# CS265: Advanced Programming Tools and Techniques

Spring 2022

***Lab #6 – C Pointers***

**Before you start**

* Leverage the man or help utilities to access the manual pages for commands and really learn how commands work
* All C functions are described in section 3 of the man pages, so you might find this command helpful

man -s3 printf

**Setting Up the Lab**

* Make an appropriate subdirectory for this lab and go there
* Ensure your directory restricts access to other students.

$ mkdir cs265 (if you do not have it already, cd if you do)

$ chmod go-rwx cs265 (if you have not done this already)

$ cd cs265

$ mkdir lab6

$ chmod go-rwx lab6

$ cd lab6

## Part 1

Write a C program, named **lab6\_1.c**, that reads a message and then prints the reversal of the message:

Enter a message: Don’t get mad, get even.

Reversal is: .neve teg ,dam teg t’noD.

Hint: Read the message one character at a time and store the characters in an array. Stop reading characters, when the array is full, or the character read is ‘\n’.

## Part 2

Revise the C program from Part 1 to use a pointer instead of an integer to keep track of the current position in the array. Name the new program **lab6\_2.c**.

## Part 3

Provided with the assignment is the C implementation of the quick sort sorting algorithm that is described in section 9.6 of the book “C Programming: A Modern Approach” by K.N.King. Copy the qsort.c program into **lab6\_3.c**, and modify it, so that low, high and middle are pointers to array elements rather than integers. The split function will need to return a pointer, not an integer.

**What to submit**

Zip your 3 C programs, lab6\_1.c, lab6\_2.c, and lab6\_3.c, and submit your lab6.zip file to Blackboard by the deadline.