

Outline for April 9, 2025

Reading: zyBooks text §2.20, 6.1–6.8

Due: Homework #1, due April 14, 2024

1. Review of the CSIF and compiling
2. Quick review
 - (a) signed vs. unsigned [*unsigned.c*]
 - (b) Type casting [*cast.c*]
 - (c) Overflow and types [*mult.c*]
 - (d) Increment and decrement [*ppmm.c*]
3. Functions in C
 - (a) Parameters: pass (or call) by value [*swap.c*]
 - (b) Arguments: instantiations of parameters matched in order
 - (c) Return values
 - (d) Show the program stack and how it relates to functions
4. Pointers and indirection
 - (a) A pointer is an address
 - (b) Declarations
 - (c) Address (&), dereference (*) operators
 - (d) Indirect references
5. More on functions in C
 - (a) Parameters: pass (or call) by reference (also called output parameters)
 - (b) Example: swap function — exchange values of two variables (*swap.c*)
6. Pointers and Arrays
 - (a) Arrays as pointers (pointer constants)
 - (b) How indexing works
 - (c) Arrays as function parameters
 - (d) Multi-dimensional arrays
7. More on arrays
 - (a) Initializations
 - (b) Contrast with pointer initialization
8. C arrays and strings
 - (a) String representation: array of chars terminated by NUL (ASCII ‘\0’)
 - (b) `gets(buf)`, `fgets(buf, size, fp)` [*bad.c*, *good.c*]