



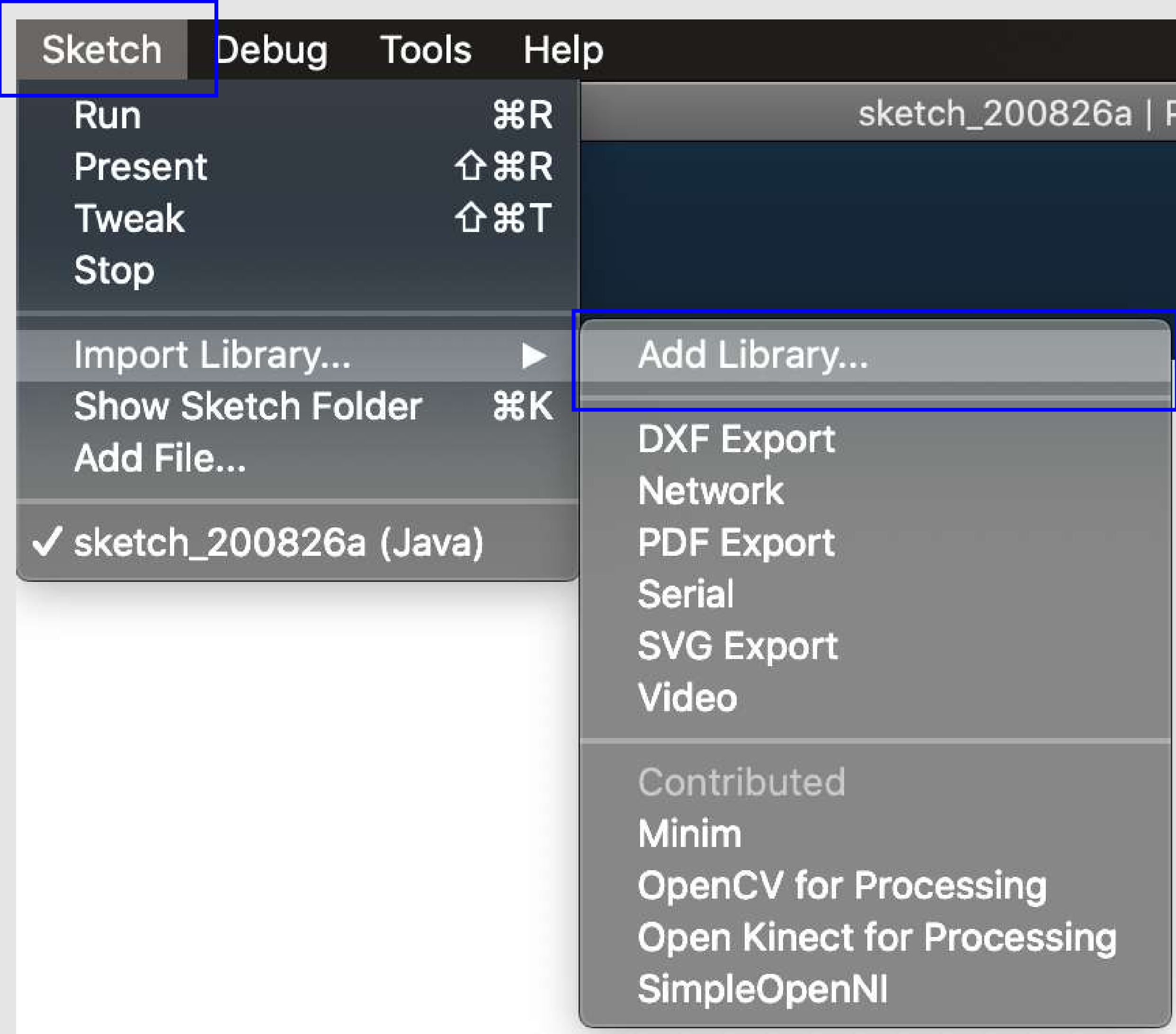
Processing Tutorial 2

Minim & Sound



Downloading Library

- 1. Open Processing
- 2. Go to Sketch > Import Library... > Add Library...



