

Anthony Rebuelta

Mr. Ettlin

AP Computer Science Principles, Period 1

6 March 2019

Principles Art Project

Rule 1:

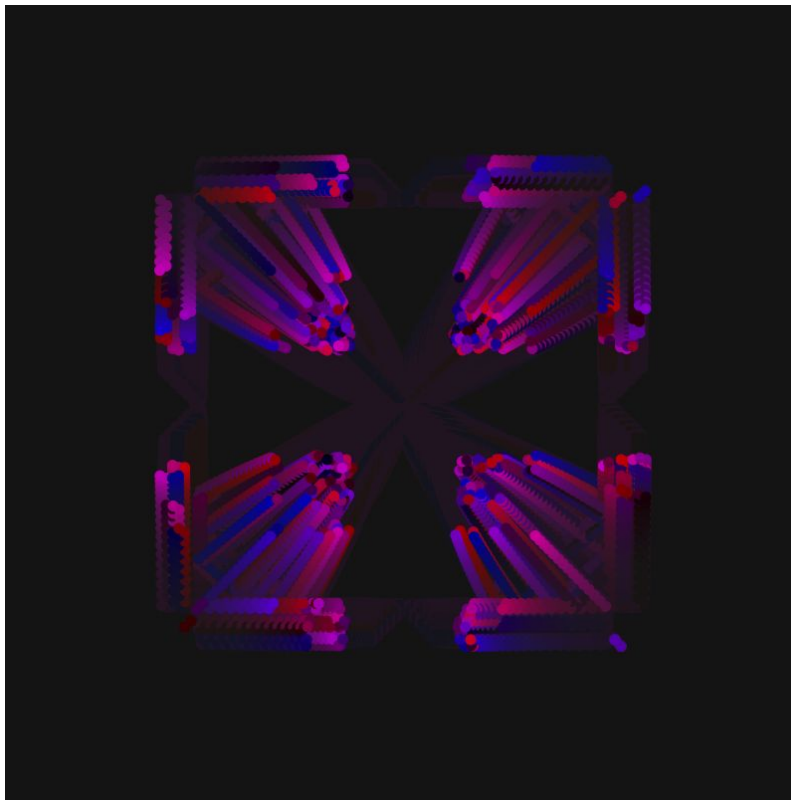
Description: I took my BallThree lab and changed the acceleration to have each fourth of the balls move to a corner. The balls are then restricted from going past 200-600 pixels vertically and horizontally, resulting in them being locating in the center.

Modified Code:

sketch.js	circles.js
<pre>function loadBalls(numBalls){ for (i = 0; i < numBalls; i++){ var loc = createVector(400, 400); var r = 10; if (i < (numBalls/4)){ var acc = createVector(-.1, .1); } else if (i > (numBalls/4) && i < (numBalls/2)){ var acc = createVector(.1, -.1); } else if (i > (numBalls/2) && i < (3*numBalls/4)){ var acc = createVector(.1, .1); } else{ var acc = createVector(-.1, -.1); } var col = color(random(200), random(0), random(200)); Balls.push(new Ball(loc, r, col, i, acc)) } }</pre>	<pre>this.checkEdges = function(){ if(this.loc.x < 200) this.vel.x = -this.vel.x; if(this.loc.x > 600) this.vel.x = -this.vel.x; if(this.loc.y < 200) this.vel.y = -this.vel.y; if(this.loc.y > 600) this.vel.y = -this.vel.y; }</pre>

<pre> } } function mousePressed(){ toggle = !toggle; } </pre>	
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Screenshot:



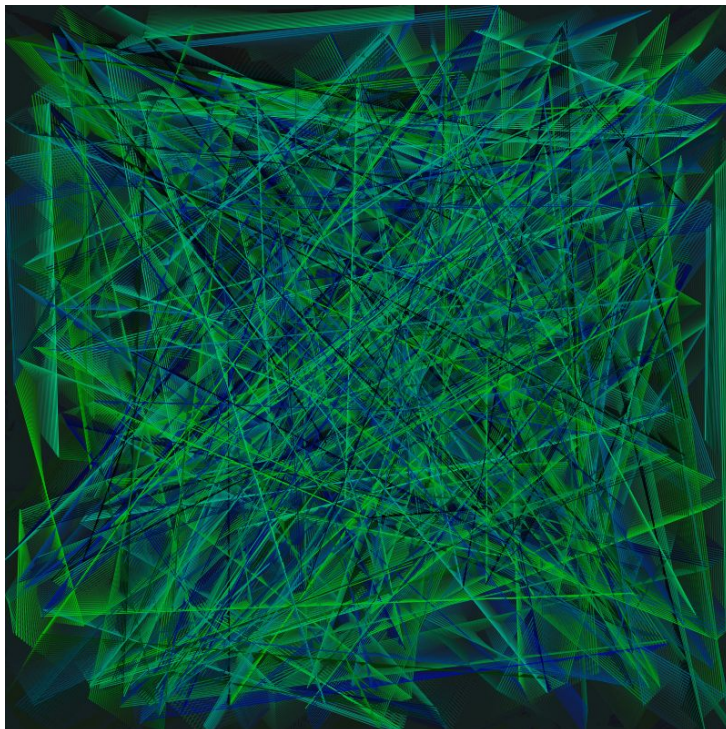
Rule 2:

Description: I took my BallTwo lab and replaced the ellipses with 500 lines that are linked to each other. I restricted the colors to only be blue and green.

Modified Code:

<pre>sketch.js function loadBalls(numBalls){ for (i = 0; i < numBalls; i++){ var loc = createVector(400, 400); var r = 10; var vel = createVector(random(-3, 3), random(-3, 3)); var col = color(random(0), random(200), random(150)); var id = i; Balls.push(new Ball(loc, r, col, i, vel, id)) } } function mousePressed(){ toggle = !toggle; }</pre>	<pre>lines.js this.render = function(){ fill(col); stroke(col); if (id < Balls.length-1){ line(this.loc.x, this.loc.y, Balls[id+1].loc.x, Balls[id+1].loc.y); } }</pre>
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Screenshot:



Rule 3:

Description: I took my BallOne lab and removed both the velocity and edge check. I then added in a rotation to the ellipses and had each ellipse be placed from the center to the outside of the sketch, creating a swirl. The colors are made to go from yellow in the center to purple on the outside.

Modified Code:

sketch.js	circles.js
<pre>function loadBalls(numBalls){ for (i = 0; i < numBalls; i++){ a += 0.1; r += 1; var x = r * cos(a); var y = r * sin(a); var id = i; var col = color(255, 255-((255*i)/numBalls), 0+((255*i)/numBalls), (255/i)*50) Balls.push(new Ball(x, y, id, col)); } } function mousePressed(){ toggle = !toggle; }</pre>	<pre>this.render = function(){ noFill(); push(); translate(width / 2, height / 2); strokeWeight(2); stroke(col); rotate(radians(frameCount)); ellipse(this.x, this.y, 50, 50); pop(); }</pre>

Screenshot:

