CS 180 Exam Two Study Guide

Concepts from exam 1 such as:

- program components, variables, data types and how to choose them, various arithmetic operations, ways to control formatting of output

Chapter 4

- relational operators: >, <, >=, <=, ==, !=, what can and cannot be compared, how to handle comparison for floating point types
- bool type: true, false, boolalpha IO manipulator, the difference between truth values and integers
- if statement: conditional execution, else, else if, nested if statements, always use braces
- logical operators: && (logical and), || (logical or), ! (unary logical not), operands are Boolean, return value is Boolean
- truth tables: used to explain logical operators
- relops and characters: use ASCII values for comparison
- relops and strings: character by character, can only compare C++ strings, not C-strings
- conditional operator: var = x < 0 ? -x : y
- flag variables: Boolean variables that store a condition value
- scope: of a variable, the region of the program in which the variable exists and can be referred to

Chapter 5

- increment/decrement operators: ++, --, prefix vs. postfix form, be able to evaluate expressions that use these
- while loop: pretest loop, body executes zero or more times, used when you don’t know in advance when the condition will become false
- do while loop: posttest loop, will always execute at least once, compare and contrast with regular while loop
- input validation: common use of do while loop
- while loop control with flag: while (!done) for example
- for loop: for (initialization; test; update), understanding the number of loop iterations, used for counting and when the number of iterations is known in advance
- break and continue: why their use is so bad
- counters and accumulators: in loops, incrementing vs. accumulating, both very useful
- text file IO: what text files are, streams for reading and writing, opening streams, using streams, closing streams
- stream extraction vs. getline: the first for numeric input, the second for string input