“Be able to” list for Exam 2

This list is largely based on Tom Conte's exam review for ECE 109.

Chapter 4

1. Components of the model: memory, processing unit, input, output, control unit
2. Instruction cycle
3. LC/3 data path

Chapter 5

1. Instruction set architecture
2. LC/3 Arithmetic instructions
    a. Immediate vs register
    b. Range of immediate operands
    c. How to subtract and OR
3. LC/3 Data movement instructions
    a. ST vs STI vs STR
    b. LEA vs LD vs LDI vs LDR
4. LC/3 Control instructions
    a. NZP bits
    b. How to test $<, \leq, >, \geq, =, \neq$
5. **Know how to “hand” assemble and dissemble**

Chapter 6

1. Sequencing
2. Conditionals
3. Iteration

Chapter 7

1. LC-3 assembly language
    a. Labels
    b. Pseudo-ops
    c. Traps
2. Assembly process
    a. Symbol table generation in pass 1
    b. Code generation in pass 2
3. **Know how to write short sections of assembly code**
4.

Chapter 8

1. Memory mapped I/O vs port I/O
2. Polling vs interrupts
3. LC/3 devices and registers
    a. Keyboard and display
    b. Status and data registers