

<<程序设计基础>>

图书基本信息

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作者：维尼特

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## 前言

Concise Prelude to Programming: Concepts & Design provides a language-inde-pendent introduction to programming concepts that helps students learn the following: General programming topics, such as data types, control structures, arrays, files, and subprograms Structured programming principles, such as top-down modular design and proper program documentation and style Basic tools and algorithms, such as data validation, defensive programming, sums and averages computation, and list searching and sorting No prior computer or programming experience or any special knowledge of mathematics, finance, or other discipline is necessary.

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### 内容概要

本书是一本关于程序设计的教材，它围绕程序设计初学者面对的中心问题（即如何构思算法）来介绍程序设计中的主要基本概念和设计方法，包括“程序设计开发的过程、选择结构、重复结构、数组、文件”等，并介绍了主要的基本算法、冒泡排序、串行搜索等，给出了很多生动有趣的例子进行讲解。

在算法最终描述时，以VB与C++为例，对一些程序进行对比实现。

这样，既让学生可以在与语言无关的算法介绍中学习算法思想，又使他们能够自己动手进行实际的编程练习。

本书各章节后面配有丰富的练习题，很有针对性，网上配套资源也很实用，不仅非常适合作为程序设计的教材，也很适合读者自学使用。

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作者简介

作者：(美国)维尼特

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## 章节摘录

插图：2.5 Structured Programming Structured programming is a method used to design and code programs in a systematic, organized manner. In this chapter, we have already discussed some structured programming principles: follow the steps of the program development cycle; design a program in a topdown, modular fashion; and use comments to document a program. In this section, we introduce two more aspects of structured programming: designing each module as a sequence of control structures and using good programming style. We begin by discussing the use of flowcharts in program design. Flowcharts In Section 2.2, we introduced two devices to aid in the design of a program: hierarchy charts and pseudocode. Each of these techniques has its place in program design. Hierarchy charts identify the program modules and show the relationships among them. Pseudocode fills in the details of how the modules are to be coded. Another common program design tool is the flowchart, which is a diagram that uses special symbols to display pictorially the flow of execution within a program or program module. Flowcharts help you visualize how a program will actually flow. A flowchart provides an easy, clear way to see which pieces of your code follow the various programming structures that all programs are constructed from. These structures are discussed in detail in this section. The basic symbols in a flowchart are shown in Figure 2.5.

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### 编辑推荐

- 【本书特点】
- 1.《程序设计基础》是一般性的编程问题，如数据类型、控制结构、数组、文件，以及子程序。
  - 2.结构化编程的原则，如自顶向下的模块化设计、规范的程序文档和风格。
  - 3.基本工具和算法，如数据检验、防御性编程，总和与均值的计算，列表搜索与排序。
  - 4.包含了多种多样的练习题，如自测题、复习题和编程题等。
  - 5.本书配套网站提供了多种辅助材料。

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