

CHAPTER OVERVIEW

4: Probability and Counting

Probability theory is concerned with probability, the analysis of random phenomena. The central objects of probability theory are random variables, stochastic processes, and events: mathematical abstractions of non-deterministic events or measured quantities that may either be single occurrences or evolve over time in an apparently random fashion.

4.1: Sample Spaces and Probability

4.1.1: Introduction to Probability

4.1.2: Terminology

4.2: Independent and Mutually Exclusive Events

4.3: The Addition and Multiplication Rules of Probability

4.3.1: Contingency Tables

4.3.2: Tree and Venn Diagrams

4.4: Counting Rules

4.4.1: Permutations

4.4.2: Permutations with Similar Elements

4.4.3: Combinations

4.5: Probability And Counting Rules

4.E: Probability Topics (Optional Exercises)

4.E: Combinations (Optional Exercises)

4.E: Permutations (Optional Exercises)

4.E: Permutations with Similar Elements (Optional Exercises)

4.E: Probability Using Tree Diagrams and Combinations (Optional Exercises)

4.E: Tree Diagrams and the Multiplication Axiom (Optional Exercises)

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