



# **Digital Quilt**

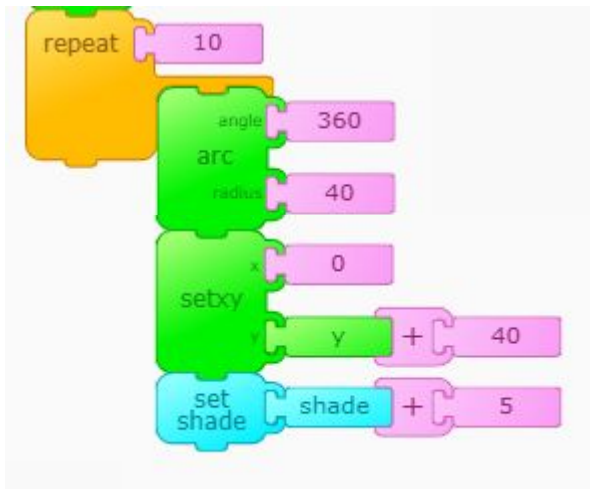
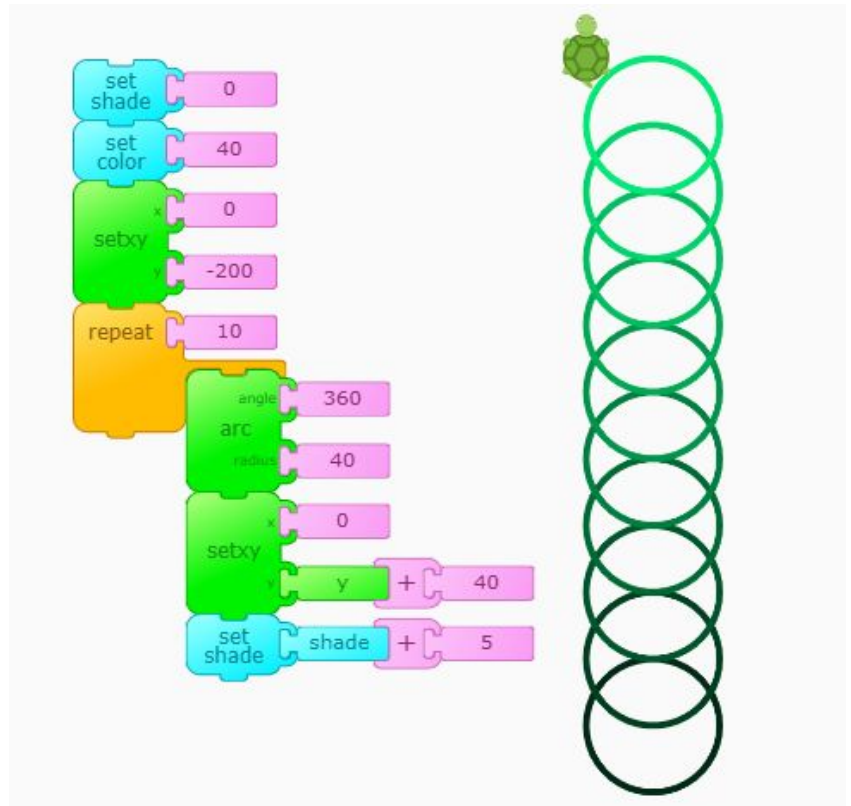
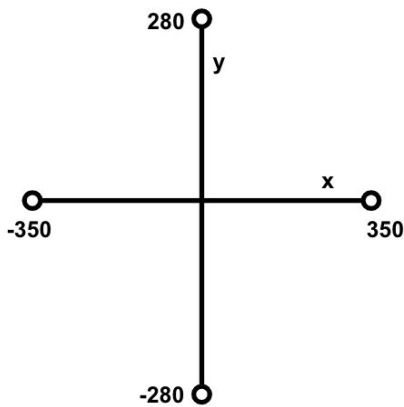
# **TurtleArt Project Starters**

## TurtleArt Project Starter

# Intermediate: Gradient Loops

Set the shade to 0, the darkest, and choose a color to create your shapes (this example uses 40 to get a green color).

Use “setxy” to choose the turtle’s starting position on the coordinate plane.



