

Lecture 28 (3-30-26)

Exam 03 Review (C)

Sections:

1. Compiling and Building (1.5 Points): FIB, MC
 - know how to make 4 targets
 - pros and cons of static vs dynamic linking
 - how to make a Makefile
 - check Luis zine
2. Pointers, Arrays, Strings (2.0): FIB, T/F
 - will be 8bit machine so no worry about endianness here
 - fill in the table of where the variables go (like checklist)
 - true false part:
 - a bunch of expressions
 - `a[0] = 16 ?`
3. Memory Allocation (2.0): FIB
 - what was allocated on stack, heap, data, code
 - know sizeof():
 - `int`
 - `double`
 - `char`
 - `pointers`
 - `struct`
 - `union`
 - suppose you have a struct or union
 - how to create array of struct or union
 - how to create array of pointers to structs or unions
4. Memory Management and Linked List:
 - checklist question is similar
 - it will be one of the python methods (probably)
 - REVIEW HW7
 - questions based on that linked list with sentinel
5. Bitsets and Data Representation (1.5 Points): FIB
 - how do you remove something from a bitset
 - and complement

- how do i add
 - use an or
- how to check contains
 - use and
- bitmask
 - how to use these
- how does bitset look like in binary
- what is it in hex
- minimal number of bytes to demstrate endianness : 2 bytes
 - `int16`
- how does it look like in big endian or little endian

6. Debugging (2.0 Points) Makefile + C

- looks very familiar
- similar to interview
 - use gdb
 - use valgrind
- checklist example
 - is palindrome
 - `str_counts`
- its a string function