

CIT 593 – Quiz 1 Study Guide

Chapter 1

1. Idea of Abstraction
2. Hardware vs. Software
3. Levels of Abstractions (Problem statement to Devices)

Chapter 2

1. Binary Representation (base 2)
2. Unsigned Integers
3. Signed Integers: 2's complement
4. Binary to Decimal Conversion & vice-versa
5. Addition and Subtraction, Overflow
6. Sign-Extension vs. Zero-Extension,
7. Logical Operations: AND, OR, NOT
8. IEEE floating point to decimal and vice versa
9. ASCII rep (no need to memorize each character value table is provided)

Chapter 3 Study only the slides from the website

Chapter 4

1. Components of the Von Nuemann Model
2. Components of ISA and Instruction
3. Instruction Processing cycling - what each stage in the cycle does?
4. How do control instructions change the instruction execution?

Chapter 5

1. LC3 ISA: Memory and Register Organization
2. Different types of LC3 instructions: Arithmetic (include logical), Data Movement i.e. different addressing modes for LD/Store, and Control
3. Know limitations of each LC3 instruction, e.g. Register ADD vs. Immediate Add
4. You are not required to memorize the opcodes or the format: you will be given a handout if the questions refer to particular instructions.

Chapter 7

1. Components of Assembly Language program (e.g. opcodes, labels, operands)
2. Assembler Directives and what they do (e.g. .ORIG)
3. Assembly Process: 1) Generating Symbol table 2) Translate to machine code
4. Able to understand some small code or be able to write some code

UNIX

1. What is shell?
2. Commands for accessing or creating files and directory e.g. ls, mkdir, cp ,mv, rm
3. File permissions: chmod
4. tar command