

Creative Coding Project Documentation

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Geometric Patterns

Assignment

I am designing a parametric motif. To meet the project requirements, it has to have at least five variables that change the resulting image in a significant way. The key aspects I should consider are originality, usefulness, creativity. My goal is to create a visually pleasing repeating pattern that can be modified using key variables.

Response

I started with the idea to make a pentagram, star, and demon bunny (took inspiration from a jumper that I own) with the shape functions in p5.js and then place them so it would tile nicely and look like professionally made wallpaper. I was able to create the pentagram but ran into problems making the demon bunny because I realized it would be much more complicated to perfectly draw the outline of the bunny I wanted, with my current solution just overlapping ellipses.

I decided instead to use geometric objects instead of my demon bunny as it would be much easier to have symmetry and to create beautiful patterns. I really like Cassandra Busby's example in the project pdf and am taking inspiration from that. I plan to use squares, rectangles, circles, ellipses, and stars to make my pattern.

Precedent Images

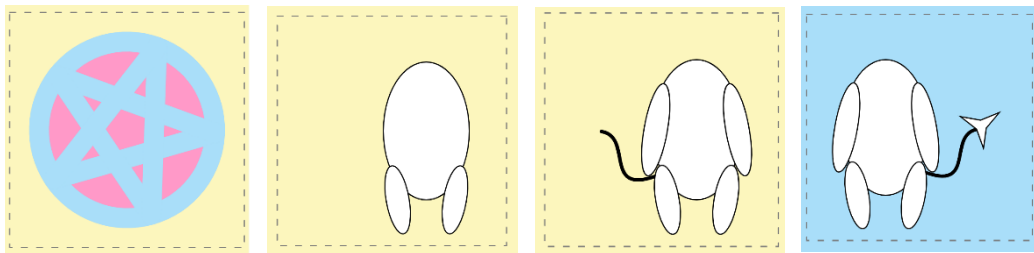
This is the jumper I was going to use as inspiration before I changed my mind. I also like Cassandra Busby's example.



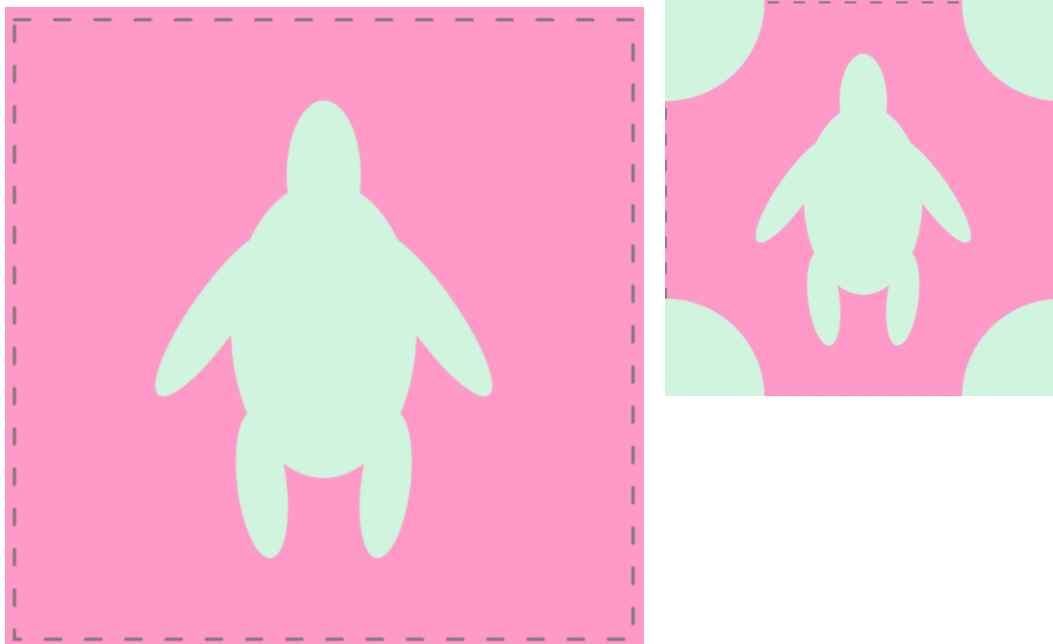
Design Development

Work in progress drawings:

