12-5-2006
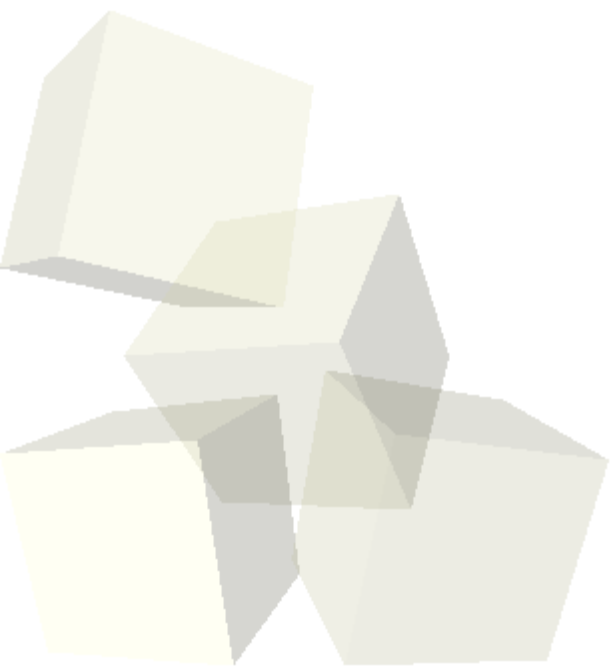
- What did we talk about last class?
- Do you have any questions about the assignment?

- Let's start off by finishing off the code we started last time for a linked list.

- Your text discusses two other ADTs that are actually simpler than the list. These are the stack and the queue. Both of these can be implemented with either arrays or linked lists as well. They are incredibly simple and don't give you control over how things are added or removed. All you can do is say you want to add or remove something.
- Beyond those the next most common type of ADT is what is called a map. A map keeps track of two pieces of data, a key and an element. With a map ADT you look up data using the specified key. Maps can be implemented in many ways. Array or linked list implementations would be slow.

- It turns out that a lot of computer science is done with linked data structures. Like linked lists, these are data structures that have pointers connecting various pieces of data. The styles can vary dramatically though.
- Maps are often implemented with data structures called trees that have links that follow certain rules.
- A large amount of theory in both CS and math goes into the study of graphs. These are linked structures that have no limitations on how things can be linked together.
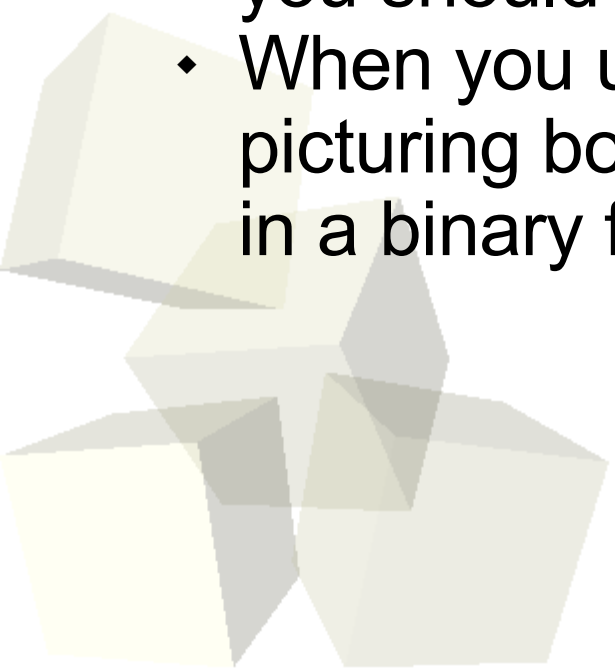
- The material covered in this class primarily focused on the C programming language along with forcing you to use the Linux command line and a text editor.
- C was used because it has simple constructs for basic programming.
  - Variables
  - Functions
  - Conditionals
  - Loops
  - Arrays
  - Pointers
  - Recursion
- We also covered some specific libraries for strings and files.

- Developing problem solving skills.
  - Problem decomposition.
  - Approaching problems logically and thinking them out.
- Making you think!
- Giving you the ability to think about things in new ways.
  - When you see a series in math or a repetitive activity you should think loop.
  - When you use a household appliance I want you to be picturing boolean logic of how data might be formatted in a binary file.

- Course evals. These are important and I pay close attention to feedback. Use them to help me improve the class. They are not returned until after grades are turned in.
- When would you like to have a review session for the final? Mainly, does Sunday afternoon work for you?
- The final is a week from yesterday in this room at 2pm.