# THE **NATURE** OF **CODE**

DANIEL SHIFFMAN

SESSION 4 RESOURCES

# FRACTAL DESIGN ASSIGNMENT INSTRUCTIONS

1: Project Specifications

Using recursion, integrate a fractal design into a simulation. Here are some possibilities:

- Create a forest of trees with a variety of designs and colors.
- Create a creature with a fractal design that moves around the screen with physics.
- Create a "famous" fractal pattern not demonstrated in the examples. Some ideas are: Sierpinski Triangle or Carpet, Koch Snowflake, the Mandelbrot set.
- Create a simulation or design inspired by nature using recursive fractals. Some ideas to consider: mountain ranges, lightning bolts, cauliflower, broccoli, crystals, snowflakes, blood vessels, etc.
- Integrate physics into a fractal design. For example, can you add leaves or flowers to the end of the branches of a tree? Can you shake the leaves off and control them with wind/gravity?
- Combine steering behaviors with fractal designs. For example, what if a tree had fruit that could be picked and eaten by the creatures moving about the canvas?.

2: Submission Instructions

- Create a zip file with the following components:
  - Sketch File named sketch.js
  - Include all p5 libraries used
- Submit your file to the Assignment 4: Fractal Design Assignment Coursework.
- After submitting, go to the Course Gallery for Assignment 4: Fractal Design and leave a comment on at least two other submissions. Make sure you leave your comments in the gallery associated with Assignment 4: Fractal Design in order to receive points for participation.

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