

## CS108L Computer Science for All

### Module 3: Spiraling Geometry using Repeat Loops



In this assignment you will create at least three geometric spiraling shapes. Each spiral needs a minimum of 20 lines. There is a simple rule to figure out the angle the turtle needs to turn to create the shape (the interior angle for the shape):

$$\text{Angle used} = \frac{360}{\text{number of sides}}$$

#### Basic Setup:

- “Setup” button that clears the interface and creates a turtle.
- “Go” button that initializes the spiral pattern.
- Use a variable to store the number of steps turtles need to move.
- Use a variable to store the angle turtles need to turn.
- Each shape must have its own procedures.

Module 3: Spiraling Geometry using Repeat Loops (20 Points Total)		
Done	Points	Task
	2	<p>A:</p> <ul style="list-style-type: none"> <li>• Submit a NetLogo source code with the file name: <code>M1.firstname.lastname.nlogo</code>.</li> <li>• The first few lines of your Code tab are comments including the following:  <pre> ;Student's Name: ;School: ;Teacher's Name: ;Date: </pre> </li> </ul>



	3	B: <ul style="list-style-type: none"><li>• Include appropriate in-line comments.</li></ul>
	5	C: <ul style="list-style-type: none"><li>• Include a detailed Info tab. See Coding Standards Guideline for more information.</li></ul>
	5	D: <ul style="list-style-type: none"><li>• Each shape has its own procedures.</li><li>• All procedures are called in the “Go” button’s procedure.</li></ul>
	5	E: <ul style="list-style-type: none"><li>• Variables must be declared and initialized appropriately.</li></ul>
	1	F: <ul style="list-style-type: none"><li>• (Extra Credit) Use a repeat loop to change the turtle’s color to 100 different shades using a variable.</li><li>• Change the turtle’s pen-size multiple time.</li></ul>
	1	G: <ul style="list-style-type: none"><li>• (Extra Credit) Add an additional procedure that creates a spiraling circle. Create a “ExtraCredit2” button that will execute the spiral.</li></ul>