Intro to Generative Art
Assignment 2

Harvard University

1 Pool Party!

Building atop our lecture on vectors (and `PVectors`), forces, and collision detection, *create an interactive game of pool in Processing.* You're welcome to modify the laws of physics as you see fit to make the code accessible, and the game fun and creative — the idea is to get you playing with some foundational concepts that you'll see crop up often as you make natural/mathematical visualizations and simulations.

2 How Do You Take Your Coffee?

Recall the final portion of lecture where we visualized our first pattern in nature — the way light hits the inside of a coffee cup. We explored a few "what ifs" — what if the light bounced in a slightly different way inside a circle? What if we had multiple light sources? Time to consider your own "what ifs!" *Modify (or completely rewrite) our coffee cup visualization with some change(s) that might lead to interesting outcomes.* For reference, our initial visualization code is provided below.

```
float numPoints = 200, r = 400;
int multVal = 2;

void setup () {
  frameRate(2); //slows down animation speed
  fullScreen();

  stroke(255);
} //setup

void draw() {
  background(0);
  translate(width/2, height/2);

  for (int i = 0; i < numPoints; i++) {
    line(r * cos(i/numPoints * TWO_PI), r * sin(i/numPoints * TWO_PI),
        r * cos(multVal * i/numPoints % numPoints * TWO_PI),
        r * sin(multVal * i/numPoints % numPoints * TWO_PI));
  } //for

  multVal++; //comment out to stop animation
} //draw

```