

<<数据结构>>

图书基本信息

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内容概要

数据结构——C++版（第四版）（英文影印版）是一本基于C++的思想、介绍数据结构和算法的教材，已经在全球多个国家的大学用作数据结构课程的基础教材。

数据结构——C++版（第四版）（英文影印版）以C++语言作为实现语言，利用面向对象的方法，从规格说明出发，使用基础的数据类型来描述程序算法的设计与实现。

书中主要内容包括：软件开发的各个阶段，抽象数据类型与C++类，容器类，指针与动态数组，链表，用模板、迭代器和STL进行软件开发，堆栈，队列，递归思想，树，平衡树，查找，排序，派生类与继承，图表。

通过学习数据结构——C++版（第四版）（英文影印版），可使读者具备使用数据类型的能力，学会利用多种方法来实现数据类型，以及从不同的实现中进行取舍。

数据结构——C++版（第四版）（英文影印版）可作为计算机、电类专业本科生和非信息技术专业硕士研究生的教材，也可供工程技术人员参考。

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作者简介

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章节摘录

版权页：插图：1 Specify, design, and implement a class that can be used in a program that simulates a combination lock. The lock has a circular knob, with the numbers 0 through 39 marked on the edge, and it has a three-number combination, which we'll call x, y, z . To open the lock, you must turn the knob clockwise at least one entire revolution, stopping with x at the top; then turn the knob counter-clockwise, stopping the second time that y appears at the top; finally turn the knob clockwise again, stopping the next time that z appears at the top. At this point, you may open the lock. Your lock class should have a constructor that initializes the three-number combination (use 0, 0, 0 for default arguments). Also provide member functions: (a) to alter the lock's combination to a new three-number combination (b) to turn the knob in a given direction until a specified number appears at the top (c) to close the lock (d) to attempt to open the lock (e) to inquire about the status of the lock (open or shut) (f) to tell you what number is currently at the top

2 Specify, design, and implement a class called `statistician`. After a `statistician` is initialized, it can be given a sequence of double numbers. Each number in the sequence is given to the `statistician` by activating a member function called `next_number`. For example, we can declare a `statistician` called `s`, and then give it the sequence of numbers 1.1, -2.4, 0.8 as shown here: `statistician s; s.next_number(1.1); s.next_number(-2.4); s.next_number(0.8);` After a sequence has been given to a `statistician`, there are various member functions to obtain information about the sequence. Include member functions that will provide the length of the sequence, the last number of the sequence, the sum of all the numbers in the sequence, the arithmetic mean of the numbers (i.e., the sum of the numbers divided by the length of the sequence), the smallest number in the sequence, and the largest number in the sequence. Notice that the length and sum functions can be called at any time, even if there are no numbers in the sequence. In this case of an "empty" sequence, both length and sum will be zero. But the other member functions all have a precondition requiring that the sequence is non-empty.

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编辑推荐

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