Square Composition: Deterministic Symmetry

I am a big fan of symmetry and this particular task was the most enjoyable part of the project for me. There exists a quadratic symmetry within my generated picture when dividing it into a typical x and y axis. This means that the picture can be evenly divided into four parts with like symmetry, it can also be divided into two parts, and the color and pattern can still be recognized as symmetrical. There exists a pair of similar colored squares within each sub unit of the picture where one square is drawn at regular orientation and the square drawn on top of it is rotated forty five degrees. I then symmetrically alternated colors of the paired squares which are sequentially ordered blue and white then yellow and white.

I derived this pattern and idea of differently rotated incrementally decreasing sized squares when investigating forms of geometric graphics for the work of art imitation section of this assignment. There were substantial examples of visual art from Islamic origins that emulated intricate symmetrical designs and patterns which I stumbled across while searching for geometric works of art. I started by drawing a big blue square with a thin black border then decreasing the size by three units and rotating it forty five degrees before drawing another square on top of it. I repeated this step of drawing a similarly colored pair of squares in white this time, then alternating back to blue. I developed six of these square pairs incrementally decreasing the size by three and alternating between blue and white with a total of three blue square pairs and three white ones. These six pairs I labeled STAR1 as the outer part of the star and drew it as a whole. I then did the same steps except changed the colors of the square pairs to yellow and white and labeled this as STAR2 the inner part of the star and drew it as a whole. I then greatly decreased the size of the STAR1 module and drew it as a whole in the center of the picture on top of STAR2.

Possible variations of this picture could include choosing different alternating colors of square pairs, or even choosing to draw all the rotated squares a different color than the originally orientated squares creating a greater variety of symmetrical color. Another aspect one could vary is the angles in which the squares are positioned; instead of a ninety degree and forty five degree square pair orientation one could align the squares to a different combination of alternate angles, such as twenty and sixty degrees this would create a very different star like picture.