

## CIS 2107

### Final Exam Proposed Topics

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Below are the topics you need to master for the final exam. I listed the section number followed by what you need to know from that section. Please remember in the final, *you will write less and think more!*

#### Topics:

##### **02\_07 - 02\_14\_C sections (No 02\_08 and 02\_09, 02\_13)**

- There will be *no writing code* in the final. Expect *tracing* code, and *analyzing* code instead.
- Multiple-choice questions based on the slides in general.
- Understanding pointers movements with memory.
- Tricky declarations of pointers, both ways, and identify the declaration is *legal* or *illegal*.

##### **03\_01\_A Tour of Computer Systems**

- Study the C development life cycle and the files types input and output of each phase.
- You need to know the content of each file, and the names of components involved in the process.

##### **03\_02\_Number Bases and Bit Manipulations**

- Practice on the trick for approximating large numbers.
- Know how to operate on Bits manipulations using bits operators. (*Flip Hexadecimal numbers to Binary!*)
- How to perform hexadecimal addition and subtraction.

##### **03\_03\_Machine-Level Representation of Programs:**

- Straightforward Multiple-choice questions about knowledge of Assembly language (*No writing code and no translating code*).

##### **06\_01\_Stack vs. Heap**

- You need to know how to compare Stack vs. Heap.

##### **06\_2\_Storage Technologies:**

- SRAM vs. DRAM comparison
- Disk capacity calculation. You need to remember the formula.
- SSD performance characteristics. Write vs. Read.

##### **06\_03\_Locality\_and\_Memory Hierarchy**

- Cache size calculations.

##### **06\_04\_Caching**

- Temporal Locality vs. Spatial Locality.
- Hit/Miss ratio calculations. You need to remember the formula.

**Extra:** Bonus questions based as been given in class after the midterm.