I started off with a pentagram, and then tried to make my demon bunny but stopped when I ran into problems such as each actual shape function not being tied to the others so I had a collection of shapes that weren't actually related, this is a problem when trying to scale the demon bunny up or down. I also didn't like how the arms and legs didn't actually attach to the body and couldn't find an example of how to smooth lines of when the arm touches the body for example.

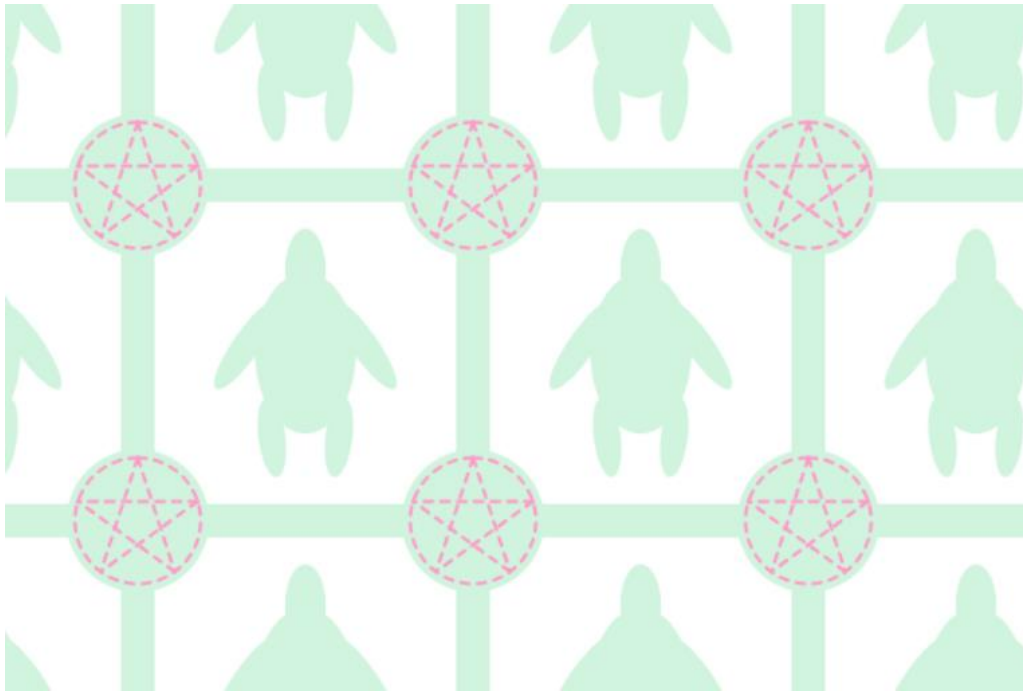


