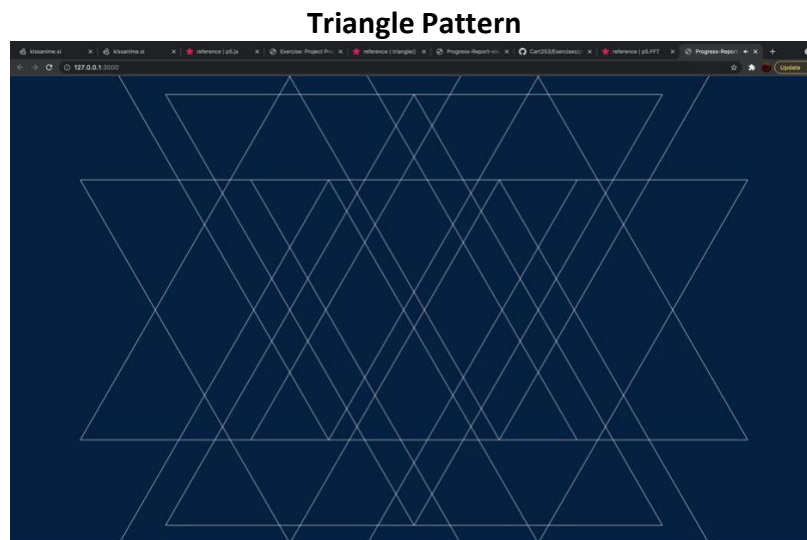
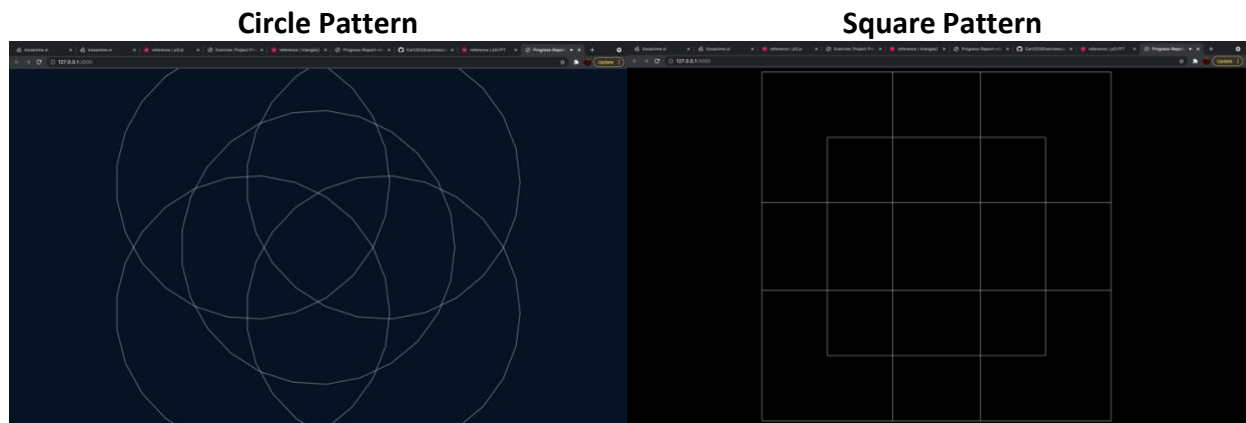


