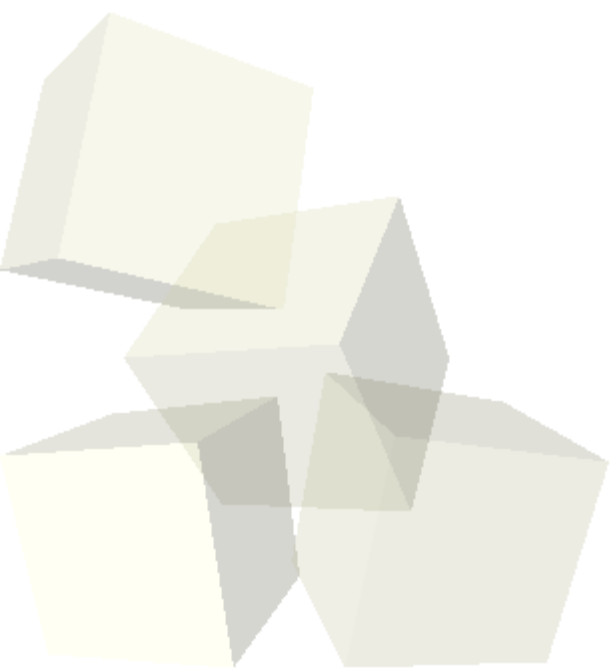
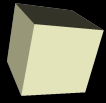




Lists in Java

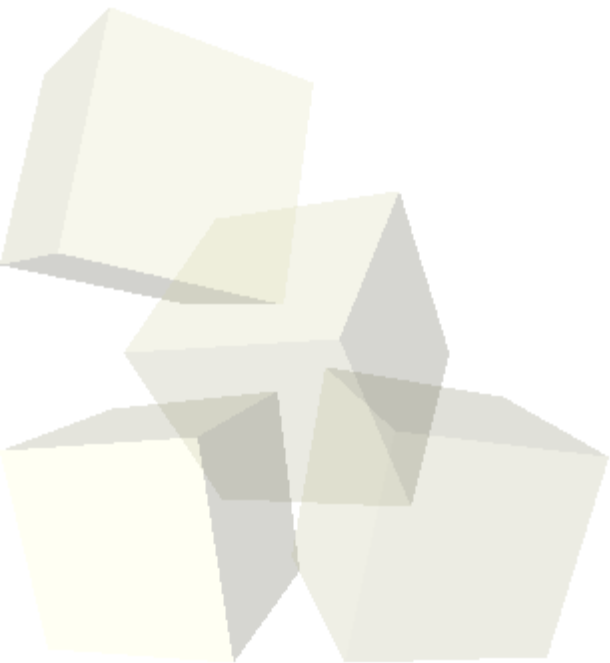
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Opening Discussion

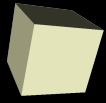
- Let's look at solutions to the interclass problem.
- Have you thought at all about what you want to do for the second project in this class?



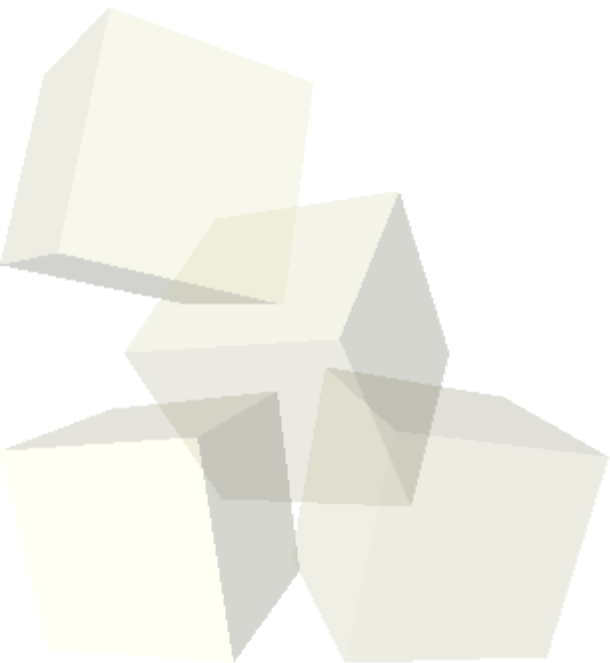


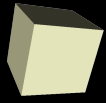
Recap of Arrays

- Arrays are the most common way in Java to represent a collection of objects that have a common type.
- The size of an array is given at creation when we call `new`. It can't be changed after that.
- Arrays of primitive types store the primitive values. Arrays of reference types store references. They start off as `null`.
- We index into an array with an integer expression. The value needs to be between 0 and the length of the array minus one, inclusive.



