

CS-230 Data Structures

Test I Study Guide

Disclaimer

This document is provided as a study guide only. It does not represent what will be on the Test. It highlights the important topics that you must know for the Test. The Test may include questions on concepts not included in this document.

The Following Are Important

- The test covers material in Chapters 1, 2, 3, and 4 of the textbook.
- Test Maximum Points: 15 points (17 points if you answer the extra credit question.)
- The test consists of two parts:
 1. Part I
 - Closed-All-Resources (Written and Online.)
 - The format of this part is as follows:
 - True/False Questions (*Indicate whether the statement is true or false.*)
 - Multiple Choice Questions (*Identify the choice that best completes the statement or answers the question.*)
 - Matching Questions (*Below is a list of terms followed by a set of sentences. Match each term with a statement below.*)
 - Total Questions: 40 questions.
 - Total Points: 10 points (0.25 point per question.)
 2. Part II
 - Open All Resources (Written and Online. No collaboration is allowed.)
 - This part consists of 2 programming questions to develop programs for described problems (*Answer either question. Answer both questions for a bonus of 2 points.*)
 - Total Points: 5 points (plus 2 points bonus.)
- Study:
 1. **Software Engineering Principles:** Software life cycle; the software development phase; algorithm analysis; the Big-O notation; and C++ classes.
 2. **Object-Oriented Design and C++:** Inheritance; operator overloading; function templates; and class template.
 3. **Pointers and Array-Based Lists:** The pointer data type; declaring and manipulating pointer variables; dynamic variables including operators new and delete; dynamic arrays; classes and pointers; and the implementation of an array-based list.
 4. **The Standard Template Library (STL) I:** Components of the STL; sequence containers; the `vector` container; and iterators;
- Practice:
 1. Chapter 1: Review Exercises: Pages 49-56.
 2. Chapter 2: Review Exercises: Pages 113-124.
 3. Chapter 3: Review Exercises: Pages 194-204.
 4. Chapter 4: Review Exercises: Pages 254-259.

Good Luck

Dr. Iyad A. Ajwa
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Examination Study Guide
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