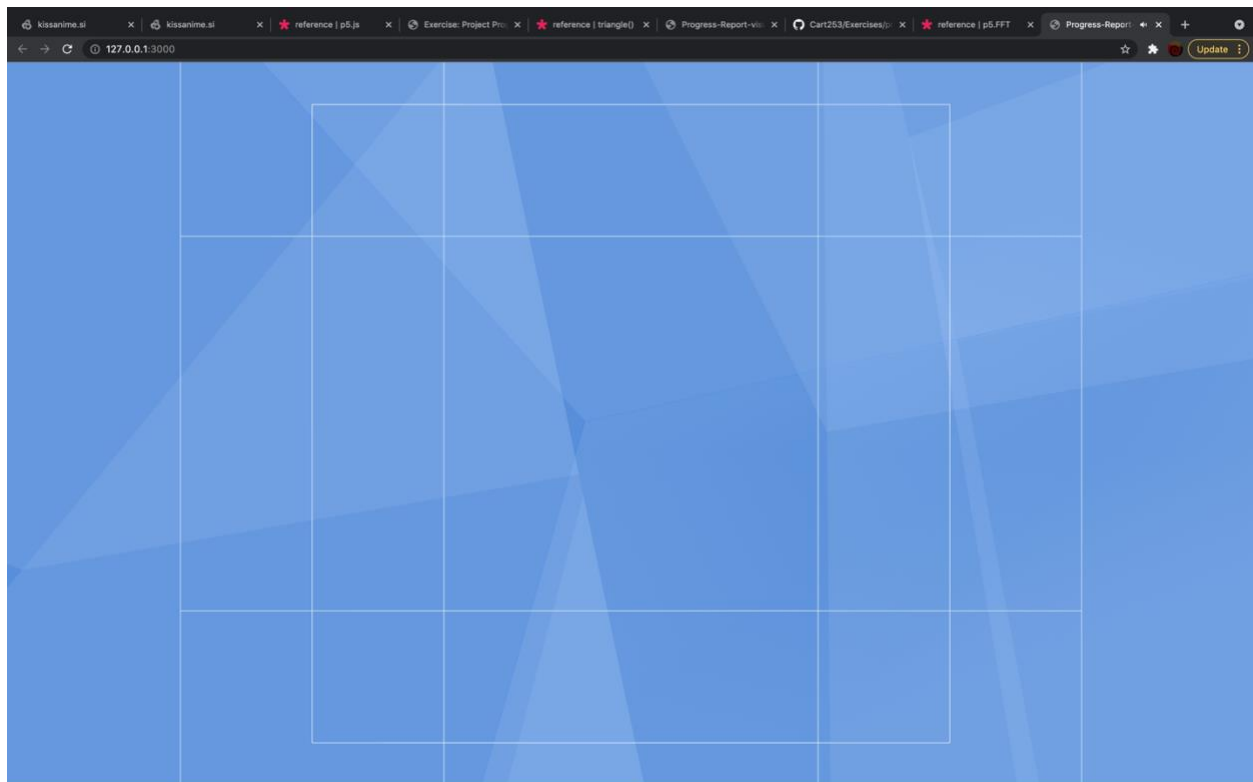
Exercise: Project Progress Report

Progress: The first change I made to my program since handing in my prototype was modifying the way I analyzed the songs amplitude. Originally I was using p5.amplitude but now I am using p5.FFT which gives the added benefit of analyzing amplitude at multiple different frequency ranges rather than just the song's amplitude as a whole. P5.fft has allowed me to control the size of my shapes with the lower end of the frequency range and the colours separately with the higher end of the frequency range. Since the prototype I have also added in more patterns by using different shapes rather than just circles and these patterns can be swapped between by using the first 3 numbered keys on the keyboard. The patterns have also become more interesting than they previously were with the addition of noFill making all the shape's borders visible at once.



In addition to adding these patterns I also added in a moving background that is made up of many transparent, rotating cubes that can be displayed by pressing the A key on the keyboard.

Square Pattern with Cube Background



Technical challenges: There were three main technical challenges I faced during this project so far (I am excluding issues where there were little bugs and focusing more on moments of learning). The first challenge was figuring out exactly how to use FFTs and the methods that come with them to my benefit. What frequencies worked best, mapping the amplitude data to different scales, and generally converting my program from p5.analyze to p5.fft was a big learning point for me in this project. The second technical challenge I faced also had to do with FFTs and it happened when I added different classes for each shape to my program. At first, I couldn't figure out exactly why my initial method of sending the data from my FFTs into my various shape classes wouldn't work though I was able to figure this one out by reviewing previous times I had used classes and by looking through my notes from the online lessons. My third technical challenge came about when I was creating patterns using triangles and wanted them to grow evenly in size but had to do this by manipulating the x,y coordinates of each three points. This challenge wasn't particularly hard to solve, but it had been a while since I had done trig, so it took me a bit longer than it would've a year ago to solve.

Future Work: For the future of this project, I'd like to play a lot more with the colours, possibly adding in more than one at once and giving the user the ability to swap between various colour schemes using their keyboard. I'd also like to create more interesting backgrounds like the moving box background that currently exists in my program. Another thing I need to do is perfect the patterns I currently have as well as adding in more. The last and one of the most important things to add is the ability to record the video along with the audio.