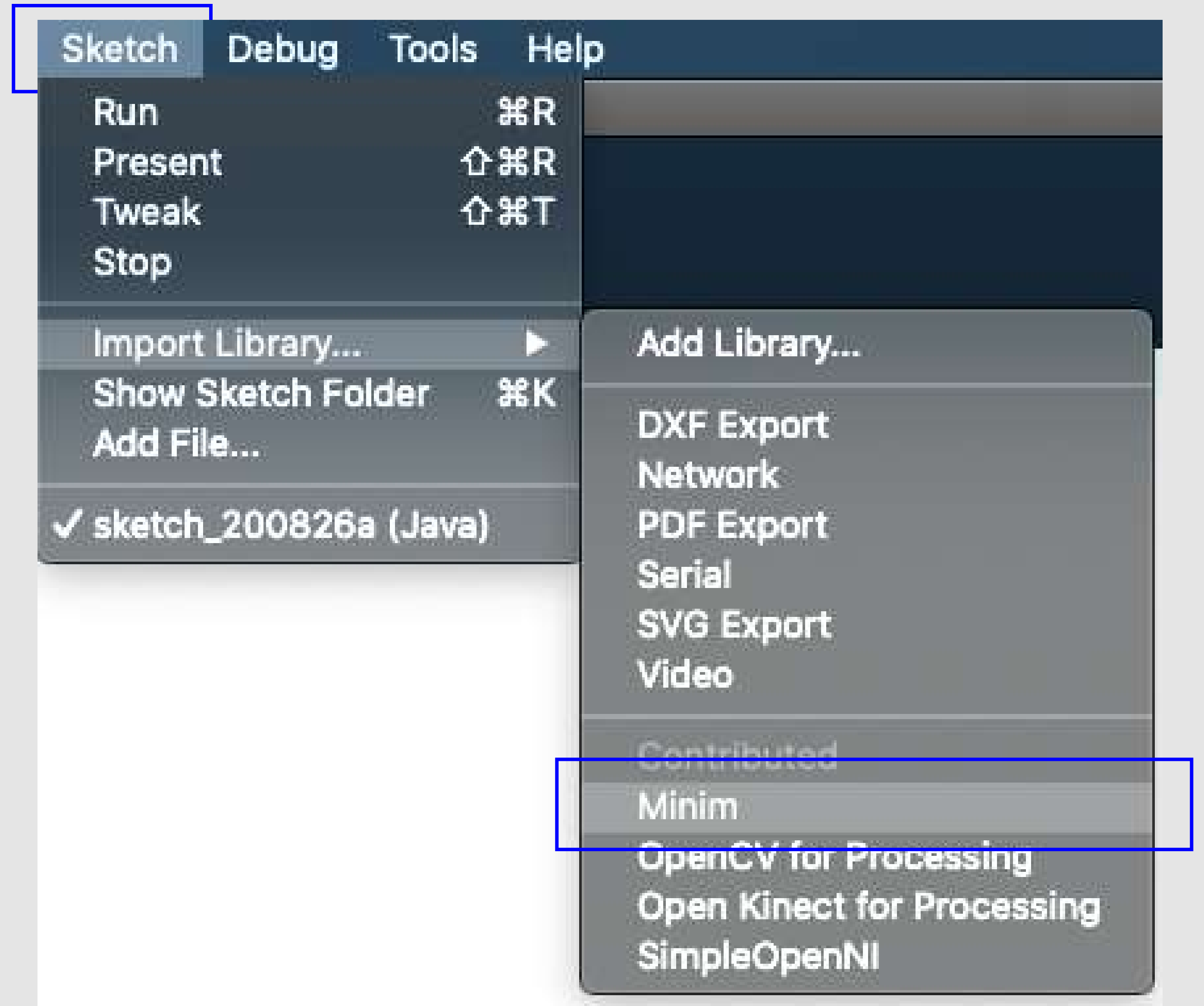
Downloading Library

- 3. Search for “minim” and install the library
- 4. Research your computer

<input type="text" value="minim"/>		<input type="text" value="All"/>
Status	Name	Author
	Beads A library for adding flexible realtime audio to Processing s...	Ollie Bown, Benito Crawford, Ben Por...
	Loom Patterns that change over time, flexibly mapped to audiov...	Cora Johnson-Roberson
	Lunar Parametric design library for the minimalist, inspired on e...	Boy d'Hont
✓	Minim An audio library that provides easy to use classes for play...	Damien Di Fede and Anderson Mills
	Nest Scenegrapp and mouse event handling system based looet...	Eric Socolofsky
	The MidiBus The MidiBus is a minimal MIDI library for Processing,...	Severin Smith
	XYscope XYScope is a library for Processing to render graphics on...	Ted Davis

