**CSI 333 - Programming at the Hardware-Software Interface**

**(Lab and Discussion Classes)**

# Reading Materials and Resources

Lecture Slides

# Lab 2 – Pointers

As we discussed in class, a pointer is a lot like a Java reference – it is a variable that holds the location of a value.

To declare a pointer, we use an asterisk (\*) in the declaration of the variable:

int \*a;

a is a pointer to an integer

When using a pointer, if we want to use the referenced “thing” (the integer in the case above), we dereference the pointer using the asterisk:

\*a = 5;

Puts 5 into the place that a points to.

This is dangerous, because we haven’t told the computer where a is yet.

To do this, we use the ampersand (&) operator to get the address of another variable:

int b;

int \*a;

a = &b;

a now points to the same memory that b does.

Your assignment: Create a program that allocates two variables.

Create two pointers that point to those two variables. Set the first variable to a value. Dereference the second pointer to set it to a value. Print all four values. Submit the .c file.