

Reading

PART 1. FUNDAMENTALS OF DISCRETE MATHEMATICS.

Chapter 1. Fundamental Principles of Counting

- 1.1 The Rules of Sum and Product.
- 1.2 Permutations.
- 1.3 Combinations: The Binomial Theorem.
- 1.4 Combinations with Repetition.
- 1.5 The Catalan Numbers.

Chapter 4. Properties of the Integers: Mathematical Induction.

- 4.1 The Well-Ordering Principle: Mathematical Induction.
- 4.2 Recursive Definitions.

Chapter 8. The Principle of Inclusion and Exclusion.

- 8.1 The Principle of Inclusion and Exclusion
- 8.2 Generalization of the Principle

Chapter 9. Generating Functions

Sections 9.1 - 9.4

Chapter 10. Recurrence Relations

Section 10.4

Chapter 11. An introduction to Graph Theory

Sections 11.1 - 11.7

Chapter 12. Trees

Section 12.1 - 12.2

Chapter 13. Optimization and Matching

Section 13.4