The University of North Carolina at Greensboro
CSC 100: The Beauty and Joy of Computing
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Handout 9
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CSC 100 Review for Final Exam

This document gives information to help you study for the final exam in CSC 100. The format of the final exam will be similar to the midterm: some terminology (matching) and some short answer questions, including both explanation/discussion type questions and some simple BYOB code (or really simple Python code) writing and interpretation. The final will include questions from throughout the semester, but will focus primarily on material since the midterm. As a rough estimate, expect about 20% of the exam to cover material from the first part of the semester, and 80% on the material after the midterm. Questions from before the midterm will focus on topics covered on the midterm exam – if you study from that exam and *understand* the answers you should be fine (but the key is understanding the answers, not just memorizing them).

There are three primary sources of topics: lectures, labs, and *Blown to Bits* readings. As a suggestion for studying, I would recommend taking the following lists and expanding them to outline all the basic topics and making lists of terminology. Use your notes as a guide, and there are copies of slides for all lectures and *Blown to Bits* discussions on the class web page. Then think up questions about the material that we covered, and write out answers – don't just look at the questions and say "OK, I know that" because people are really good at fooling themselves! By forcing yourself to write out answers to questions, you really have to address the questions and not just skip over them. The best approach for most people is to organize study groups so you can ask each other questions, but you can still do this fairly effectively if you are studying on your own.

Topics Since the Midterm

The following lectures were after the midterm:

Lecture 13: Reductions, Self-Similarity, and Recursion
Lecture 14: Data Representation 3 - Media - Text and Pictures
Lecture 15: Data Representation 4 - Media - Sound, Video, and Compression
Lecture 16: Big Data
Lecture 17: The Internet, Part 1 (Local Area Networks)
Lecture 18: The Internet, Part 2 (Networks of Networks)
Lecture 19: Security and Privacy
Lecture 20: Artificial Intelligence

The following labs were not covered on the midterm (Lab 7 was right before the midterm, so was no covered on that test; Lab 8 was the make-up lab, so covered no new material):

Lab 8: SnapPy Exploration and Testing
Lab 9: Problem self-similarity and recursion
Lab 10: Shall we play a game?

The following chapters from *Blown to Bits* were after the midterm:

Chapter 4: Needles in the Haystack: Google and Other Brokers in the Bits Bazaar
Chapter 5: Secret Bits: How Codes Became Unbreakable
Chapter 6: Balance Toppled: Who Owns the Bits?