

Homework 5: Fractals and Graphs

*Due Tuesday, Week 6, at the start of class**UCSB 2015*

Work on these problems for 90m/until you solve everything/longer if you're interested!

1. Go to

<http://ecademy.agnesscott.edu/~lriddle/ifs/ifs.htm>,

where you will see ten different fractals that are all iterated function systems. Pick one of them, and click on its image to see the iterated function systems that generate those fractals.

Starting with a straight line segment $\{(x, 0) \mid x \in [0, 1]\}$, or the smiley-face set, or any other set that you really like, do the following: apply your chosen iterated function system to that set repeatedly, and draw the output. How many times do you need to apply your map to get an output that looks somewhat like the fractal?

(Also, in general, play around with the webpage, read things, write up stuff that you think is cool! I mostly want you to get some hands-on experience with IFS and fractals on the HW set, in whatever way you're the most keen on!)