Importing Library

1. Go to Sketch > Import Library... > Minim



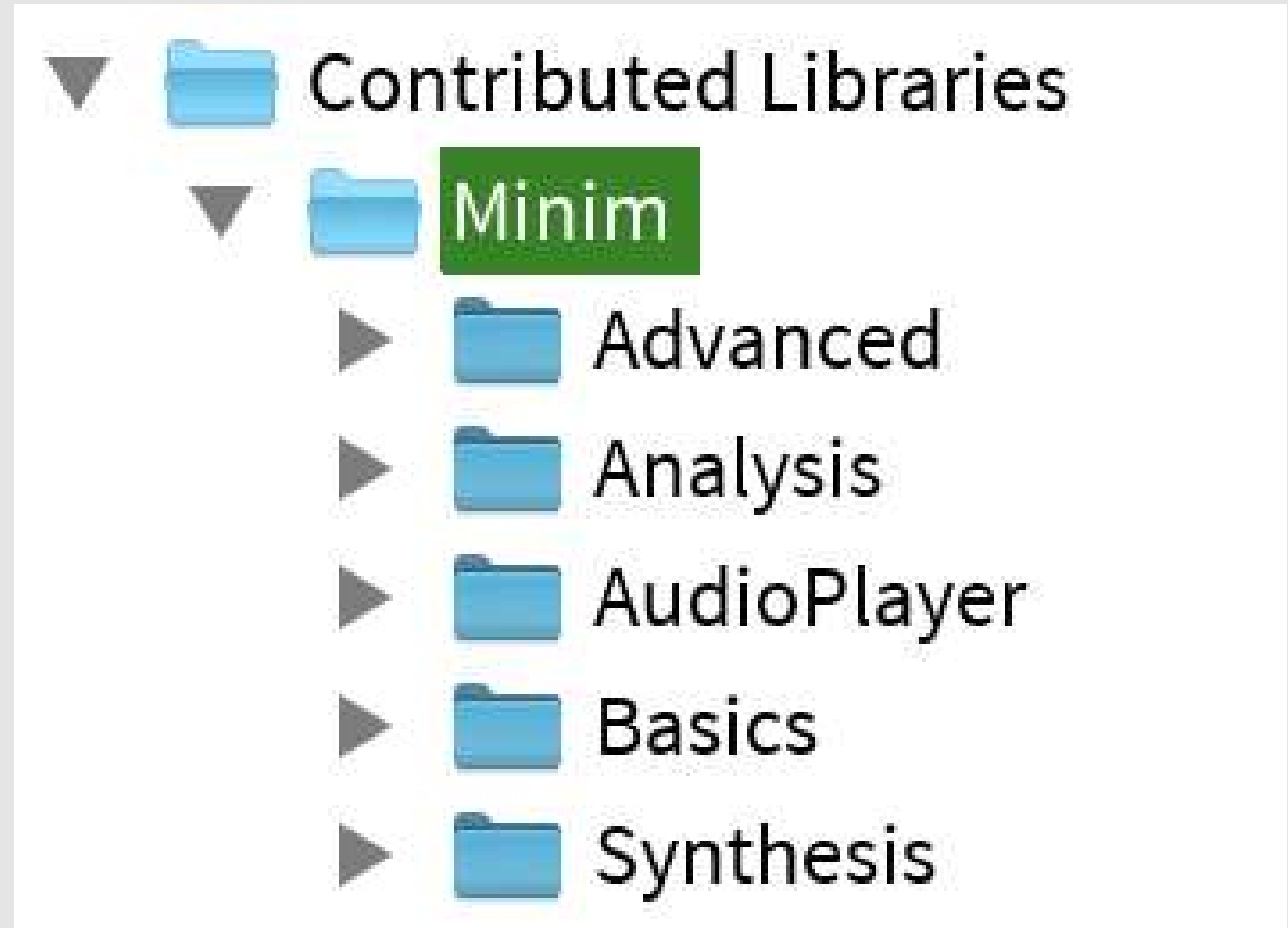
Importing Library

2. The libraries will be imported.

```
sketch_200826a
1 import ddf.minim.*;
2 import ddf.minim.analysis.*;
3 import ddf.minim.effects.*;
4 import ddf.minim.signals.*;
5 import ddf.minim.spi.*;
6 import ddf.minim.ugens.*;
7
8
```

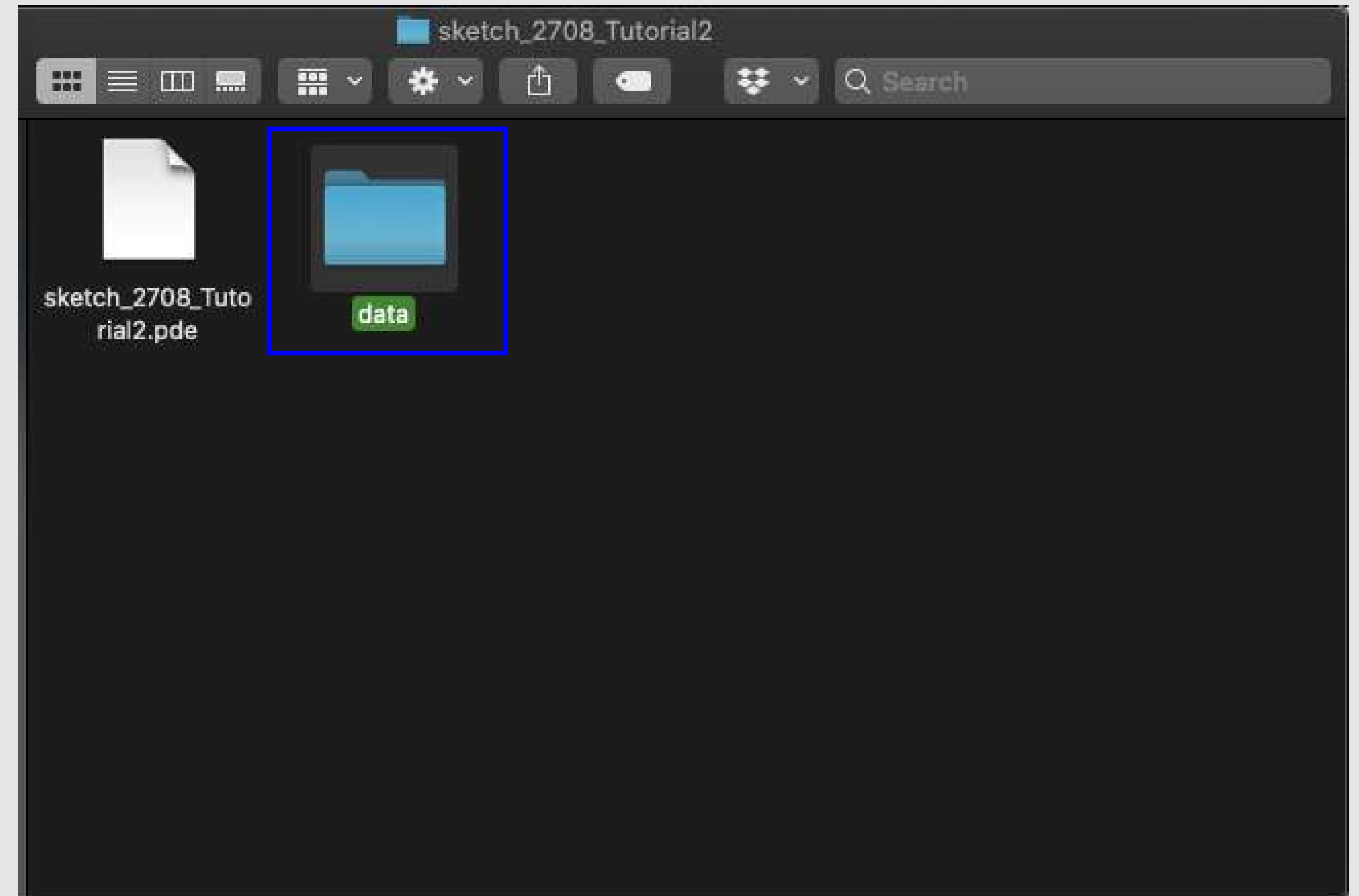
Accessing Library

Under File > Examples... > Contributed Libraries, you will find the Minim examples, which will be good for you to learn.



