Quick Exercise

Write a Sound method named `toThreeValues()` that converts the sound to only three values:
Quick Solution

```c
if ( value > threshold )
    newValue = maximumValue;
else if ( value < -threshold )
    newValue = -maximumValue;
else
    newValue = 0;
```

In image processing, we call this *posterizing*. In audio processing, we call it *clipping*. 
Alternate Solution

```java
for ( SoundSample s : this.getSamples() )
{
    int value = s.getValue();
    ...
    s.setValue( newValue );
}
```

A SoundSample in a Sound.
is just like a Pixel in an Image.
On Homework 4

- Reuse existing code.
- Take small steps.
- Make helper methods when you notice repetition.
- Ask questions soon.
My First Sound Clip

I have a slight problem...
Quick Exercise

Why write two `for` loops in `increaseAndDecrease()`, instead of one `for` loop with an alternative action?

```java
for ( int i = 0; i < this.getLength(); i++ )
{
    value = this.getSampleValueAt(i);
    if ( i < half )
        this.setSampleValueAt( i, value*2 );
    else
        this.setSampleValueAt( i, value/2 );
}
```

How many tests get run in the second version? In the first version?
Quick Exercise

How can we create a version of `increaseAndDecrease()` that rises linearly from the beginning to the middle and then falls linearly from the middle to the end?
Upcoming Days

**WED**  Bring headphones to the lab.
**THU**  Finish reading Chapter 9.
          Begin work on Homework 5.

**TUE**  No class
**WED**  Lab as usual
**THU**  No class

**TUE**  Submit Homework 5.
          Read Chapter 10.