CMPS 321 | Computer Architecture

- Winter Quarter 2016
- Mid Term 1 Review

Convert Binary Instructions

- Covered in Ch 1 & 2
- Review notes from Week 1 Lecture on Moodle

Convert MIPS to C

- Use examples previously provided

Differentiate between R, I, and J Types

- R Type
- I Type
- J Type

- Know how to identify each type. Understand how to take a MIPS instruction and convert it to Binary and back.

Write Methods

- Compare and Contrast write methods
  - Write Buffer
    - Similar to write through
  - Write Through
    - Every update to cache cascades down hierarchy
    - Pros: simple, guarantees coherency
    - Cons: Slow, causes stalls in datapath
  - Write Back
    - Only sends data down the hierarch and to main memory
    - Pros: fast
    - Cons: More to do on cash miss
- Covered in Ch 5

Define Terms

- Spatial Locality
- Temporal Locality
- Cache Hit
- Cache Miss
- Conflict Miss
- Page Fault
- Block
- Hit Time
- Miss Penalty

Addressing Methods for Accessing Cache

- Direct Mapped Cache
  - Each cache entry contains 1 block
- Set-associative caches
  - Set is a line, where # of blocks is indicated in the name
    - i.e. 2-way set-associative
- Full-associative caches
  - Can be placed in any cache entry

Discuss Addressing

- Relative Addressing
    - Example Branch Equal
        - beq
- Base Addressing
    - Example Load Word
        - lw