

## Expected / Projected / Actual Class Progression

### Week 1 - 2/1

- Syllabus
- What's already assigned
- Install
- Questions
- Recording

### Week 2 - 2/6 2/8

- Tuesday's Recording
- Thursday's Recording
- Apple Silicon
- Windows
- Intel Mac - get the distro, get QEMU, follow instructions for Windows except use your plain old terminal instead of WSL.
- Binary
- Powers of 2 up to 216
- Signed and Unsigned Integers
- 1's Complement and 2's Complement
- Registers
  - Integer Registers w & x
  - Why Have Registers
    - \* Speed of Processors Relative to RAM
  - *Up to this point was Tuesday 2/6. Thursday's class follows.*
  - Special Registers
    - \* Program Counter - pc
    - \* Stack Pointer - sp

### Week 3 - 2/13 2/15

- Floating Point Registers ***h***, s, d, v & q
  - ***h*** are half floats - not used much - are least significant half of s's

- s are single precision values - least significant half of d's
  - d are double precision values - are least significant half of v's
  - v's are a vector of something
  - q's are a single 128 bit value
- Floating Point Construction
  - Floats / Doubles are approximations
  - Normalized scientific notation
    - \* Sign
    - \* Exponent
    - \* Mantissa
  - Single Precision - how above are implemented
  - Double Precision - how above are implemented
- Why Have Registers (Continued)
  - Steps Needed to Execute an Instruction
  - Pipelined Execution
  - Special Registers (other than the *really* special registers)
    - \* Frame Pointer - x29
    - \* Link Register - x30
  - Aside:
    - \* Bit fields in C/C++
    - \* Unions in C/C++

**Week 4 - 2/20 2/22**

**Week 5 - 2/27 2/29**

**Week 6 - 3/12 3/14**

**Week 7 - 3/19 3/21**

**Week 8 - 3/26 3/28**

**Week 9 - 4/2 4/4**

**Week 10 - 4/9 4/11**

**Week 11 - 4/16 4/18**

**Week 12 - 4/23 4/25**

**Week 13 - 4/30 5/2**

**Week 14 - 5/7 5/9**