

# **C for System Programming**

## **TCCS-333**

### **Final Exam Study Guide**

#### **I/O:**

What to include, opening/closing files, scanf, printf, fopen, fread, fwrite.

#### **Preprocessing Directives:**

#include, #define, conditionals, parameterized macros

#### **Primitive Data Types:**

char, int, long, float, double, and the modifiers short and long (and address of)

#### **Flow of Control constructs:**

Iteration and selection (all forms)

#### **Data Structures:**

Arrays, struct, union, enumerations, typedef

#### **Functions:**

Prototypes, parameters, return, recursion, pointer to

#### **Pointers:**

Indirection, double indirection, address of, pointer arithmetic

#### **Linked Lists**

Dynamic Memory allocation (malloc, calloc, and realloc, free)

Nodes (and recursive definition), inserting/removing nodes (beginning, end, and middle), locating a node in the list, sorting (reassigning pointers, not data, bubble sort, merge sort)

#### **Make files (from week 7: Chapter 15, slides 47-96 and in particular 70-96)**

Know what a “rule”, a “target”, and a “command” are

How it determines the dependency of one file to others

How it determines which files to update

In the slides example given, what does the following command do:

Make justify

What would happen if we left off the word justify in the above command?

#### **Binary (or bitwise) Operators**