
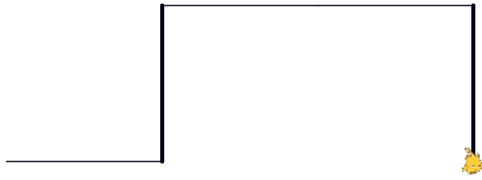
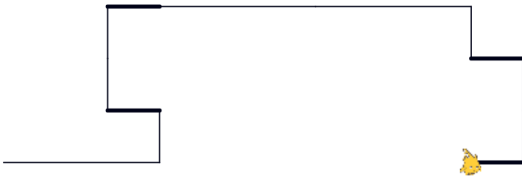



# CS10 With-Snap! Midterm (Spring 2017, Sec 1)

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 really 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 will recurse; the other parts of the drawing at  $n = 1$  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 when it goes to the next level. *Hint: the  $n=2$  case has lines  $1/3$  long of the  $n=1$  case. The path is  $\uparrow \cup \uparrow \cup \uparrow \cup \uparrow \cup$ . (last  $\cup$  critical)*

	
<b>n = 1</b>	<b>n = 2</b>
	
<b>n = 3</b>	<b>n = 4</b>