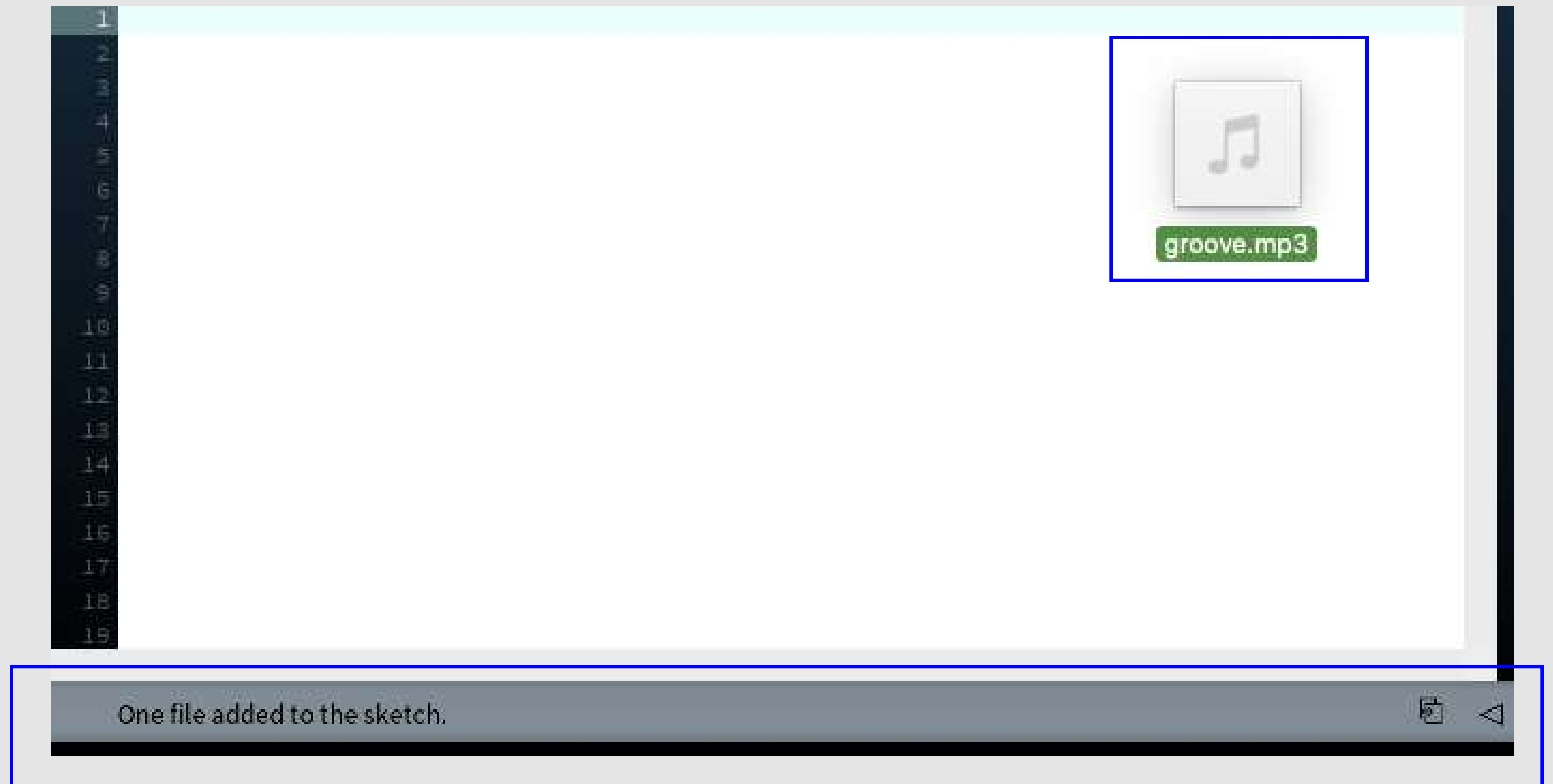
Inserting File

1. Save your Processing sketch. This will create a folder
2. Create a folder called “data” in the sketch folder
3. Drop your sound file inside (this applies for images and videos too!)



