

<<离散数学引论>>

图书基本信息

书名：<<离散数学引论>>

13位ISBN编号：9787302214823

10位ISBN编号：7302214824

出版时间：2009-11

出版时间：安德逊(Ian Anderson) 清华大学出版社 (2009-11出版)

作者：安德逊

页数：200

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

## &lt;&lt;离散数学引论&gt;&gt;

## 前言

在学校教书多年，当学生（特别是本科生）问有什么好的参考书时，我们所能推荐的似乎除了教材还是教材，而且不同教材之间的差别并不明显、特色也不鲜明。

所以多年前我们就开始酝酿，希望为本科学学生引进一些好的参考书，为此清华大学数学科学系的许多教授与清华大学出版社共同付出了很多心血。

这里首批推出的十余本图书，是从Springer出版社的多个系列丛中精心挑选出来的。

在丛书的筹划过程中，我们挑选图书最重要的标准并不是完美，而是有特色并包容各个学派（有些书甚至有争议，比如从数学上看也许不够严格），其出发点是希望我们的学生能够吸纳百家之长；同时，在价格方面，我们也做了很多工作，以使得本系列丛书的价格能让更多学校和学生接受，使得更多学生能够从中受益。

本系列图书按其定位，大体有如下四种类型（一本书可以属于多类，但这里限于篇幅不能一一介绍）

。

## <<离散数学引论>>

### 内容概要

《离散数学引论》以简洁和通俗的形式介绍组合数学的一些本质性内容图论的重要问题，计数方法和试验设计，其中图论约占一半篇幅。

《离散数学引论》很适于和中国中学数学教材的内容相衔接，阅读《离散数学引论》所需的预备知识只是中学数学（唯一的例外是在图论中需要矩阵的描述方式，但即使没有学过线性代数，也是可以接受的）。

书中有大量习题和例题，习题附有部分解答和提示，适于自学。

《离散数学引论》可用作数学、计算机科学、信息科学等专业大学本科生的组合数学教材，可在大学一年级讲授。

<<离散数学引论>>

作者简介

作者：(美国)安德逊(Ian Anderson)

## 书籍目录

Contents

1. Counting and Binomial Coefficients

1.1 Basic Principles

1.2 Factorials

1.3 Selections

1.4 Binomial Coefficients and Pascal's Triangle

1.5 Selections with——Repetitions

1.6 A Useful Matrix Inversion

2. Recurrence

2.1 Some Examples

2.2 The Auxiliary Equation Method

2.3 Generating Functions

2.4 Derangements

2.5 Sorting Algorithms

2.6 Catalan Numbers

3. Introduction to Graphs

3.1 The Concept of a Graph

3.2 Paths in Graphs

3.3 Trees

3.4 Spanning Trees

3.5 Bipartite Graphs

3.6 Planarity

3.7 Polyhedra

4. Travelling Round a Graph

4.1 Hamiltonian Graphs

4.2 Planarity and Hamiltonian Graphs

4.3 The Travelling Salesman Problem

4.4 Gray Codes

4.5 Eulerian Digraphs

5. Partitions and Colourings

5.1 Partitions of a Set

5.2 Stirling Numbers

5.3 Counting Functions

5.4 Vertex Colourings of Graphs

5.5 Edge Colourings of Graphs

6. The Inclusion-Exclusion Principle

6.1 The Principle

6.2 Counting Surjections

6.3 Counting Labelled Trees

6.4 Scrabble

6.5 The MSnag Problem

7. Latin Squares and Hall's Theorem

7.1 Latin-Squares and -Orthogonality

7.2 Magic Squares

7.3 Systems of Distinct Representatives

7.4 From Latin Squares to Affine Planes

8. Schedules and 1-Factorisations

8.1 The Circle Method

8.2 Bipartite Tournaments and 1-Factorisations of  $K_n$

8.3 Tournaments from Orthogonal Latin Squares

9. Introduction to Designs

9.1 Balanced Incomplete Block Designs

9.2 Resolvable Designs

9.3 Finite Projective Planes

9.4 Hadamard Matrices and Designs

9.5 Difference Methods

9.5 Hadamard Matrices and Codes

Appendix

Solutions

Further Reading

Bibliography

Index

## 章节摘录

插图：The How, When, and Why of Mathematics What is mathematics ?

Many people think of mathematics ( incorrectly ) as addition, subtraction, multiplication, and division of numbers. Those with more mathematical training may think of it as dealing with algorithms. But most professional mathematicians think of it as much more than that. While we certainly hope that our students will perform algorithms correctly, what we really want is for them to understand three things: how you do something, why it works, and when it works. The problems we present to you in this book concentrate on these three goals. If this is the first time you have been asked to prove theorems, you may find this to be quite a challenge. Not only will you be learning how to solve the problem, you will also be learning how to write up the solution. The necessary definitions and background to understand a problem, as well as a general plan of attack, will always be presented in the text. It's up to you to spend the time reading, trying various approaches, rereading, and reproaching. You will probably be spending more time on fewer exercises than you ever have before. While you are now beyond the stage of being given steps to follow and practice, there are general rules that can assist you in your transition to doing higher mathematics. Many people have written about this subject before.

<<离散数学引论>>

编辑推荐

《离散数学引论》:Springer大学数学图书:影印版

<<离散数学引论>>

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>