1. ShapeTool -> abstract class, and create RectangleTool and OvalTool that extends ShapeTool
2. RT and OT implement the getLabel() method to return the appropriate names of the button field labels
3. Make Shape shape variable in ShapeTool public so that OT and RT can see / set the variable
4. In ShapeTool, the program used to call new Shape, but now Shape is also abstract, so we need it to call Rectangle or Oval, so those classes need constructors. Create constructors in those classes
5. The class Drawing calls shape.draw on everything in it’s list of Shape. So now either R and O classes have to implement all of the draw method (currently in Shape), or they just have to implement the helper method drawGraphics in each subclass R and O
6. So I did that (#4 and #5). At this point I have two buttons that say Oval or Rectangle, and those button are used to draw the shapes oval and rectangle respectively. What I need at this point is to make them play different textures from each other. (Note that at the beginning of this assignment I was feeling like I could do it, but then as I started to go through the program, draw the ‘import diagram’ and try to make sense of all the classes, I was feeling pretty overwhelmed by the task and like it was hard to wrap my head around it. Then I took a jump and started to play around with it to see if I could get another button to differentiate rectangle and oval. At this point I have more confidence but still overwhelmed with actually make those function differently. Button, visual drawing shape, different sounds. Now after completing the different visual drawing shapes, I feel a lot more confident and while I still don’t understand / have confidence with the entire program, I feel somewhat confident in my ability to finish it with making different sounds! These events of emotion mostly took place in just 2-3 hours. I am successful so far in my progress because I pushed through at each time I was feeling overwhelmed. If I felt overwhelmed, I would take a step back and think to myself ‘what was the next step in the problem solving process?’, not the next step to solve the problem necessarily (but sometimes). A broad view of the steps were 1. Reading the problem 2. Looking at the code 3. Taking a break, walking around, thinking about how I should go about this 4. Drawing an ‘imports diagram’ 4.5. feeling stuck and taking a short few minute mental break to think what step in the problem solving process comes next. 5. Breaking the problem into pieces of functionality to change, and thinking, now what part should I tackle and what part of the problem solving process comes next to tackle this (technical) problem. 6. Finding and following that functionality to understand it better and find out what changes to make 7. Trying things out until I get that little bit of changed functionality I wanted (I was luck and got it soon / first thing I tried).
7. In the MidiSynth class, I changed the setUpInstruments method to see if I could change the sound but it didn’t change (program still worked though)
8. Tried changing ChannelData class to see if it changes sound, but didn’t
9. Now trying to change Shape instrument variable. That worked. I think I’m done