

<<C++标准库>>

图书基本信息

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内容概要

《C++标准库——自学教程与参考手册(第2版)英文版》第1版自1999年出版便成为全球畅销书，经久不衰。

它提供了一组通用类和接口，极大地拓展了C++核心语言。

本书在第1版的基础上，为每个库组件都提供详细全面的文档，介绍各组件的用途和设计，清晰地解释复杂的内容；阐述了高效使用所需要的实践编程细节、陷阱和缺陷、大部分重要类和函数的精确签名(signature)以及定义，而且包含丰富代码示例。

本书将重点放在标准模版库(STL)上，检查其中的容器(container)、迭代器(iterator)、函数对象(function object)和STL算法。

《C++标准库——自学教程与参考手册(第2版)英文版》涵盖了所有的新的C++11库组件，包括：并发性、分数计算、时钟和计时器、元组、新STL容器、新STL算法、新智能指针、新local方面、随机数字和分布、类型特性和通用工具、正则表达式。

除此之外，本书还解释了新的C++编程样式以及对标准库的影响，包括lambda、基于范围的for循环、移动语义和可变参数模版。

《C++标准库——自学教程与参考手册(第2版)英文版》的读者需要对类、继承、模版、异常处理和名称空间的概念有所了解(本书介绍标准组件，而非语言本身)，但也不必掌握所有的语言细节。书中见解深刻的基础概念介绍和标准库鸟瞰，可助读者快速提升。

《C++标准库——自学教程与参考手册(第2版)英文版》可兼作自修教程和标准库参考手册，不仅可用作C++高级教材，也是软件从业人员不可或缺的案头参考书。

作者简介

NiColai M.

Josuttis是一名独立的技术顾问，曾经为电信、交通、金融和制造行业设计过大中型软件系统。他还是C++标准委员会工作组的前成员，并因为编写了权威的C++图书而被人众所周知。

除了1999年出版的本书第1版（享誉全球的C++畅销图书）之外，他还是C++

Templates: The Complete Guide (Addison-Wesley, 2003)和SOA in

Practice: The Art of Distributed System Design (O ' Reilly Media,

2007)的作者。

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章节摘录

版权页：插图： The version for rvalue references can now be optimized so that its implementation steals the contents of `x`. To do that, however, we need the help of the type of `x`, because only the type of `x` has access to its internals. So, for example, you could use internal arrays and pointers of `x` to initialize the inserted element, which would be a huge performance improvement if class `x` is itself a complex type, where you had to copy element-by-element instead. To initialize the new internal element, we simply call a so-called move constructor of class `X`, which steals the value of the passed argument to initialize a new object. All complex types should-and in the C++ standard library will-provide such a special constructor, which moves the contents of an existing element to a new element: For example, the move constructor for strings typically just assigns the existing internal character array to the new object instead of creating a new array and copying all elements. The same applies to all collection classes: Instead of creating a copy of all elements, you just assign the internal memory to the new object. If no move constructor is provided, the copy constructor will be used. In addition, you have to ensure that any modification-especially a destruction-of the passed object, where the value was stolen from, doesn't impact the state of the new object that now owns the value. Thus, you usually have to clear the contents of the passed argument (for example, by assigning `nullptr` to its internal member referring to its elements). Clearing the contents of an object for which move semantics were called is, strictly speaking, not required, but not doing so makes the whole mechanism almost useless. In fact, for the classes of the C++ standard library in general, it is guaranteed that after a move, the objects are in a valid but unspecified state. That is, you can assign new values afterward, but the current value is not defined. For STL containers, it is guaranteed that containers where the value was moved from are empty afterward. In the same way, any nontrivial class should provide both a copy assignment and a move assignment operator.

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媒体关注与评论

在C++的著作当中，这本书的地位是无可替代的。

要成为合格的C++开发者，就必须掌握C++标准库，而要掌握C++标准库，这本书可以说是不二法门。

这本书最了不起的地方，就在于面对庞大复杂的C++标准库，能够抽丝剥茧，化难为易，引导读者循序渐进，深入浅出地掌握C++标准库。

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