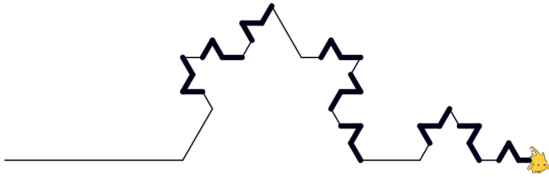# CS10 With-Snap! Midterm (Spring 2018, Sec 3)

Below are screenshots of the first four iterations of a beautiful fractal. Write code that generates the fractal (you don't have to match our exact placement on the screen), and name it `FractalYourfirstnameYourlastname.xml` (e.g., `FractalAlanTuring.xml`). Also, save a PNG image of the *fifth* (`n = 5`) iteration and name it similarly, (e.g., `FractalAlanTuring.png`). To save a PNG image of the stage, right-click (or control-click) on the stage and choose *"pic..."*, then in the new tab right-click (or control-click) the image and save the file to the Desktop. Submit both on bCourses under the "with-Snap!" midterm assignment for the lab section you are in.

Though this may look daunting at first, it isn't that bad. Remember, every fractal has a base case (`n = 1`) and recursive case. We've drawn the fractal with **bold** lines to indicate the parts of the drawing that recurse; the other parts of the drawing at `n = 2` are just lines. (You don't have to copy our bold/normal style, it's ok if it's all the same.) Look at how the straight line at `n = 1` transforms into the `n = 2` case – this happens for *every* bold line at the next level. *The <u>four</u> `n = 2` lines are 1/3 the length of the `n = 1` line. The sprite turns 60° or 120°, and ends facing the same way it began.*

n = 1

n = 2

n = 3

n = 4