Welcome to COMP122

- For the first two weeks of class, attendance will be taken for administrative purposes.
- Students who do not attended classes during the first two weeks are subject to administrative withdrawal.

- You are responsibility to record that you have attended class via the following link:

Attendance Link

Day 1 Agenda

- Greetings and Introductions:
  - First Three Weeks
  - Use of Online Meeting Notes: notes_08_29.md
    - Markdown Cheatsheet: https://www.markdownguide.org/cheat-sheet/

- Class Material: https://github.com/COMP122/comp122-f22
  - COMP122 Home: COMP122: Computer Architecture and Assembly Language · GitHub
  - class-material: https://github.com/COMP122/comp122-f22.git
  - mars-mips: http://github.com/COMP122/mars-mips.git

- Canonical Class Directory: ~/Desktop/classes/comp122
  - Syllabus: syllabus.md
  - Schedule: class-material/administrative/schedule.pdf (subject to change)
  - Assignments: deliverables/assignments.md
    - https://github.com/COMP122/first-assignment

- Tools

- Context for the Class

Tools

- Slack: https://csun-comp-122.slack.com
- Sublime Editor: Recommended
  - Markdown Language

- First Assignment: https://github.com/COMP122/first-assignment
  - Github Classroom

- MARS (MIPS Assembler and Runtime Simulator)

- The missing semester: https://missing.csail.mit.edu/2020/
  - The Shell, Shell Tools and Scripting, Command-line Environment
  - Version Control (Git)
  - Editors (vim)

Languages, Compilers, and Hardware:

- Languages
  - Domain Specific

- Compilers & Interpreters
  - Analysis
    - lexicographical
    - syntaxical
    - semantics
  - Language Optimization
  - Machine Optimization
  - Translation: TAC → MIPS

- Hardware
  - General Types: Registers / Stack
  - Specific CPU Controls

- CLI: compilation exercise

```
cc:  ← .h, .c
.i ← cpp
.s ← ccom
.o ← as
.out ← ld
```

Source: .c

Source: .i

Assembly: .s

Object: .o

Executable: a.out

Languages

Translation Process

Hardware

kernel

Source: .java

javac

Object: .class

java

Virtual Machine

kernel