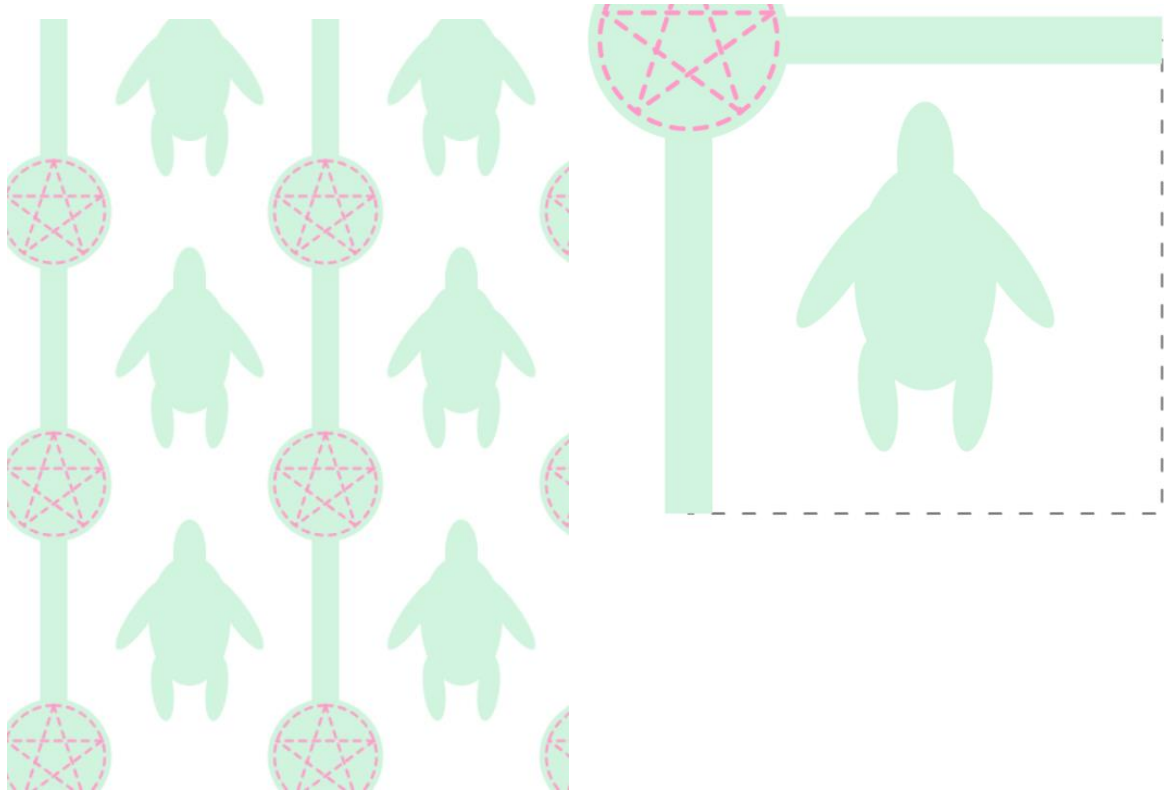
My demon bunny looked more like a turtle at this point, so I tried making a turtle instead, and thinking about turtles I thought of beaches and seashells which led me to my next tests.



Trial and error – Experimenting with vertical and horizontal lines

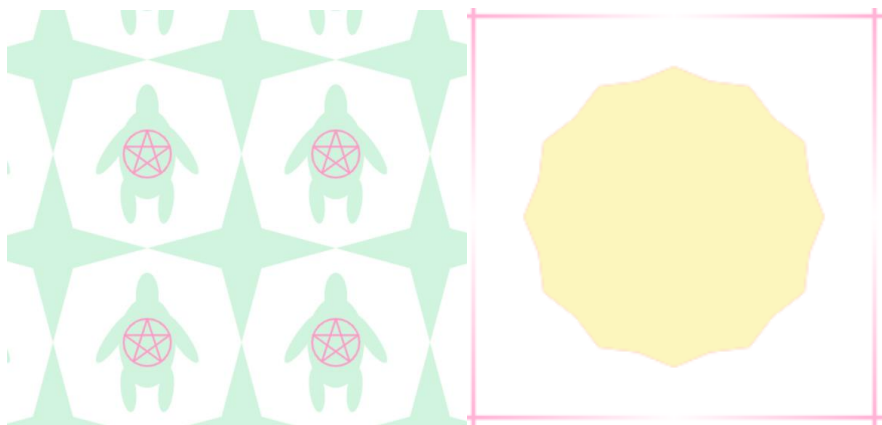
I tried placing my pentagram in the corner and added some code to make the lines dashed if I wanted. Added some rectangles going vertical and horizontal to give the effect of squares.



