

- C: have to think about memory, pointers, manipulating bits, using an editor, UNIX, git, vim, make, cc, lldb, etc.
- Design docs are due Friday, programs assigned Monday and due Sunday
- remember to commit and push with git often
- assign O due Sunday

1/11

### Intro

- 1972 - Unix
- 1985 - Windows
- "Windows siuxx" - Prof. Long
- ANSI C 1989

### HelloWorld

- return 0 means success
- #include <stdio.h> (standard I/O package)
- Ch 1(?) of C book, re-read maybe
- every function has one main, is an int
- learn to draw {s
- don't gcc

### C basics

- read
- ANSI C v. C11

### Temp

- ### program
- Ch 2(?) re-read it
  - declare float only if necessary (Coding standards)
  - main can take args or void
  - printf() is a standard function in stdI/O
    - %f is called a format str
  - for instead of while
  - initialization is explicit
  - test and increment are visible at the top
  - automatic v static variable
  - set as 0 even if the compiler will
  - clarity above all
  - scalar types: char, int, float, double
  - must declare variable

### Scope

- ### Scope
- scope of a variable is where it exists

- C is very libertarian
- getchar() returns a -1 if EOF, which is why this is used not char

| f

11/13

asgn1 - gnuplot

- annoying

- Latex

- Overleaf

- interpret the spec, don't rely on the binary

- fuzzing: give functions random things to see if it crashes  
- Always need README.md

Control

Structures  
and Loops

- Bool Alg

- George Boole

- 1 is bitwise OR

- false is 0, true is every other int

- XOR

- Secret splitting?

- boolean is int in C

- #include <stdbool.h>, allows you to have boolean

- number vs representation of a number

- Short Circuit Evaluation

- false & & anything is false

- true || anything is true

- with step: evaluating once result is known.

- null pointer

- guard - a statement that stops later parts evaluating  
(ex prevent dividing by 0 using != 0)

- switch()

- similar to if, but lists cases and a default

- default can catch errors

- goto

- if it jumps in the middle of an if / loop / switch, unclear  
what it would mean

- break should be used in moderation

- use goto if terrible thing will happen

- continue: skip the remainder of the loop, but don't exit loop

- Ternary operator

- in floating point numbers may not be equal, even if they appear to be