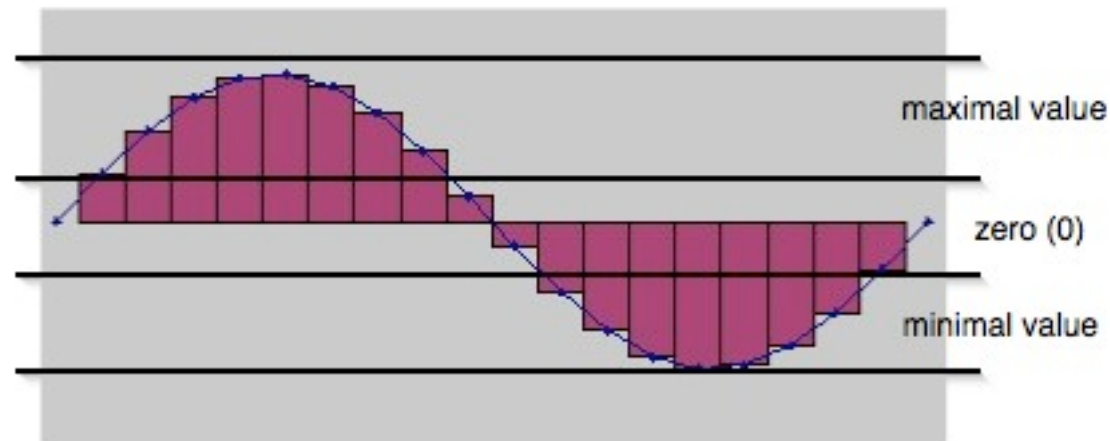


# Quick Exercise

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



# Quick Solution

```
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

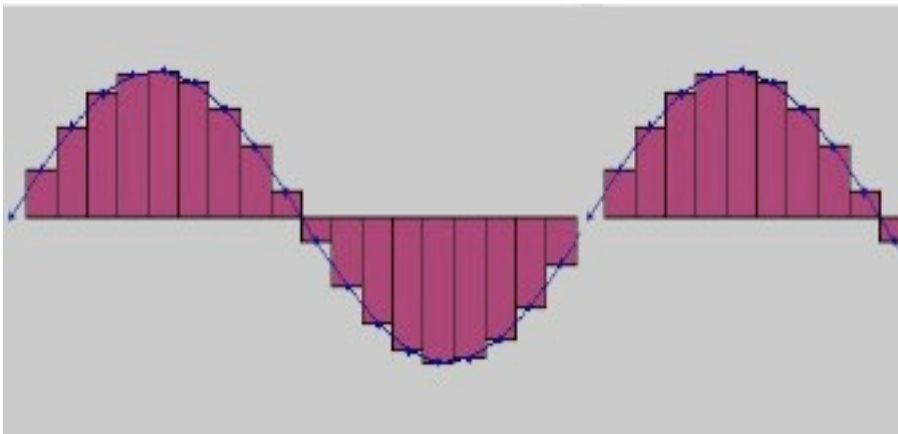
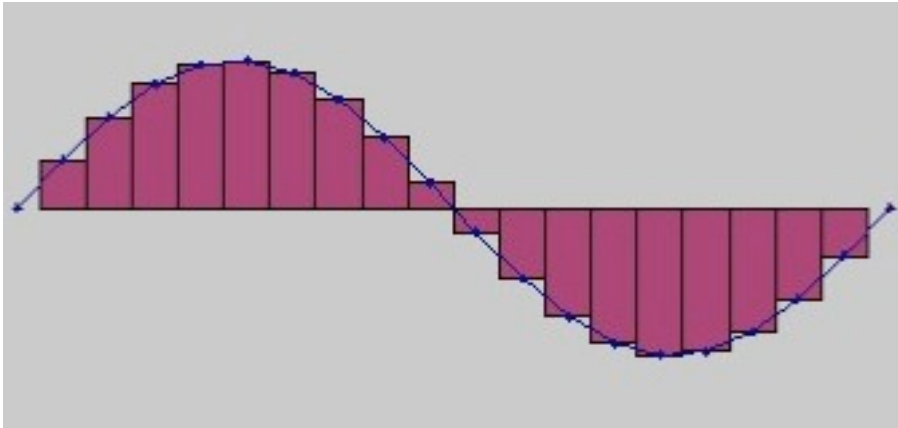
```
for ( SoundSample s : this.getSamples() )  
{  
    int value = s.getValue();  
    ...  
    s.setValue( newValue );  
}
```

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?

```
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.