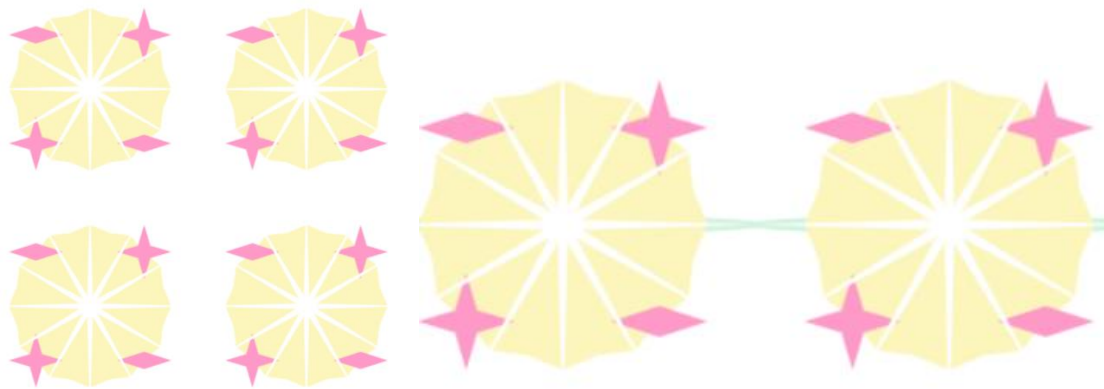
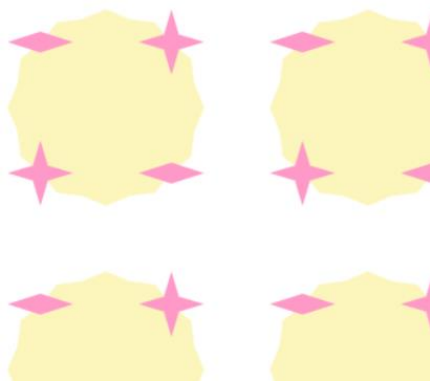


Trial and error - Experimenting with shapes

At this point I put a star at 0, 0 instead of my pentagram and found that it creates a cool effect of an octagon between the stars. So I started from scratch and just experimented with different shapes.



