

<<初等数论及其应用>>

图书基本信息

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前言

My goal in writing this text has been to write an accessible and inviting introduction to number theory. Foremost, I wanted to create an effective tool for teaching and learning. I hoped to capture the richness and beauty of the subject and its unexpected usefulness. Number theory is both classical and modern, and, at the same time, both pure and applied. In this text, I have strived to capture these contrasting aspects of number theory. I have worked hard to integrate these aspects into one cohesive text. This book is ideal for an undergraduate number theory course at any level. No formal prerequisites beyond college algebra are needed for most of the material, other than some level of mathematical maturity. This book is also designed to be a source book for elementary number theory; it can serve as a useful supplement for computer science courses and as a primer for those interested in new developments in number theory and cryptography. Because it is comprehensive, it is designed to serve both as a textbook and as a lifetime reference for elementary number theory and its wide-ranging applications. This edition celebrates the silver anniversary of this book. Over the past 25 years, close to 100,000 students worldwide have studied number theory from previous editions. Each successive edition of this book has benefited from feedback and suggestions from many instructors, students, and reviewers. This new edition follows the same basic approach as all previous editions, but with many improvements and enhancements. I invite instructors unfamiliar with this book, or who have not looked at a recent edition, to carefully examine the sixth edition. I have confidence that you will appreciate the rich exercise sets, the fascinating biographical and historical notes, the up-to-date coverage, careful and rigorous proofs, the many helpful examples, the rich applications, the support for computational engines such as Maple and Mathematica, and the many resources available on the Web.

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内容概要

本书特色： 经典理论与现代应用相结合。

通过丰富的实例和练习，将数论的应用引入了更高的境界，同时更新并扩充了对密码学这一热点论题的讨论。

内容与与时俱进。

不仅融合了最新的研究成果和新的理论，而且还补充介绍了相关的人物传记和历史背景知识。

习题安排别出心裁。

书中提供两类由易到难、富有挑战的习题：一类是计算题，另一类是上机编程练习。

这使得读者能够将数学理论与编程技巧实践联系起来。

此外，本书在上一版的基础上对习题进行了大量更新和修订。

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作者简介

Kenneth H.Rosen, 1972年获密歇根大学数学学士学位, 1976年获麻省理工学院数学博士学位, 1982年加入贝尔实验室, 现为AT & T实验室特别成员, 国际知名的计算机数学专家。Rosen博士对数论领域与数学建模领域颇有研究, 并写过很多经典论文及专著。他的经典著作《离散数学及其应

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章节摘录

插图：Experimentation and exploration play a key role in the study of number theory. The results in this book were found by mathematicians who often examined large amounts of numerical evidence, looking for patterns and making conjectures. They worked diligently to prove their conjectures; some of these were proved and became theorems, others were rejected when counterexamples were found, and still others remain unresolved. As you study number theory, I recommend that you examine many examples, look for patterns, and formulate your own conjectures. You can examine small examples by hand, much as the founders of number theory did, but unlike these pioneers, you can also take advantage of today's vast computing power and computational engines. Working through examples, either by hand or with the aid of computers, will help you to learn the subject—and you may even find some new results of your own !

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