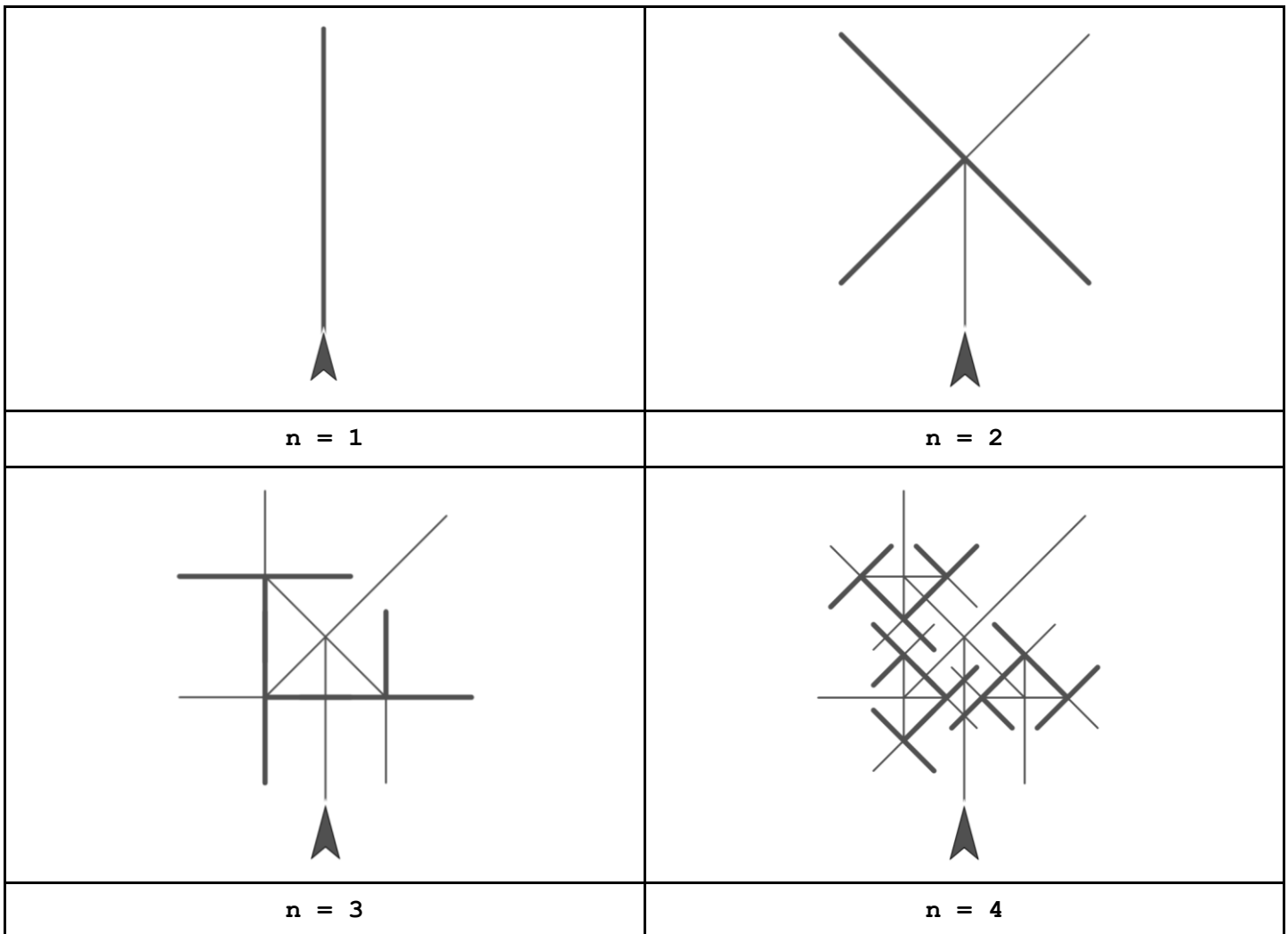


# CS10 With-Snap! Midterm (Summer 2018, Sec 1)

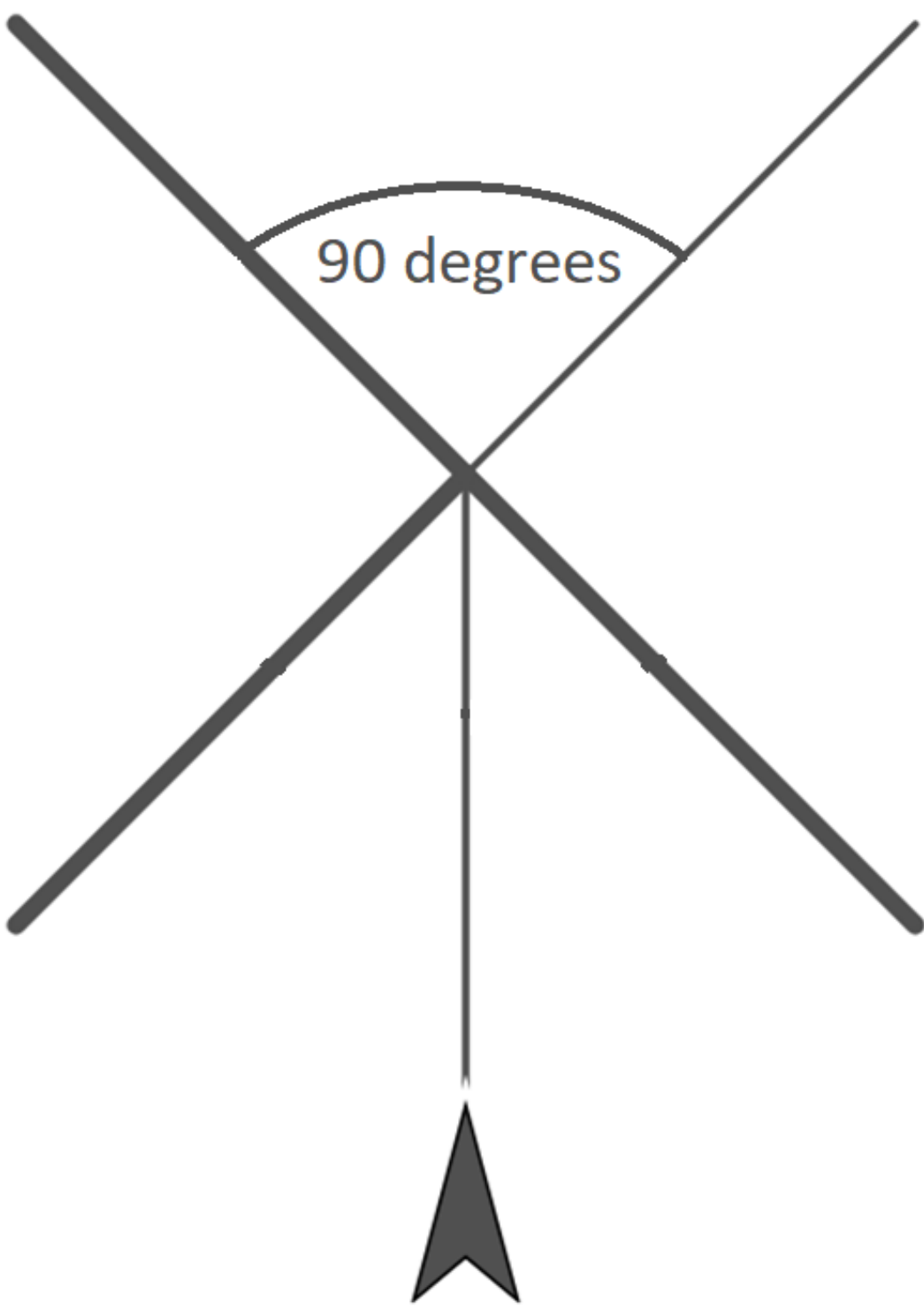
Below are screenshots of the first four iterations of a beautiful fractal. Write code that generates the fractal (you don't have to match our exact placement on the screen), and name it `FractalYourfirstnameYourlastname.xml` (e.g., `FractalAdaLovelace.xml`). Also, save a PNG image of the *fifth* ( $n = 5$ ) iteration and name it similarly, (e.g., `FractalAdaLovelace.png`). To save a PNG image of the stage, right-click (or control-click) on the stage and choose "pic...", then the image will either automatically download or appear in a new tab. If it appears in a 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. The **bold** lines in the fractal indicate lines corresponding to the base case ( $n = 1$ ). You don't have to copy our bold/normal style, it's ok if your lines are all the same. Other than line boldness and position on the stage, your fractal should look exactly as shown below for full credit.



For reference:

- Look on the back to see the degrees between each line on the level 2 fractal.
- Each level of the fractal is  $1/2$  the size of its parent level. For example, in the  $n=2$  figure above, each line is  $1/2$  the length of the line from the  $n=1$  level.



90 degrees