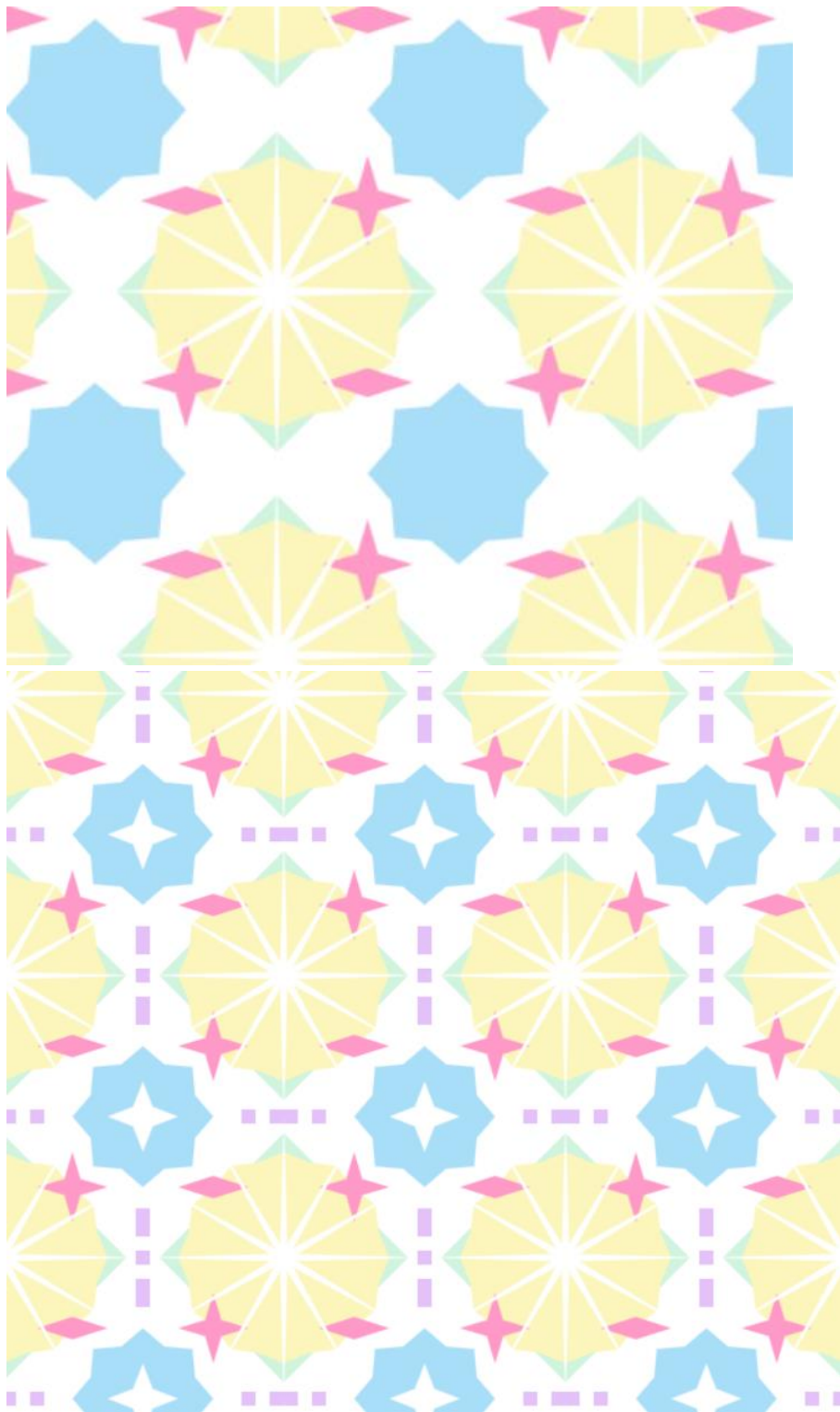
The two and four pointed stars here remind me of a character named Hisoka (from HunterXHunter anime)



Umbrella academy?

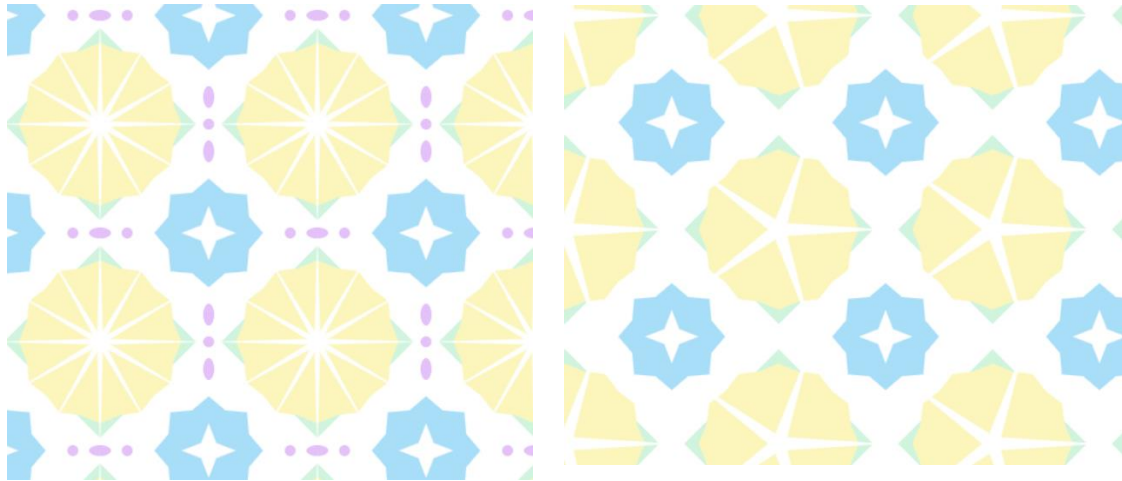
Trial and error – Testing with two and four pointed stars at even spaces

At this point I added lots of different shapes and played around with them.