Inserting File

1. Locate your file
2. Drag and drop into the sketch



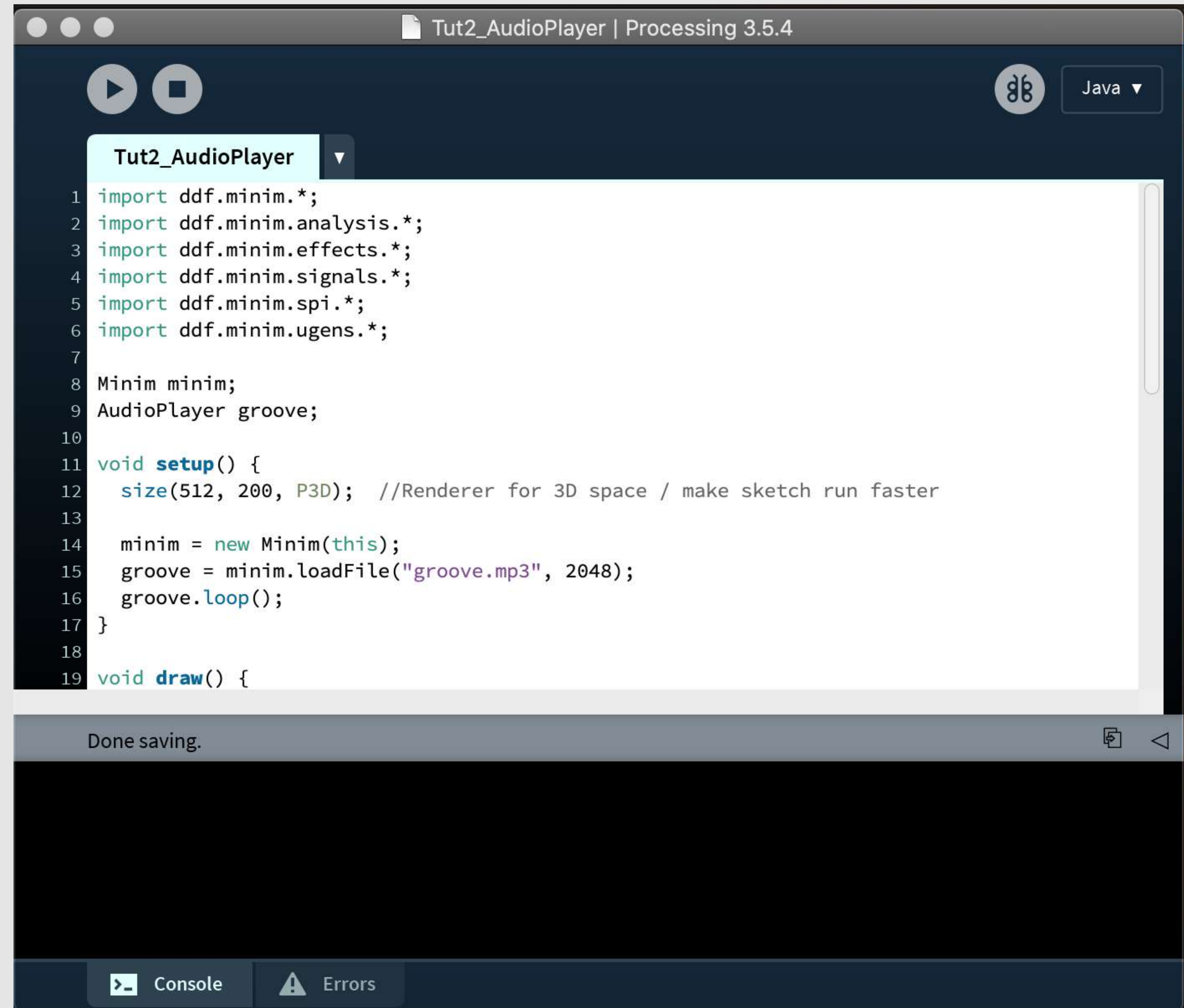
**I've prepared a file for you all
OSS > Syllabus > Workstudy**

Minim: AudioPlayer

Open Tut2_AudioPlayer

Main takeaways:

- loadFile
- loop
- skip
- play
- pause
- keyPressed
- if / else



```
Tut2_AudioPlayer | Processing 3.5.4

Tut2_AudioPlayer ▼
1 import ddf.minim.*;
2 import ddf.minim.analysis.*;
3 import ddf.minim.effects.*;
4 import ddf.minim.signals.*;
5 import ddf.minim.spi.*;
6 import ddf.minim.ugens.*;
7
8 Minim minim;
9 AudioPlayer groove;
10
11 void setup() {
12   size(512, 200, P3D); //Renderer for 3D space / make sketch run faster
13
14   minim = new Minim(this);
15   groove = minim.loadFile("groove.mp3", 2048);
16   groove.loop();
17 }
18
19 void draw() {
```

Done saving.

