<<算法设计与分析基础>>

图书基本信息

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前言

Algorithms play the central role in both the science and the practice ofcomputing. Recognition of this fact has led to the appearance of a con-siderable number of textbooks on the subject. By and large, they follow one oftwo alternatives in presenting algorithms One classifies algorithms accordingto a problem type. Such a book would have separate chapters on algorithms forsorting, searching, graphs, and so on. The advantage of this approach is that itallows an immediate comparison of, say, the efficiency of different algorithmsfor the same problem. The drawback of this approach is that it emphasizesproblem types at the expense of algorithm design techniques.

The second alternative organizes the presentation around algorithm de-sign techniques. In this organization, algorithms from different areas of com-puting are grouped together if they have the same design approach. I sharethe belief of many （e.g., [BAY95]） that this organization is more appropri-ate for the basic course on the design and analysis of algorithms. There arethree principal reasons for emphasis on algorithm design techniques First, these techniques provide a student with tools for designing algorithms for newproblems. This makes learning algorithm design technique a very valuableendeavor from the practical standpoint. Second, they seek to classify multi-tudes of known algorithms according to an underlying design idea. Learn-ing to see such commonality among algorithms from different applicationareas should be a major goal of computer science education.

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内容概要

本书利用了作者所开发的算法设计技术的最新分类，这种新的分类方法涵盖了众多经典算法，而采用过去的分类无法以一种一致的方式介绍这些算法。
作为通用的问题解决工具，算法设计技术得以广泛的应用。
尤其是将其应用到解决类似封面上那些流行的谜题时，会显示出其巨大的威力。
本书包含了超过600个练习，包括一些利用万维多资源的练习。
书中还包括了针对所有练习的提示，以帮助读者完全这些练习。

作者简介

Anany Levitin是Villanova大学计算机科学系的教授。
于2000年4月发表了“ 算法设计技术新途径 ”一文，获得业内高度认同。

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