Day 21 Highlights

1. Reminders
   1. zyBooks (Ch8) due next Monday at midnight
   2. Project 4 due next Friday at 5pm
   3. Exam 2 next Tuesday, March 5, 5:00-6:20pm

INTRODUCTION TO POINTERS

1. Pointers – point to a location in memory
   1. Each variable has a location and a value
      1. the values stored in x and y and z are integers
      2. the values stored in a and b and c are locations

**int x = 3, y = 4, z = 5;**

**printf("%d and %p\n", x, &x);**

**printf("%d and %p\n", y, &y);**

**printf("%d and %p\n", z, &z);**

**int \*a, \*b, \*c;**

**a = &x;**

**b = &y;**

**c = &z;**

**printf("x=%d, &x=%p, a=%p, \*a=%d\n", x, &x, a, \*a);**

**printf("y=%d, &y=%p, b=%p, \*b=%d\n", y, &y, b, \*b);**

**printf("z=%d, &z=%p, c=%p, \*c=%d\n", z, &z, c, \*c);**

1. Arrays – natural use of pointers

**The array name is also a pointer to the start of the array**

**int x[3] = { 101, 234, 999 };**

**int \*p1, \*p2;**

**p1 = x;**

**p2 = x + 2;**

**printf("%d and %d and %d\n", x[0], x[1], x[2]);**

**printf("%p and %p\n", x, &x[0]);**

**printf("%d - %p | %d - %p\n", x[0], &x[0], \*p1, p1);**

**printf("%d - %p | %d - %p\n", x[1], &x[1], \*(x+1), x+1);**

**printf("%d - %p | %d - %p\n", x[2], &x[2], \*p2, p2);**

1. Read and rewrite minmax.c of Day 17, Feb 18.