

## CS108L Computer Science for All

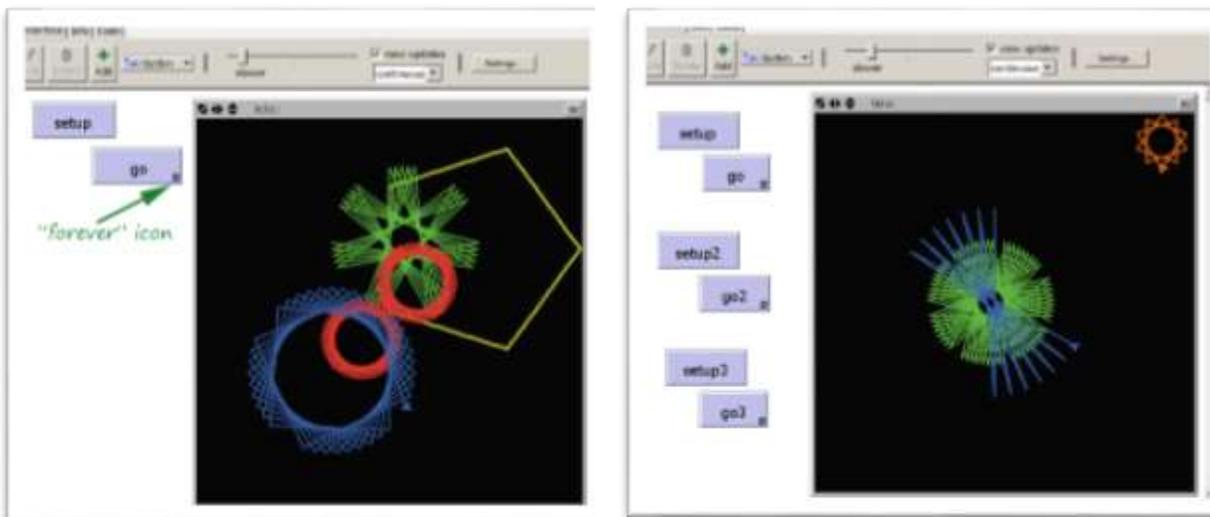
### Module 1: Spirograph

Use NetLogo Turtle Graphics to draw your own, unique rosette (Spirograph) pattern. Basically, this is done by using two turtle commands: **forward** and **right**, in a procedure called by a NetLogo “go” button with the “forever” box checked. In the screen captures below, there are circular arrows in the lower right corner of the “go” button. These arrows indicate that the forever box in the “go” button’s properties had been checked.

In this simple program, you will be “hardcoding” the number of steps the turtles take in the **forward** command and the angle turned in the **right** command.

In the example shown below on the left, the “**setup**” button calls a procedure that clears NetLogo’s model view plane, creates one turtle and sets its heading and pen size. Use a forever “go” button that will *repeatedly* call the “go” procedure. The “go” procedure instructs the turtle to change color, and move forward and turn.

The figure in the left screen capture was created by clicking “**setup**” then clicking the go button; since the “go” button has the forever option checked it will run until it is manually stopped. You can manually stop the “go” button by clicking on it while it is running. While the program was paused, the hardcoded values of color, pen size, forward distance and turn angle were changed in the code. Then the “**go**” button was clicked a third time to start it again. This was done for each of the 5 separate patterns. Then change your code to produce at least 2 other patterns for you to submit as a screen capture.



The program captured on the right above shows a different way of creating a compound set of patterns. The second setup button, “**setup2**”, does NOT clear the view plane. The “**setup2**” button lifts the pen, moves the turtle, then puts the pen down again. The “**go**” button draws the green pattern, the “**go2**” button draws the blue pattern and the go3 button draws the orange pattern.