CS 400 Lecture 2:

Linux commands, Radix Sort, AVL Trees, & Testing ADTs

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Agenda for Tonight

```
5:30        Edit-Compile-Run on the CS Lab Machines
6:00        Sort of the Week:  Radix Sort (with Lab)
6:30        Break
6:45        Notes: AVL Trees
7:30        Break
7:45        Notes:  Testing an Abstract Data Type
8:00        Discuss Program 1, including command line arguments
8:30        Adjourn
```

Homework 0

due yesterday
everyone has an extension until Saturday
you can drop one assignment score

Edit-Compile-Run on the CS Lab Machines

note: all the apps you need are already installed
but first you need to remotely connect to best-linux.cs.wisc.edu

Using an Linux Editor: NOT wysiwyg

You need to be able to open a file, dump code into it, and save it.

I like to use a program called vim.

Vim tutorial:

You might like to use something else…..
nano

Sort of the Week: Radix Sort

https://pages.cs.wisc.edu/~deppeler/cs400/readings/Review/Sorting/#radix

Radix Sort Lab

Submit your Radix Lab to Canvas

Break until:

AVL Tree:

A self-balancing Binary Search Tree in which the heights of the two child subtrees differ by at most 1 for all nodes

Notes:
AVL Trees

AVL Trees: Reference

Cool You-Tube Animation

Geeks for Geeks Explanation with diagrams

Cool You-Tube Animation
(this work it out each insert yourself, by hand, then watch)

CS department's summary page

Break Until:

Testing a program:

Black Box vs White Box

Unit Testing vs System Testing

Program 1 due Tuesday
Testing an ADT:

Write several tests
Output the results
Submit your code through Canvas

OPTIONAL: run on CS lab machines
(this is how we will test your code)

Next Week in Lecture:

Team Assignment 1