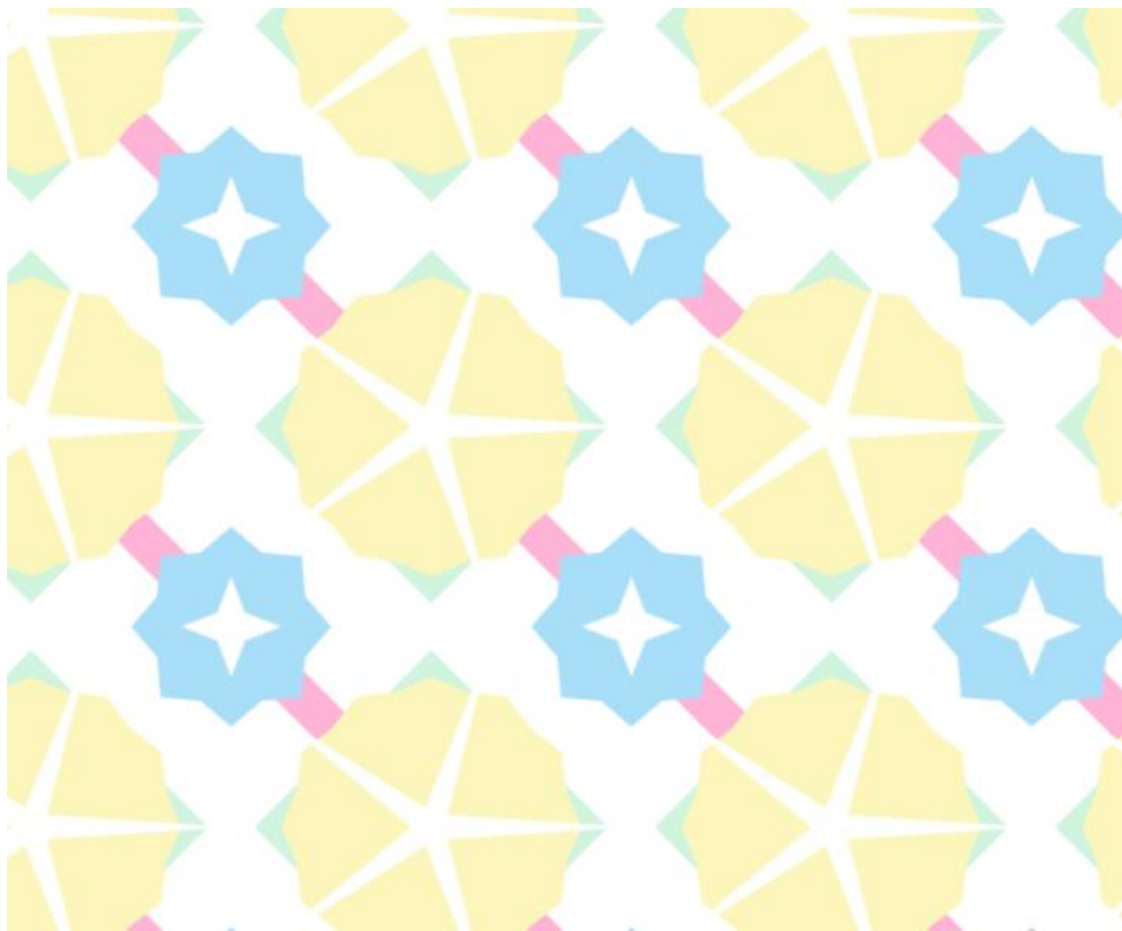


I think I have a cool pattern here, will probably need to play around with the colours though.