- Let's look again at the code we wrote last class for arrays.
- Now let's go make it so that our bank stores an array of accounts. What is the main problem with using an array for this purpose?





The for-each Loop

- There is a form of the for loop in Java built exclusively for looping through the contents of collections.
 - ♦ `for(Type varName:collection) { ... }`
- We call it a for-each loop though it still uses just a for.
- You can use it in any situation where you don't care about the index of the elements.

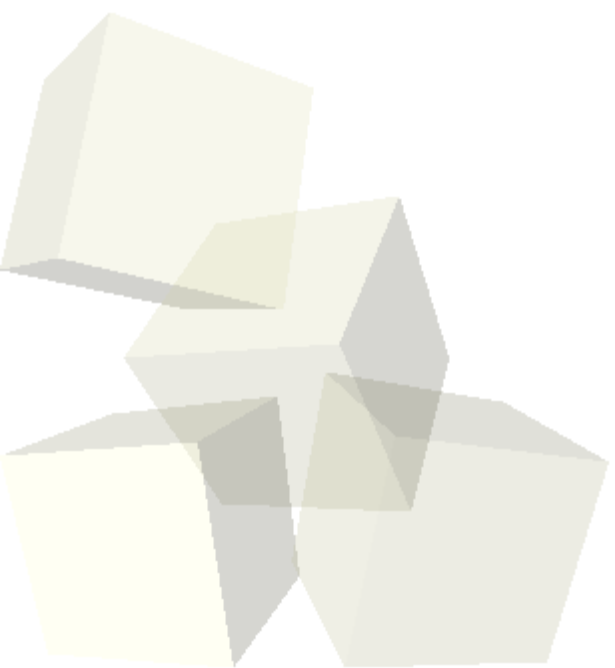


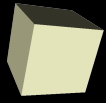


- You saw lists in Alice and got to see how handy they can be.
- A list is a general collection of things with a linear ordering to it.
- Java includes different types of lists.
 - ◆ LinkedList is good when you will do a lot of inserting and removing.
 - ◆ ArrayList is like an array that can grow or shrink.
- The only reason we don't use lists all the time in Java is because the syntax is more bulky than the arrays.
- You specify the type of things that go in the list in angle braces.

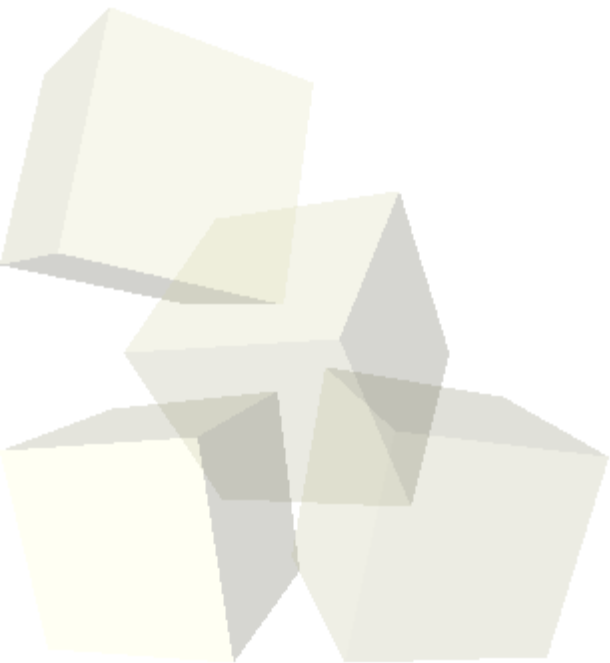


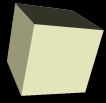
- The API can tell us all the capabilities of lists. Everything for lists is in `java.util`.
- There is a `List` interface gives us the general methods.
- The `LinkedList` and `ArrayList` classes add some additional functionality in certain situations.





- Let's keep working through the bank example now.
- I'd like to add a menu that gives us some options for things we can have the bank do and add in functionality for those things.





- Next class we will continue talking about arrays and lists. Do you have any questions you would particularly like to have answered? Also, have you started to work on any of the final exam extra credit questions?
- Interclass Problem – Do problem 12.3.

