supplied in text files (Unicode UTF-8)