Trial and error - Experimenting with odd points on a star and ellipses/rectangles



Simplified it and now I'm getting a beach/seashell vibe

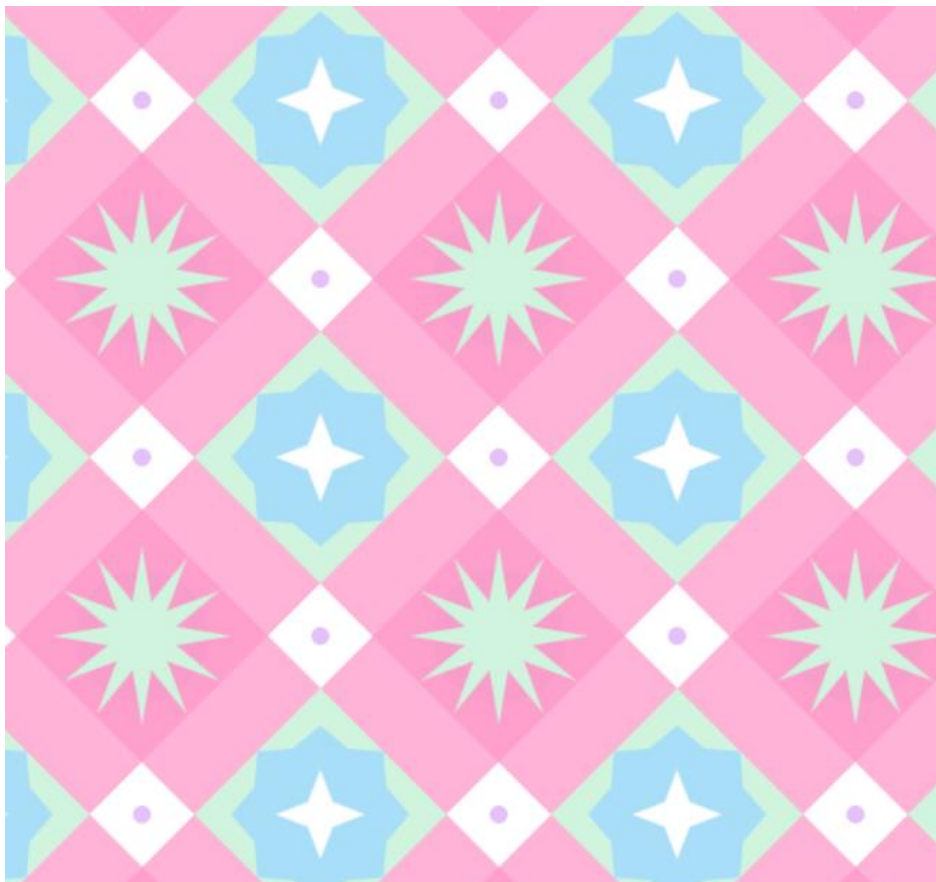


I like how this looks like a band.

Trial and error – testing different shapes, stroke weight, colour



From here I actually started to parameterize my variables, I now have about 10 different variables that I can change to change the output of the drawing.



At this point I am just trying lots of different things to see what looks good. The big pink diagonal blocks were a happy accident, I put two diagonal lines in both directions and then tried increasing the stroke weight to 100 and it came out with these blocky, pixelated lines.

I spent a lot of time on trial and error creating lots of different shapes, I tried ellipses but couldn't get it to work symmetrically and it didn't look very good. I tried circles and there are a couple circles in the final work although the opacity is quite low. Most of my time was spent on tweaking the stars and perfecting the star function because most of the objects are just stars.

My design evolved naturally starting from a pattern of a demon bunny and a pentagram, to a turtle with horizontal and vertical lines, to a seashell/beach shapes idea and now finally I am using different types of shapes to make visual illusions.

Colour palette

I use the website coolors.co to generate colour palettes because I found it like 5 years ago and have used it to generate beautiful palettes ever since, [this is a cool one I found](#) which I am currently using for all the colours.

Star

I created a function to generate a star, it works by taking obviously the x and y coordinates, then the outer and inner radius for the star, and the number of points. I have used this function many times to create different types of stars.