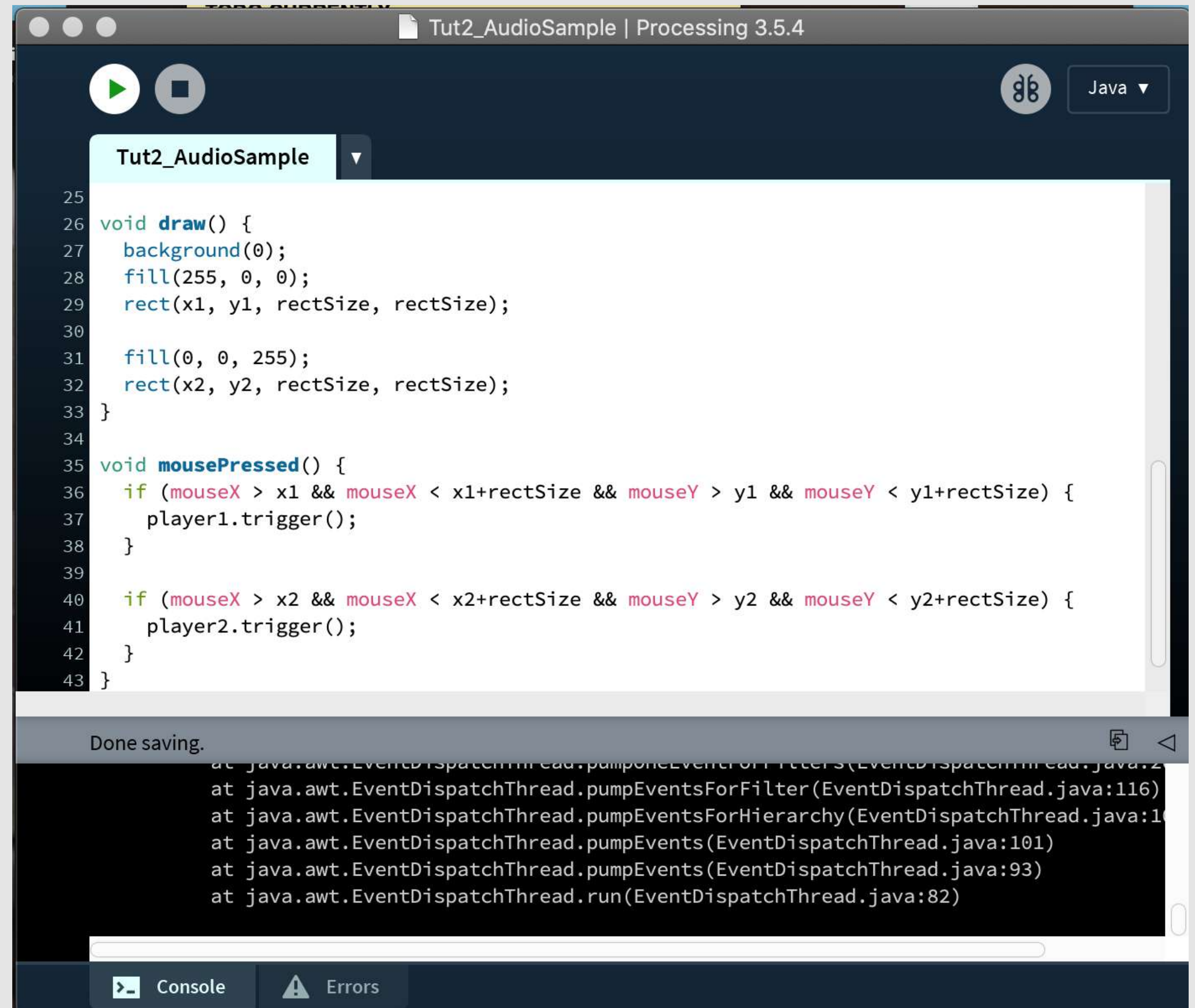
Console Errors

Minim: Audio Sample

Open Tut2_AudioSample

Main takeaways:

- loadSample
- Softcoding
- mousePressed



```
Tut2_AudioSample | Processing 3.5.4

Tut2_AudioSample ▼

25
26 void draw() {
27   background(0);
28   fill(255, 0, 0);
29   rect(x1, y1, rectSize, rectSize);
30
31   fill(0, 0, 255);
32   rect(x2, y2, rectSize, rectSize);
33 }
34
35 void mousePressed() {
36   if (mouseX > x1 && mouseX < x1+rectSize && mouseY > y1 && mouseY < y1+rectSize) {
37     player1.trigger();
38   }
39
40   if (mouseX > x2 && mouseX < x2+rectSize && mouseY > y2 && mouseY < y2+rectSize) {
41     player2.trigger();
42   }
43 }

Done saving.
at java.awt.EventQueue.dispatchEventImpl(EventQueue.java:772)
at java.awt.EventQueue$Runnable.run(EventQueue.java:751)
at java.awt.EventQueue$2.run(EventQueue.java:744)
at java.awt.EventQueue$2.run(EventQueue.java:743)
at java.awt.EventQueue.dispatchEvent(EventQueue.java:760)
at java.awt.EventDispatchThread.pumpEventsForFilter(EventDispatchThread.java:116)
at java.awt.EventDispatchThread.pumpEventsForHierarchy(EventDispatchThread.java:131)
at java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:101)
at java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:93)
at java.awt.EventDispatchThread.run(EventDispatchThread.java:82)
```

