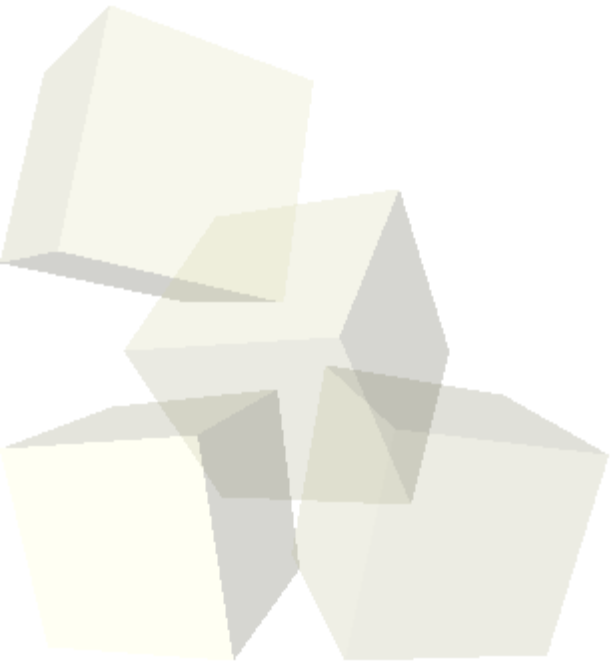




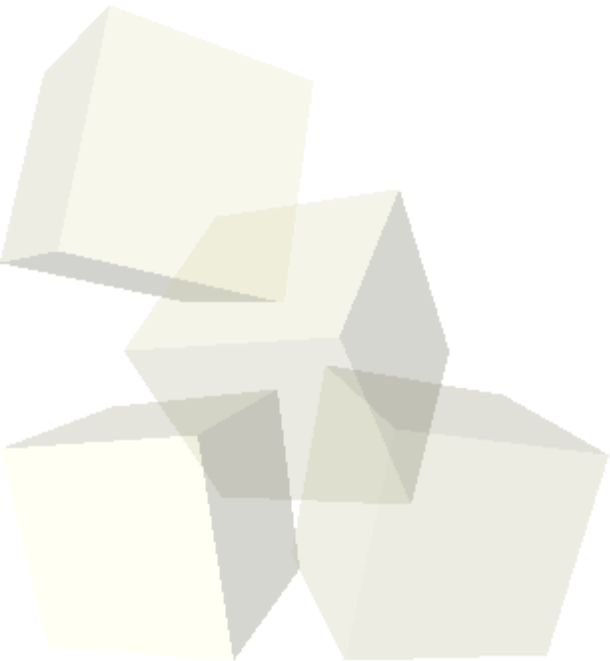
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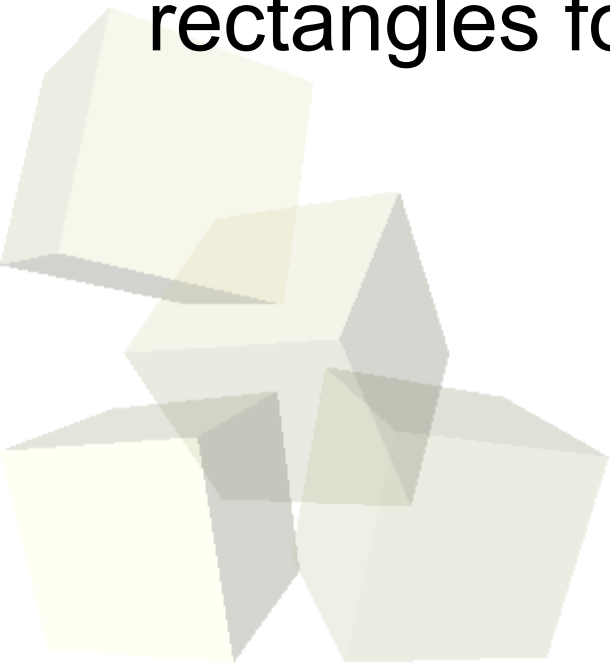
Opening Discussion

- What did we talk about last class?
- Do you have any questions about the reading?
- Do you have any questions about your assignment?



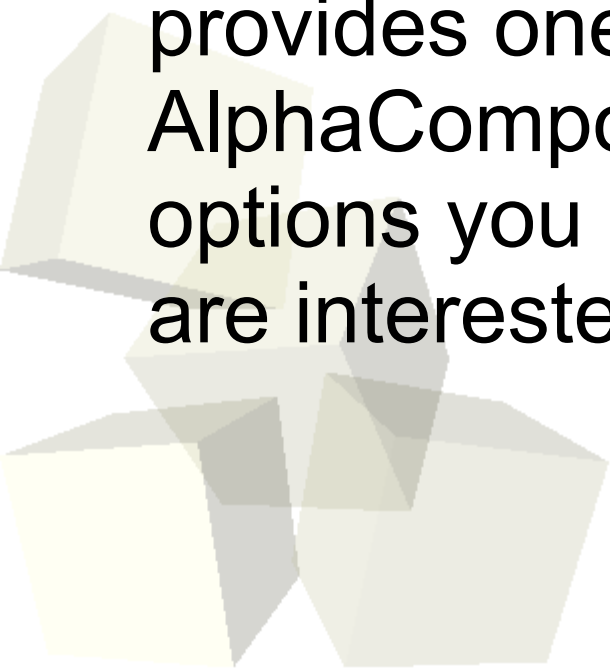


- Another setting of the Graphics2D class is the clipping region. When you draw something, only the stuff inside the clipping region will actually be drawn. The rest will be ignored.
- With Java2D you can set the clipping region to be an arbitrary shape. This can be used for some neat effects, but most of the time you will use rectangles for clipping regions.





