CS 251 Midterm Prep for Winter 2017

The following sections will be covered on the midterm:

- **Section 2.2** - Specifying input/output + truth tables (definitely truth tables on exam)
- **Section 2.3** - Boolean Formulas + Algebra
- **Section 2.4** - Two Level Rep (Represent a set of ANDs followed by an OR)
- **Section 2.5** - Don't Cares
- **Section 2.6** - Using gates and logic design + transistors (only short answer questions about transistors, don't 4 in nand gate, 6 in or gate. Don't study too much on this section)
- **Section 2.7** - Extracting truth table from circuit
- **Section 2.8** - Decoders (Not internals)
- **Section 2.9** - Multiplexors (Not internals)
- **Section 2.10** - Arrays of Logic Elements (slashes on the inputs and outputs) (need to be familiar with it)
- **Section 2.12** - Clocks and Sequential Circuits (not a direct question, but you gotta know what's going on)
- **Section 2.14** - D Flip-flip (there will be a question on it)
- **Section 2.15** - Register Files
- **Section 2.16** - RAM (short answer question)
- **Section 2.18** - Finite State Machine
- **Section 3.1** - MIPS word (not much needed to know, it contians 4 bytes)
- **Section 3.3/3.4** - Unsigned/Signed Binary
- **Section 3.5** - Two's Compliment
- **Section 3.6** - Sign extension question (Short answer question, worth small amount of points)
- **Section 3.7/3.8** - Addition/Logical Operators (maybe, Prof. Mann doesn't remember)
- **Section 3.9** - ALU
- **Section 3.11** - Converting Floating Point (you have to memorize the floating point format, not too difficult)

No questions on ROM, D-latch, or SR-latch, (99% sure) tri-state, variations, characters, ASCII, unicode, multiplying digits.
On assignments, review questions

- **Assignment 1**: 1, 2, 4, 5 (not really, but it's worth studying)
- **Assignment 2**: 1, 2, 3-6 (Be familiar with them), 8, 9