The turtle draws an **arc** with an **angle** of 360, creating a full circle with a **radius** of 40.

After the turtle draws a circle, change the **y position** by 40, so the turtle will move 40 steps up before drawing the next circle.

Add 5 to the current **shade**, making the color lighter.

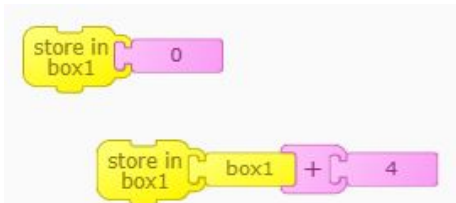
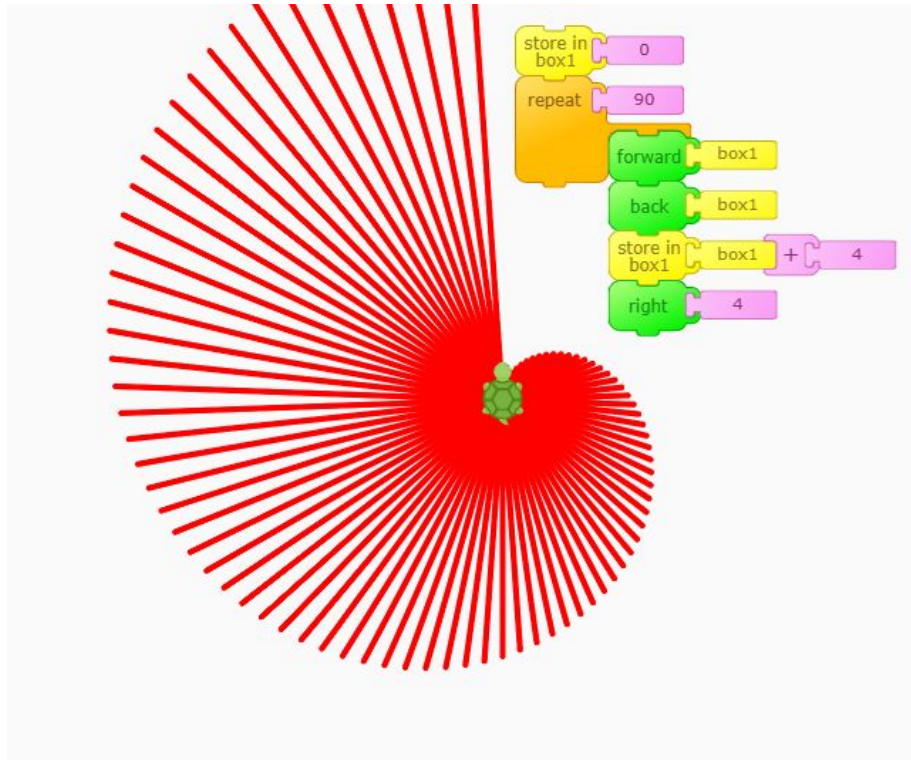
**Repeat** this sequence 10 times for 10 circles that get lighter as the turtle goes along.

### TRY THIS!

- Change the **x position** instead of the **y position** after each circle.
- Instead of changing the **shade**, change the **color** of the circles.
- Create several strands of loops with different colors.



# Intermediate: Nautilus

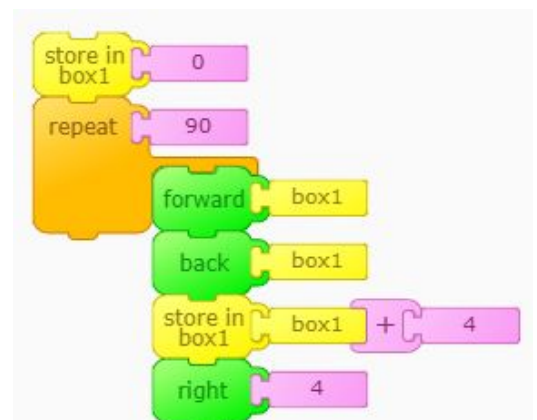


Use “**box 1**” as a variable that will set the length of each line in the nautilus shape.

The value of “**box 1**” starts at 0, then increases by 4 each time the turtle draws a line.

The turtle walks forward the current value of “**box 1**” and then backwards to return to center.