Let's try some examples

Basics > TriggerASample
Analysis > SoundSpectrum
Advanced > DrumMachine

Resources

Sound with Minim by John Park

<https://www.youtube.com/watch?v=LcX-360xgZgg>

Minim reference link

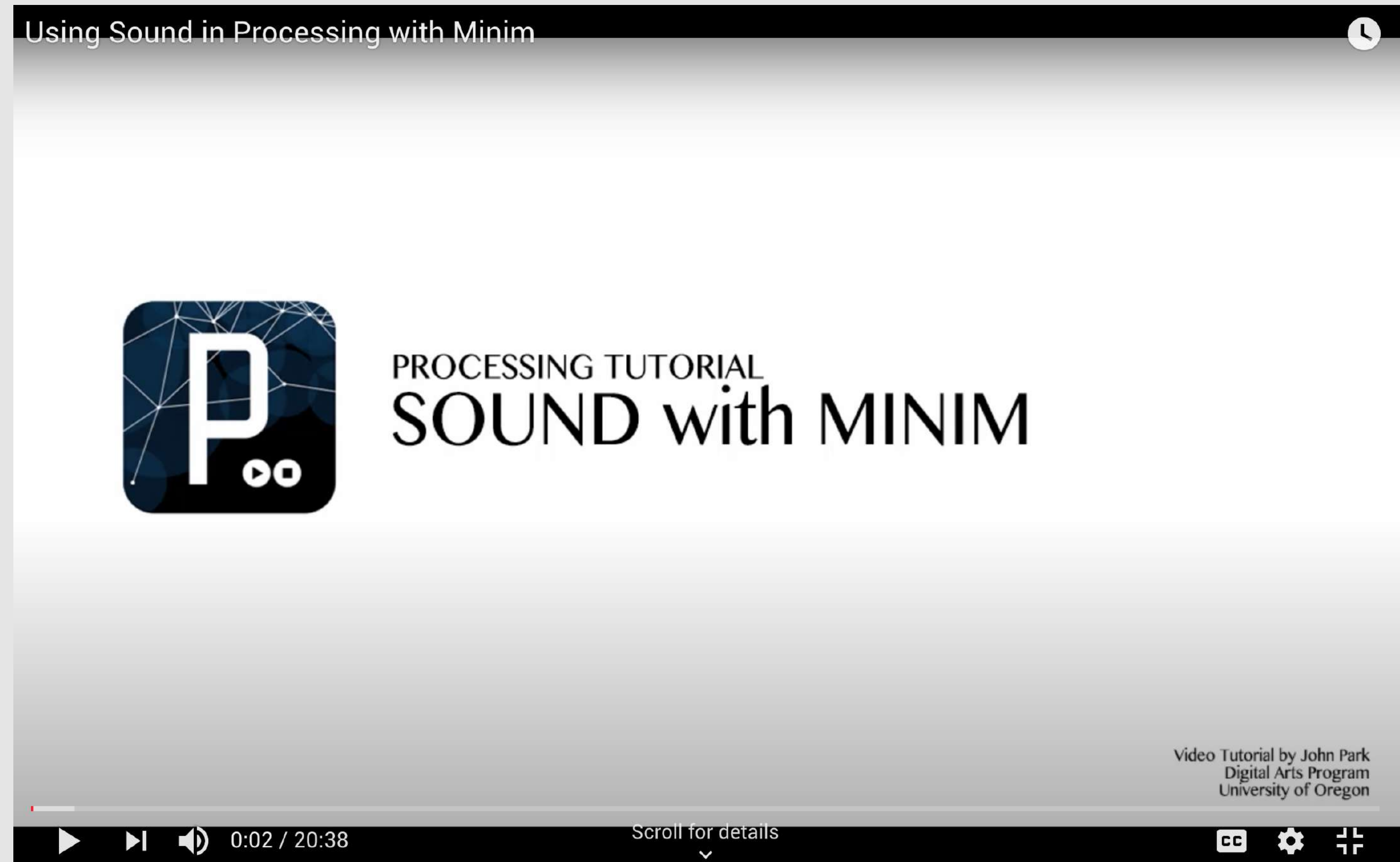
<http://code.compartmental.net/minim/index.html>

Processing Sound references

<https://processing.org/reference/libraries/sound/index.html>

Do something fancy: Audio Visualiser

<https://www.youtube.com/watch?v=XS62cBK9E7w>



Next week: Videos & Animations

Thanks!

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