CS 102 Midterm 2 Study Guide

Disclaimer: This is a guide for studying for the midterm. It is not a guaranteed all-inclusive list of topics and should not be used as your sole source for studying. Review lecture, lecture programs, labs, notes, and learning material posted on Canvas.

- Unix/Linux
    - What is it?
    - Commands: ls, cd, mkdir, rm, cp, ssh, scp, **chmod (new since last exam)**
        - How to use them (the full command)
        - What task each one does/what they stand for
    - What the string for permissions stands for when you ls -l
    - Able to change permissions for user, group, and world using chmod for files and directories
    - What number system you use with chmod (octal).

- Searching algorithms
    - Linear search
    - Binary search

- Sorting algorithms
    - Bubble Sort
    - Selection Sort
    - Insertion Sort

- Number systems
    - How each of the number systems work (decimal, binary, hex)
    - Be able to convert from one to another (decimal to binary, hex to binary, etc)

- Binary Operations
    - Be able to perform all of these operations: &, |, ^, <<, >>, ~
    - Which one is a unary operator?
    - Note: be especially careful with the difference between << and >>

- Binary Operation Applications
    - Using set bit, clear bit, and test bit
    - Understanding the ASCII table (you do not need to memorize the table, but understand that each character has a numeric value)