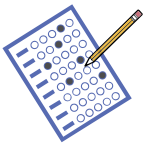
Final Overview

Basic Information

Final Information

- 2 hours
- 300 points
- May contain multiple choice and short answer questions
- But most will have you write some code



Exam Time

- TR 12:00 pm
  - Tuesday, December 12
  - 12:45 pm - 2:45 pm
- MW 9:00 am
  - Wednesday, December 13
  - 8:00 am - 10:00 am
- MW 2:00 pm
  - Wednesday, December 13
  - 12:45 pm - 2:45 pm

What Will Be Covered

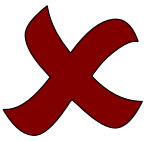
- Final will cover the entire semester
- All the labs
- The project
- No question will be asked that is not in the lecture notes
- Download from: *athena.csus.edu/~cookd/35*

Part 1 – Important to Understand

- Binary & hex numbers!
- Notation (why important)
- ASCII
- Integers
- Floating point numbers

Part 1 – Don't Worry About

- All the different ASCII values
- Unicode and EBCDIC
- How to convert ASCII

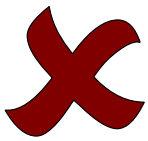


Part 2 – Important to Understand

- Components of the processor
- Privileged mode
- Types of operands
- Types of opcodes
- x64 Registers

Part 2 – Don't Worry About

- CLU over time
- Intel vs. AT&T assembly

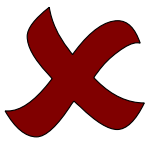


Part 3 – Important to Understand

- Compilers
- Assemblers
- Linkers

Part 3 – Don't Worry About

- All the different UNIX commands. You will, however, need this information for future classes

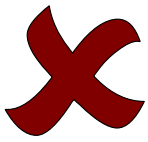


Part 4 – Important to Understand

- Sign-magnitude
- One's complement
- Two's complement
- Multiplication
- Division
- Sign Extension

Part 4 – Don't Worry About

- *Sorry, know it all*

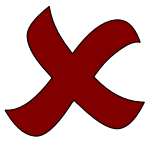


Part 5 – Important to Understand

- Concept of flags
- How jump statements work
- How to implement If Statements, While, For, Switch

Part 5 – Don't Worry About

- How each flag is set – in particular that diagram I showed you
- Each of the flags – still important if you want to be an expert

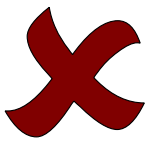


Part 6 – Important to Understand

- What is memory (address, etc.…)
- Endianness
- Addressing modes
- How arrays work
- Mario's countless crimes

Part 6 – Don't Worry About

- Data tables
- Writing jump tables
- Mario's excuses

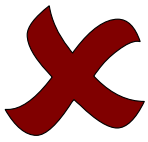


Part 7 – Important to Understand

- The stack
- Passing parameters using registers
- Stack frames
- How they work on the x64

Part 7 – Don't Worry About

- How to write stack frames on the x64

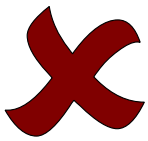


Part 8– Important to Understand

- Multiprogrammed
- Timeslice and context switch
- Kernal
- Vector Tables
- Interrupts

Part 8 – Don't Worry About

- *Know everything*
- *If I ask a question that requires a kernal call, I will provide the table values*



Part 8 – Important to Understand

- von Neumann architecture
- Operands
- CISC vs. RISC
- Instruction Encoding

Part 8 – Don't worry about…

- Example RISC and CISC processors