CSI 333 – Systems Fundamentals

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 change its value. Print all four values. Submit the .c file.