

CSC112 Spring 2011
Fundamentals of Computer Science
Topics for Exam #2 and book chapters
Savitch, Absolute C++

1. Files
 - (a) Reading and writing binary files **The material we covered is spread throughout chapter 12. Another resource is the summaries of binary and text files found on <http://menehune.opt.wfu.edu/CSC112>**
 - i. Member functions (methods): open, close, read, write, fail, eof
 - (b) Reading and writing text files
 - i. Member functions (methods): open, close, get, getline
 - ii. Using the stream operators >> and <<
2. Arrays **Fixed length arrays are covered in Chapter 5. Dynamically allocated arrays are covered in Chapter 10.1 and 10.2. The material from Chapter 10.3 (classes and dynamic arrays) is not included on the exam. C-style strings are covered in Chapter 9.1, and 9.2. The material from Chapter 9.3 (C++ string class is not included on the exam.**
 - (a) Null-terminated character strings
 - (b) Dynamically allocated arrays
 - i. Using new
 - ii. Using pointers
 - iii. Two dimensional arrays
3. Structures **Structures are covered in Chapter 6.1.**
 - (a) Declarations
 - (b) Accessing data members
4. Lists **Lists (implemented using arrays) are discussed in Chapter 5.3, in the example handouts, and in Labs 7 and 8. Iterative binary search is discussed in Chapter 15 on p. 599.**
 - (a) Implementation using a structure
 - (b) Ordered lists and un-ordered lists
 - (c) Operations on lists
 - i. Insert (ordered vs. unordered lists)
 - ii. Delete (ordered vs. unordered lists)
 - iii. Linear search (unordered lists)
 - iv. Binary search (ordered lists)
5. Pointers **Pointers are covered in Chapter 10.1 and 10.2.**
 - (a) Initializing
 - (b) De-referencing
 - (c) Pointer arithmetic
6. Problem solving skills