

## **ECE 209 Sections 602, 603, and 604 Review Sheet be-able-to for Quiz 2**

This quiz will be a closed book, closed notes exam. You will be given a copy of the C reference sheet, a sheet with the LC-3 instruction set, and an example of a C function translated into LC-3 code.

### **Chapters 12-14, 16, 17 of P&P, & Fundamentals of C Programming**

- Quiz 2 will build on the material covered in Quiz 1.

### **Chapter 19 (P & P): C structs and linked lists**

1. Define C structures
2. Declare variables for C structures
3. Allocate structures with `malloc`
4. Access structure fields directly and through pointers
5. Generate an LC/3 “symbol table” for a C structure
6. Generate LC/3 code to access members of a C structure
7. Generate LC/3 code to access structures within arrays or referenced by pointers
8. Trace C programs using structures with pointers
9. Write small C programs using structures with pointers

### **Chapter 2: Algorithm analysis**

1. Briefly explain and motivate big-O
2. Apply big-O to sorting algorithms
3. Apply big-O to small C programs

### **Chapter 3: C Review – See Chapter 19 above**

### **Chapter 4: Abstract data types**

1. Gives examples of Abstract Data Types
2. Trace the use of an Abstract Data Type
3. Write a small section of C code that uses an Abstract Data Type
4. Write a small operation for an Abstract Data Type

### **Chapter 5 (first half): Recursion**

1. Trace a recursive function
2. Write a small recursive function