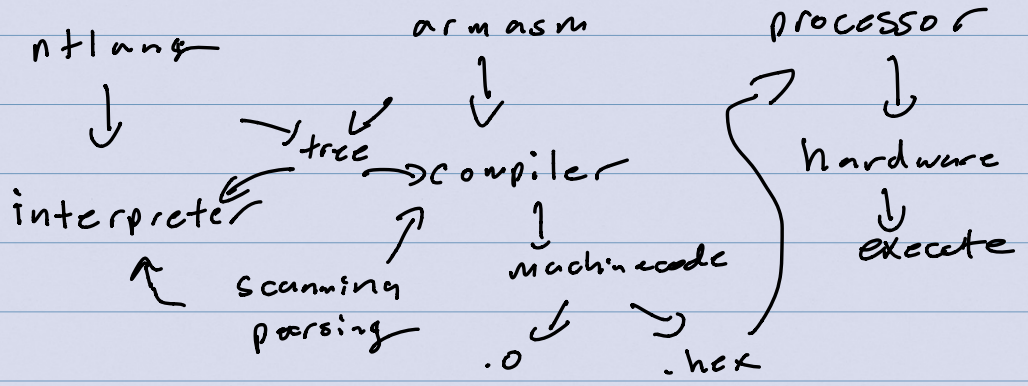
Class review. What have we done?
Overview of advanced computer architecture.
Teaching Effectiveness surveys
Final Exam overview and sample questions
Project06 deliverables and interactive grading
75% back 1 week after due date

CS 315
16 weeks → lab/Project due every week
6 Projects

Raspberry Pi → Linux
ARMv7 command line

C / ARM Assembly / Digital Logic

Meta Program execution



Meta

Problem solving
Debugging - gdb

Meta

data representation
bin hex dec
signed

Meta

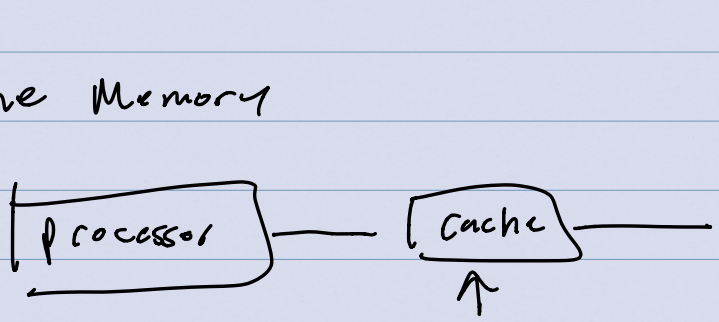
console-based programming

consistent code
incremental coding

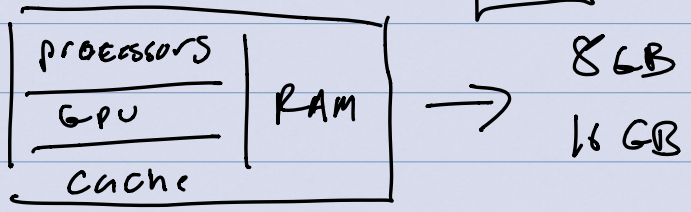
Advanced Computer Architecture

performance
energy usage
thermal

Cache Memory



Apple M1 SoC

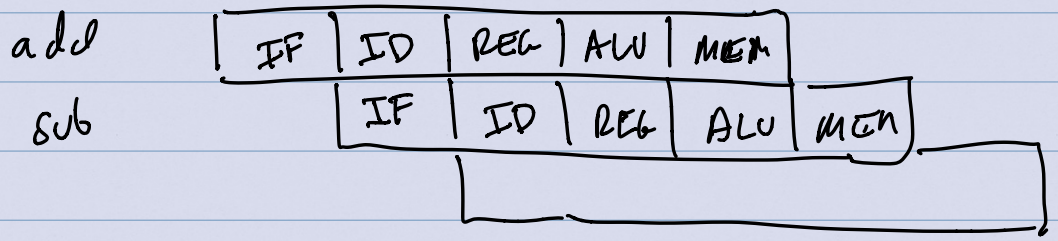


Micro Architecture

single-cycle

↓

pipeline processor



super scalar

```
add r0, r1, r2
sub r3, r4, r5
```

out of order

OOO execution

↓

```
→ldr r0, [r1]
  add r1, r1, #2
```

Project06

processor_main.dig

.dig files

test .s files

test .hex files

spreadsheet → .xlsx

Instruction Memory

PN → Roms