CSCE 222 Exam 3 (Final) practice problems

CSCE 222, Section 505
December 2019

Practice Problems for Exam 3 (Final)

All problems are from the textbook. Examples and exercises can be found in each subsection of the textbook. “Review questions” and “supplement exercises” are at the end of each chapter.

Solutions to the odd-numbered problems are in the back of the textbook.

1 Section 6.1: The basics of Counting

- Product rule
  - Examples: 6, 7.
  - Exercise: 7, 55.
  - Review Questions: 3.

- Sum rule
  - Examples: 17.
  - Exercise: 27.

- Subtraction rule
  - Examples: 19.
  - Exercise: 51.

- Division rules
  - Examples: 20.

2 Section 6.2: Pigeonhole Principle

- Theorems: 2.
- Examples: 6, 10.
• Exercise: 11, 21, 25.
• Review questions: 9.

3 Section 6.3: Permutations and Combinations
• Theorems: 1, 2.
• Examples: 7, 15.
• Exercises: 29, 33.

4 Section 6.4: Binomial Coefficients
• Theorems: 1, 2.
• Examples: 3
• Figure: 1
• Exercises: 3, 5, 13.

5 Section 8.2: Solving Recurrence Relations
• Theorems: 1, 2, 3.
• Examples: 3, 4, 6.
• Exercises: 3, 9, 11.

6 Section 9.1: Relations and Their Properties
• Definitions: 3, 4, 5, 6.
• Examples: 7, 10, 13, 20.
• Exercises: 7, 10.

7 Section 9.3: Representing Relations
• Examples: 7, 8.
• Exercises: 19, 23, 27.
8 Section 9.5: Equivalence relations

- Definitions: 1.
- Examples: 1, 2.
- Exercises: 3.