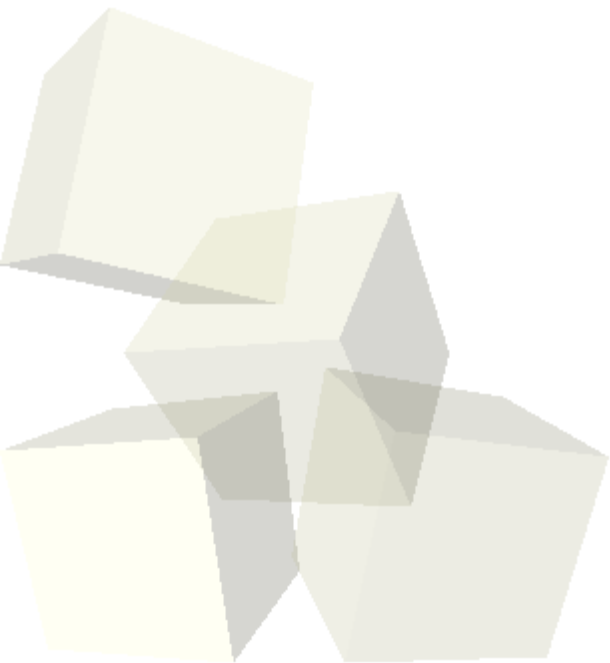
- When you draw you are used to having the stuff that you draw simply cover up the stuff that was there. Because of transparency this isn't always the case. Sometimes even normal drawing will have elements of the background show through.
- You can change how colors are combined when you draw by altering the composite setting. Java provides one subclass of Composite called AlphaComposite that has a number of different options you can use. The API has details if you are interested.





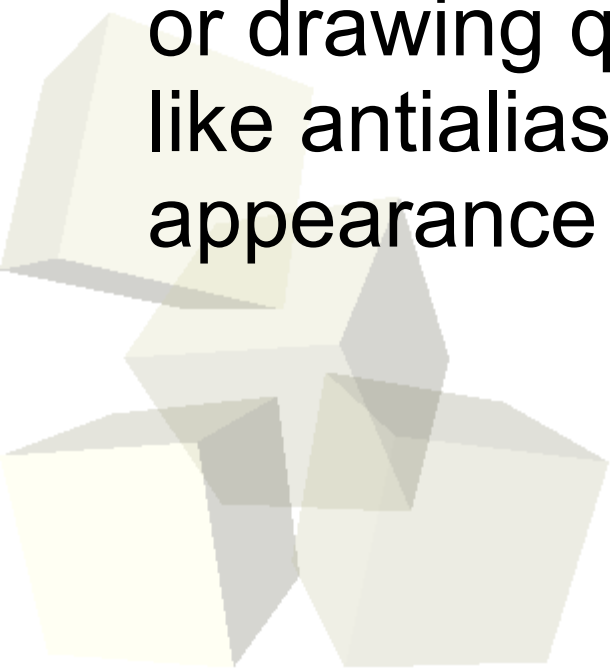
Transforms

- Perhaps the most powerful setting of Java2D is that of the transform.
- Java2D has a class called `AffineTransform` that can do any alteration in which parallel lines stay parallel. This includes translations, rotations, shears, and scalings or any combination of those.





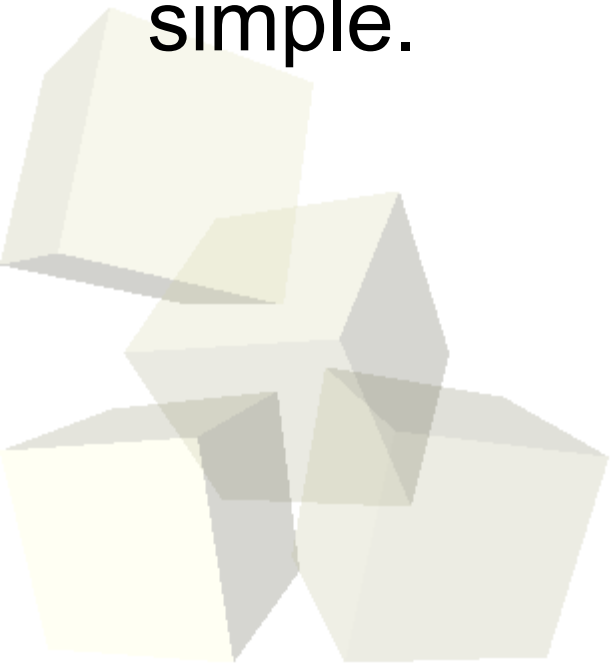
- The last setting that we will care about is the setting of render hints. These tell Java something about how you want it to draw your image. They are called hints because Java is allowed to ignore them if there isn't a reason to follow the hint or there is a reason not to.
- Hints include telling Java to focus more on speed or drawing quality. Alternately you can set things like antialiasing which can greatly enhance the appearance of your drawings.





Drawing Program

- It is time to code like the wind to complete as much of our drawing application as we can. We know how to do all the drawing. All we need is the ability to put the pieces together. It will require quite a few GUI elements and that is what we will have to focus the most on to get this done. It turns out the code for actually drawing will be quite simple.





Minute Essay

- Write code that would create a component that draws a rotated rectangle. Your code should include the component class and everything it needs to accomplish this.
- Remember that assignment #5 is due today.
- I will be up in 340 and beginning at 2:30 we will start doing the practice for the High School programming competition. There are 11 problems in the set and several of them are quite easy. You will get one point on the midterm for each you complete correctly and the top person in the class gets an extra 2 points.