CSC258: Computer Organization

Last week!

Pop Exam!

Exam Details

- The exam is 3 hours.
- No aids are permitted.

- The exam contains a reference sheet with some MIPS information on it.
- The back page is scrap. You may tear it off, if you need it.

Exam Format

- For each question ...
  - Use the space available and points assigned as a guide.
  - Spelling and grammar won't be marked, but it's easier to find marks in succinct, well-organized answers.

- Question material was drawn from the *reading and exercises* as well as the labs.

Topics

- CMOS Transistors
- Logical gates
  - Boolean logic and connection to circuits
  - Simplification and K-maps
- Devices
  - Higher-level design, abstraction
  - Muxes, demuxes
  - Arithmetic circuits and numeric representations

Topics

- Sequential logic
  - Latches and flip-flops
  - Registers
  - Latency and clock speed calculations
- Finite State Machines

Topics

- Machine languages
  - Instruction formats
  - Relation to hardware
- Assembly languages
  - Relation to machine code and higher-level languages
    - Compiler toolchain
    - Function calls
  - Control structures: branches, loops, functions, exceptions

Topics

- Parallelism (spatial and temporal)
- Processors
  - Single-cycle, multi-cycle, and pipelined
  - Pipelining hazards
- The memory system
  - Memory model (including MIPS registers)
  - Caches and locality

Exam Office Hours

Monday, April 2: 10-12, 1:30-2:30
Tuesday, April 3: 10-11:30
Thursday, April 5: 9-11
Friday, April 6: 12:30-1:30

Tuesday, April 10: 10-12
Wednesday, April 11 @ 11-1 (DH2020 with Marquez)
Thursday, April 12: 10-12 (tentative: may need to be moved)

Marks and Re-marks

- *Labs and Quizzes:* Final lab and quiz marks will be posted by early next week.

- *Re-marks and Reviews:* Quizzes not returned in lab will be in my office by Friday. Drop by to pick them up.