The turtle turns 4 degrees to the right. Repeat 90 times to make a full circle ( $90 \times 4 = 360$ ).

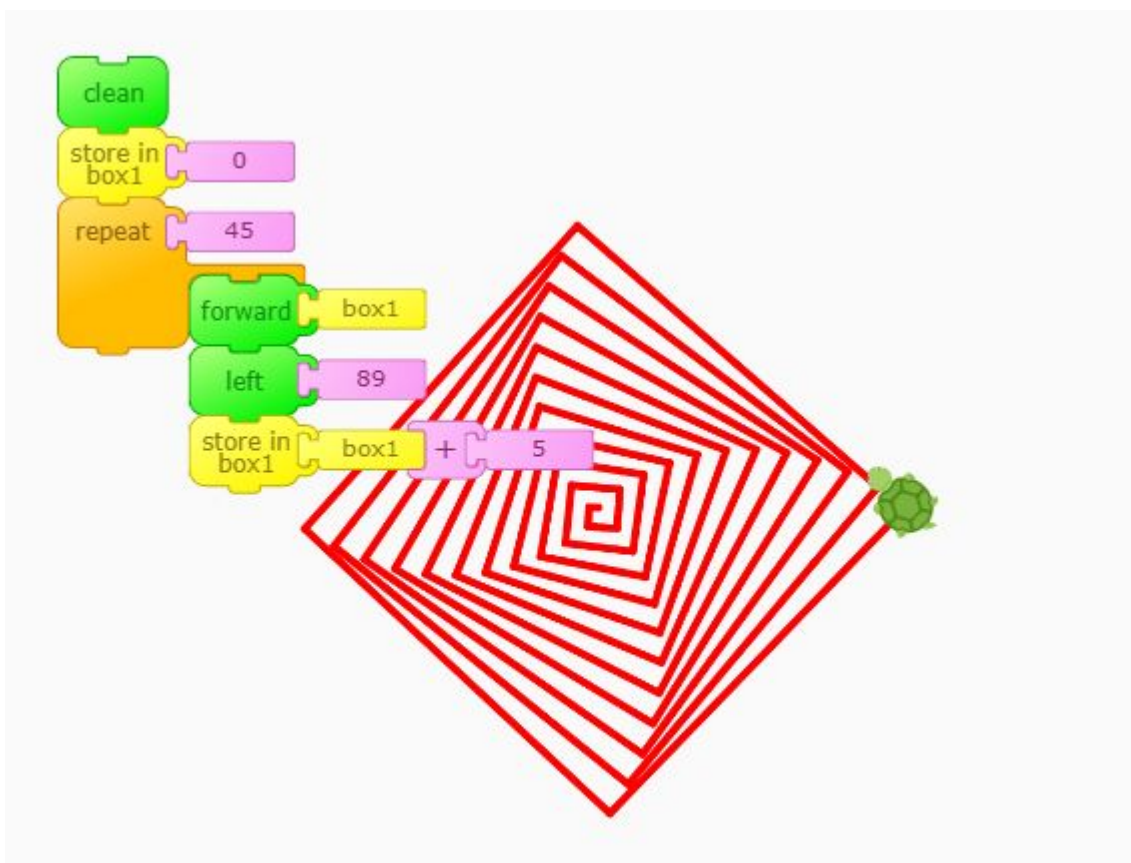


### TRY THIS!

- Change the size of your nautilus by changing the number added to box 1.
- Experiment with colors- can you get your nautilus to change color as it grows?



# Intermediate: Wavy Square Spiral



Create a variable using “box 1” that will determine the length of each line. This value will increase as the turtle draws the square spiral.

The turtle walks forward the number of steps currently stored in “box 1,” then turns to the left 89 degrees.

Increase the value of “box 1” by 5 to make the next line segment a bit longer. As the turtle repeats these steps, the lines continue to get longer based on the value of “box 1.”

### TRY THIS!

- Play with the angle of the turn- how does changing the angle affect the look of the spiral?
- Make your spiral grow faster or slower by changing the number added to “box 1” each time the turtle repeats the sequence.
- Try creating a spiral using a different shape- can you create a triangle spiral? A hexagon?



